February 28, 2022

Illinois Department of Public Health
Attn: IPLAN Program
Division of Health Data & Policy
525 W. Jefferson St., 2nd Floor
Springfield, IL. 62761

Dear IPLAN Review Team,

I am pleased to present the Kendall County Health Department 2021-2026 IPLAN and the outcomes of the 2016-2021 IPLAN. The Kendall County Health Department employed the MAPP process and found it to be very effective in promoting community engagement amidst the COVID-19 pandemic. The Health Department has four advisory boards that meet throughout the year. These advisory boards are composed of diverse community partners and community members receiving person-based, as well as, population-based services from the Health Department. Such community partnerships will continue to provide informed input into our IPLAN implementation processes over the next five years.

The three health priorities, chosen by community partner consensus, reflected in this community health plan reflect the following health and well-being topics:

- Promote Opportunities to Reduce Vaccination Hesitancy
- Increase Community Awareness to Protect Against Vector Borne Disease
- Connect our Most Vulnerable to Assets that Reduce Socio-Economic Duress & Support Mental Health

The 2021-2026 IPLAN; like those before it, is a living community health plan and reflects thoughtful commitment to our community. We are pleased to submit this document for your review and approval. The Kendall County Board of Health approved this IPLAN on February 15, 2022.

Sincerely,

RaeAnn VanGundy, MPH
Executive Director/Public Health Administrator
February 15, 2022

Illinois Department of Public Health
Attn: IPLAN Program
Division of Health Data & Policy
525 W. Jefferson St., 2nd Floor
Springfield, IL. 62761

Dear IPLAN Review Team:

This letter represents the Board of Health’s endorsement of the Kendall County Health Department 2026 IPLAN. As Board of Health President, as well as, an active participant in the community health assessment and community health planning processes, the Board of Health has had meaningful opportunity for input in the development of the IPLAN.

On February 15, 2022 the Board of Health approved the 2026 IPLAN, thus pledging the financial and professional resources necessary for its implementation. In addition, this letter acknowledges that the organizational capacity assessment was reviewed by the Board of Health through organizational assessment processes that culminated in our 2021 strategic plan goals formulation. Kendall County Health Department is currently engaged an organizational self-assessment in which will culminate in an updated 2027 Strategic Plan.

Lynn Cullick, President
Kendall County Board of Health

Date

02/15/22
April 5, 2022

RaeAnn VanGundy
Public Health Administrator
Kendall County Health Department
811 West John Street
Yorkville, Illinois 60560

Dear Ms. VanGundy:

The Illinois Department of Public Health, Division of Health Policy, has coordinated the review of the Kendall County Health Department community needs assessment and health plan submitted to meet IPLAN requirements toward certification. I am pleased to notify you that the Department find the Kendall County Health Department to be in substantial compliance with the requirements specified in the Certified Local Health Department Code (77 Ill. Administrative Code, Sections 600.400 and 600.410).

Thank you for your dedication and efforts in assessing and planning for the health needs of the residents of Kendall County. Please feel free to contact the Acting IPLAN Administrator Jennifer Epstein at 312-814-1344 or Jennifer.Epstein@illinois.gov, should you have any questions.

Sincerely,

Jennifer Epstein

Jennifer Epstein
Acting IPLAN Administrator
Office of Policy, Planning, and Statistics
Division of Health Data and Policy

Enclosure

cc: Omayra Giachello, Regional Health Officer, West Chicago Region
IPLAN File
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EXPLANATION OF IPLAN

The Kendall County Health Department’s 2021-2026 community health improvement plan, also referred to as the IPLAN is intended to positively impact the health and well-being of our community as well as to learn about ways to develop greater efficacy in our implementation endeavors along the way. The acronym IPLAN stands for Illinois Project for the Local Assessment of Needs. This is an assessment and planning process that all Illinois certified health departments undergo every five years. The purpose of IPLAN is to facilitate a strategic health system planning process that rises out of a community health needs assessment. By carefully assessing and planning for community health needs, we are able to develop a compilation of data-driven information that describes the community health status, and we will be able to discourage redundancies in the public health system, as well as identify gaps in the fulfillment of health and well-being needs. Through a carefully planned action cycle, we will be able to improve performance, enhance public health partnerships, and provide increased assurance with regard to the health and well-being needs of the community. The Kendall County Health Department used an assessment and planning model referred to as MAPP. The acronym MAPP stands for Mobilizing for Action through Planning and Partnership.

As a part of our planning and assessment process, we put forth great efforts to engage our community in a participatory planning process. Diverse community members who are stakeholders of the public health system were inspired to participate in and influence this critical process. Together, we looked at many kinds of data-driven health information relevant to our community. In order to achieve success, the planning required strategic thinking, participatory community engagement, and a focus on the community public health system.

We also had the opportunity to engage with our community partners in an examination of the extent to which the ten essential services are alive and well in the local public health system. While these services are not the health and well-being services that community members most readily think of as public health services, these particular services do represent a unique set of public health activities that are seen as essential to thoroughly serving the community with the quality of public health services they should expect. The ten essential services are as follows; diagnose/investigate, inform/educate/empower, mobilize community partnerships, develop policies, enforce laws, link to/provide care, assure a competent workforce, evaluate, and monitor health.

Vision and values statements were also developed during the community engagement process. In our planning process, the vision and values statements were specifically developed to drive reflection around the identification of strategic health issues as well as health and well-being priorities. The visioning process was designed to elicit values or phrases from the community and culminated in the collaborative development of a vision statement that drove the issues identification and prioritization process.

COMMUNITY HEALTH PLANNING VISION & VALUES STATEMENTS

<table>
<thead>
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<th>Brainstormed Values</th>
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<tr>
<td>Access to Affordable, Nutritious Food Options</td>
<td>Strong Communication</td>
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<td>Measuring Post-Traumatic Growth</td>
<td>Inspire Resilience</td>
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<tr>
<td>Educate and Motivate Community</td>
<td>Impact on Community</td>
</tr>
<tr>
<td>Adaptive Services</td>
<td>Desire to Improve</td>
</tr>
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</table>

Brainstormed Values
VISION STATEMENT

"Complete health includes equitable access to environmental, mental, physical, and socio-economic health and well-being services. Together with our community, we aspire to empower, protect, educate, motivate, and inspire every individual in Kendall County to make healthy choices." (Kendall County MAPP Community Partners, 6/10/21)

The Kendall County Health Department began an Organizational Capacity Assessment during a January 2016 Strategic Planning retreat, and it was approved by the Board of Health in the fall 2016. Since then we have shared annual updates with the community on our progress. The Health Department will begin a new Organizational Capacity Assessment during a leadership kick-off meeting scheduled for February 24, 2022. This Assessment will provide the Health Department with clarity around our strategic direction, a shared vision among executive leaders, staff, Board of Health members, and other key stakeholders, all while improving strategic alignment between the Health Department's work, infrastructure, unmet needs and current funding environment.

CONTEXTUAL BACKGROUND

Continuing to serve as a foundation for our planning was the World Health Organization's timeless 1948 definition of health, which states “Health is a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity”. Noteworthy is the inclusion of social well-being as being essential to complete health, which further expands the role and responsibility of public health practitioners. The 2021 Illinois State Health Improvement Plan also offers public health practitioners increased challenge through its mission “to protect the health and wellness of the people of Illinois through the prevention, regulation, and control of disease and injury and the promotion of health”. This State Health Improvement Plan sets forth thoughtfully prepared health priorities. Although the health priorities produced by our community planning process are different, they are certainly supported and affirmed by the State Health Improvement Plan priorities. The health priorities of that plan which most closely relate to our own include; Address Chronic Disease, Maternal and Child Health, and Behavioral Health.

The 2021 County Health Rankings & Roadmaps look at factors that affect people’s health within four categories; Social and Economic Factors, Physical Environment, Health Behaviors, and Clinical Care. These four categories affirm and support the health priorities selected by the community in our planning process. These respective rankings categories reveal the following: the Poor Mental Health Days for Kendall County is at 3.8%, close to 4.1% nationally; the Physical Environment category for Kendall County is ranked 90; the number of Social Associations per 10,000 population for Kendall County is at 5.2%, yet 9.3% nationally and 10% for Illinois; the percentage of Medicare enrollees with annual flu vaccination for Kendall County is 55% compared to 48% nationally; and the Clinical Care category for Kendall County is ranked 19. Our past health plan priorities fell into the IPLAN Data System categories of Environmental Health, Access to Care, and Chronic Disease. The three past IPLAN health priorities were; Increasing Community Population Opportunities for Access to Oral Health Care, Decrease Community Population Potential Exposure to Lyme Disease, and Connect Seniors to Assets that Reduce Socio-economic Duress and Support Mental Health. Progress towards each of these health priorities is as follows:
COMMUNITY HEALTH SERVICES

*Increasing Community Population Opportunities for Access to Oral Health Care*

Under the 2016-2021 IPLAN, Community Health Services (CHS) endeavored to increase our community’s opportunities to access oral health care. CHS collaborated with Kendall County’s dental offices, health centers and other local public health system partners to promote engagement in increasing access to oral health care for Kendall County’s uninsured adult population and/or co-create participatory access to good oral health for the county’s population.

Our nursing staff in partnership with the Illinois Department of Public Health (IDPH) provided a Certified Fluoride Varnishing Program made accessible to all Kendall County children aged 6 months to 6 years requiring treatment. We proudly served 96 children with fluoride treatments. Additionally, and with support from community partners IDPH and Fox Valley United Way, we provided dental health education and support to multiple daycares, preschools and school-age children through our Tooth Keepers Plus Program. Over 450 preschoolers enjoyed this fun hands-on participatory program, supporting good oral health practices and the complementary role and importance of sound nutrition.

Through assertive and targeted outreach we engaged pregnant and new mothers, and WIC families (over 500), offering fluoride care and oral health care education. We partnered with our area hospitals’ obstetrics units and several local obstetrics clinical offices, which allowed us to supply 1,470 parents with Parenting First Steps bags, supplying oral health and nutrition education for newborns to 6 years of age.

Our journey to good oral health care in Kendall County was also supported by a special partnership with IDPH in which 307 third graders received an age-appropriate presentation on the importance of good oral health care, followed by a confidential full mouth dental screening and informative report with support for parents.

We also provide the Kendall County community with web accessible information linking them to oral health care and oral hygiene education and supports - including tools and supports aimed at promoting enrollment in affordable dental insurance. Two of our staff, one being bilingual, were trained as Certified Application Counselors to assist all Kendall County residents needing to complete eligibility and enrollment forms for Medicaid and Medicare for dental and medical health care.

Our largest quest was to create and implement a modest yet free dental clinic out of the Kendall County Health Department for our county’s uninsured – the focus being oral hygiene treatments and basic restorative care. Through the generosity of private donations, we successfully acquired the needed dental equipment, instruments and supplies; and donations of time and the actual care from local dentist and hygienist. Ultimately, the clinic proved infeasible due to the cost of renovating our existing building to accommodate plumbing and electrical upgrades. All was not lost. We were able to donate everything to new and existing clinics in or surrounding Kendall County whose mission is to serve those in greatest need.

Although we were unable to create a free dental clinic here at Kendall County Health Department, we were able to refer 100% of those individuals requesting dental care to existing dental services through partners in our community such as Mission Possible and Dentist with a Heart. We will continue to support the strong oral health care programs we developed as the pandemic hopefully comes to a close.
Under the 2016-2021 IPLAN, Environmental Health Services (EHS) endeavored to decrease our community’s potential exposure to the tick-borne Lyme disease. EHS fostered new and strengthened existing public health system partnerships to provide for local Lyme disease surveillance through the capturing and testing of ticks, and the implementation of a robust public outreach/education program aimed at raising community awareness on the risks of and ways in which to prevent exposure to Lyme-carrying ticks.

EHS created and implemented a surveillance program for ticks. A number of activities were completed in order to do this including, building a tick drag, researching surveillance locations, coordinating with the Forest Preserve District for permission to conduct drags in their sites (requiring research permits from them). The team learned about different types of ticks native to Kendall County and used this knowledge to further target black legged ticks for surveillance and collection. Most collected ticks were saved for batch testing, conducted only a few times during the 5 year IPLAN cycle, while others were saved for use in outreach and education. In total, 138 black legged ticks were collected as part of this project. Subsequent testing demonstrated approximately 47% of those tested, were positive for Lyme Disease.

Additionally, an extensive outreach program was created and implemented in order to educate as many different people, in as many different sectors of society as possible over the 5-year period. Staff created a presentation that could be delivered in a number of different ways in a number of different environments. The presentation included tick identification, basic disease descriptions, descriptions of locations that would increase exposure to these ticks and protective behaviors to limit this exposure and ultimately, reduce the potential incidence of Lyme disease. Each year of this project, staff spoke at a number of the following events: farm/outdoor/seasonal festivals, health and safety fairs, school sanctioned outdoor education events, senior’s events, science clubs, boy scout presentations and made numerous television and radio appearances. Annually, staff conducted a tour of all local doctor’s offices, and completed 42 visits to clinics and veterinary offices to provide them with up to date information. Additionally, EHS coordinated with a local middle school and provided the presentation to hundreds of 6th, 7th and 8th grade students in a classroom setting.

Where applicable during these presentations, EHS conducted surveys to measure preventative behavior potential in attendees. Two different types of survey types used. The earlier format used during the first few years of the project, was a simple yes/no question in response to the preventative behavior potential question. Later in the project, the survey was improved to a pre/post test (administered before and after a presentation) with 4 question answered on a Likert scale to measure change in knowledge concerning ticks/tick habitats, and change in potential to practice preventative behaviors to protect from tick bites and subsequent contraction of Lyme disease. The results of all surveys were overwhelmingly positive. The earlier survey format demonstrated that 85% of respondents promising to practice preventative behaviors in the future, while the later pre/post test demonstrated that survey respondents were much more likely to correctly identify a tick, identify locations where they may be present, perform a tick check on themselves or a pet and perform a tick check after being where ticks may be. Over 2400 survey responses were collected as part of this project.
COMMUNITY ACTION SERVICES AND MENTAL HEALTH SERVICES (A COLLABORATION)

Connect Seniors to Assets that Reduce Socio-economic Duress and Support Mental Health

Mental Health Services and Community Action Services, under the 2016-2021 IPLAN, endeavored to promote and preserve the socio-economic well-being and mental health needs of, in addition to others, our community’s senior population. MHS and CAS objective was to connect seniors to assets that reduce financial instability and support mental health through a combination of extensive community engagement, seamless care coordination and the delivery of person-based services.

Community engagement was performed through thirty-eight interactive presentations, spanning the past five years, that were given to our elders at their multi-unit housing complexes spanning the entire Kendall County service area. There were 13 unique presentations, including: Recognizing and Addressing Senior Isolation; Preparing for End of Life Care; Dementia-Friendly Communities; Fostering Healthy Relationships; Depression Awareness; Addressing Hoarding; The Benefits of Counseling; Safe Medication Storage and Disposal, and Weatherization 101. One outcome of performing these community engagement projects was a 88% increase in participation of low-income seniors receiving socio-economic supports and then provided with behavioral health resources. Additionally, another outcome that was achieved through these community engagement projects was an 11% increase in seniors served with eldercare and/or behavioral health supports who were enlightened on socio-economic health and well-being resources.

KCHD initiated and led in the forming of the Kendall County Interagency Council. The mission of the Kendall County Interagency Council is to provide a forum for professional collaboration to nurture and support partnerships among local agencies to maximize resources and to better enable providers to serve customers and the community. Since its inception, KCIC has been meeting once a month. The main concentration of each meeting is to have one person/organization present their product/service in order to build understanding and awareness with the other participating individuals/organizations. Before the conclusion of each meeting, all individuals/organizations give a brief synopsis of current or upcoming events.

KCHD in partnership with ComEd, and Nicor and managed by Resource Innovations weatherized a multi-unit building, which hosts six floors, consisting of 96 apartments. This exceptional project occurred in Morris, Illinois at Saratoga Tower, a Senior/Disability Housing Authority building built in 1977. Through this project, KCHD provided the residents of Saratoga Towers with an all new roof, heat pumps, air condition units, refrigerators, boilers, and many more energy efficient items.

Combined, these strategies and actions served to minimize if not prevent poor mental health, social isolation, and financial instability among those in need representing the community’s senior population. The concluding evidence was that 90% of seniors that received eldercare services reported perceived increase in family support and connectedness.
While the community-chosen health priorities for our 2016-2021 IPLAN remain of great importance to our current and ongoing work, three new health priorities have been selected to serve as the focus of our 2021-2026 IPLAN. Chosen through community partner consensus, these three health priorities represent health and well-being initiatives unduplicated by efforts already established in the local public health system, and can be distinguished by innovation from efforts yet established in the public health system. The community engagement processes by which these priorities were selected are elaborated upon later in this document. The three health priorities proudly represent the World Health Organization definition of health in their diversity as well as their reflection of community driven health priorities. The World Health Organization asserts that public health refers to all organized measures (whether public or private) to prevent disease, promote health, and prolong life among the population as a whole. Its activities aim to provide conditions in which people can be healthy and focus on entire populations, not on individual patients or diseases. Thus, public health is concerned with the total system and not only the eradication of a particular disease (World Health Organization, 2021).

The three health priorities are on the health and well-being topics of:

- Promote Opportunities to Reduce Vaccination Hesitancy
- Increase Community Awareness to Protect Against Vector Borne Disease
- Connect our Most Vulnerable to Assets that Reduce Socio-Economic Duress & Support Mental Health

The data analysis, risk factors and outcome detail is elaborated upon later in this document.

**DOCUMENTATION OF BOARD OF HEALTH REVIEW OF ORGANIZATIONAL CAPACITY ASSESSMENT**

While the Kendall County Health Department’s Board of Health had planned to commence with creating a 2021-2026 Kendall County Health Department Strategic Plan in early 2021, emergence and course of the COVID-19 global pandemic would require that the process be deferred to early 2022. In the interim the 2016-2021 Kendall County Health Department Strategic Plan would remain in effect.

**2016-2021 STRATEGIC PLANNING PROCESS PHASES**

- Why we Plan Dialogue
- How We Communicate All We Do For The Community*
- Mission and Vision Review*
- Internal Assets and Opportunities*
- Distinctive Organizational Competencies*
- What People Might Be Surprised To Know*
- Key Stakeholder Relatedness*
- Branding and Logo Review*
- External Assets and Opportunities*
- Identification of Strategic Issues

* = Phases of the organizational capacity assessment
COMMUNITY HEALTH NEEDS ASSESSMENT

PURPOSE STATEMENT

The intent of this phase of the IPLAN process was to plan and perform a public health system assessment inclusive of a broad and diverse cross section of our community health system stakeholders and partners. The Kendall County Health Department took great care to ensure a high degree of inclusivity in order to engage the many diverse aspects of our multi-sectoral community public health and human services system. Equally important was our engagement of consumers of this very system. All those involved in the creation of our community’s IPLAN appeared to gain a true sense of ownership in this plan and a genuine interest in seeing it succeed. It was a privilege to collaborate with such a broad and diverse cross section of organizations and individuals with an interest in and commitment to the health improvement of our community.

COMMUNITY PARTICIPATION & PARTNERSHIP DEVELOPMENT

While Kendall County Health Department is responsible for protecting and promoting the health and well-being of its community, it cannot be effective acting unilaterally. We partnered with community members, and other sectors and organizations of our local public health system to plan and share the responsibility for community health improvement. These partners have access to additional data and bring their own experiences and perspectives to the planning table. Such a collaborative planning process creates a shared ownership and responsibility for the plan’s implementation. It is very likely that this collaborative planning process will extend into the implementation phase, serving as the basis for taking collective action and fostering further collaboration.

In November of 2019, we assembled a small group of key health department staff along with leadership staff from our partners at Rush Copley Medical Center and Northwestern Medicine to begin developing the framework of our planning process. Special acknowledgment must be given to the valued contributions in both time and information of Rush Copley Medical Center. Rush Copley was a part of our partnership process from the start and also gathered important pieces of local data which contributed to our understanding of our community health status. The Rush Copley team also participated in a MAPP training conducted by Kendall County Health Department. Presented was a detailed description of the MAPP process, including the four essential MAPP assessments. Health department staff provided an unexhausted list of data/informatics sources to be considered in developing a data-driven community needs assessment. Our healthcare partners described plans to share hospital data/informatics with the health department in order to support an integrated health systems description of community health and well-being. A detailed review of the IPLAN Crosswalk was conducted and was discussed further prior to putting forth a tentative timeline for the larger IPLAN process. The process of convening the larger IPLAN Steering Committee, while time consuming, proved to be very rewarding. Administrative and program staff invited persons from the community who served in the local public health system. Community members served by our local public health system were also invited. The resulting community participation was inspiring both in numbers and quality of input. This was manifested in one meeting in which close to fifty participants attended. The Kendall County Health Department is only a 50-person department, so we felt very satisfied about this kind of high quality engagement from our community. Additionally, the Board of Health and each advisory board/committee to the board had participated in the planning process and will continue to participate through the action cycle. The following community sectors and partners participated in the IPLAN process:
<table>
<thead>
<tr>
<th>PARTICIPANT</th>
<th>SECTOR/PARTNERS</th>
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</thead>
<tbody>
<tr>
<td>Natasha Ahmed</td>
<td>Rush Copley Medical Center; Resident</td>
</tr>
<tr>
<td>Diane Alford</td>
<td>Kendall County Health Department, Community Action Services Div.</td>
</tr>
<tr>
<td>Ken Allen</td>
<td>Mental Health Advisory Board</td>
</tr>
<tr>
<td>Jason Andrade</td>
<td>Kendall County Health Department, Mental Health Services Div.</td>
</tr>
<tr>
<td>Laura Barr-Walker</td>
<td>University of Illinois Extension</td>
</tr>
<tr>
<td>Honeybee Bassig</td>
<td>Lewis University Student</td>
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<tr>
<td>Kathy Braden</td>
<td>Community Action Advisory Board</td>
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<tr>
<td>Valerie Burd</td>
<td>Environmental Health Advisory Board; Kendall County Resident</td>
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<tr>
<td>Jeff Burgner</td>
<td>Oswego Police Department, Chief</td>
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<tr>
<td>Ryan Carrie</td>
<td>Kendall County Health Department, Community Action Services Div.; Mental Health Intern</td>
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<tr>
<td>Julie Christman</td>
<td>Community Foundation of the Fox River Valley</td>
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<tr>
<td>Kathy Chronister</td>
<td>Community Action Advisory Board</td>
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<tr>
<td>John Church</td>
<td>Environmental Health Advisory Board</td>
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<tr>
<td>Karylin Clevenger</td>
<td>Kendall County Veterans Assistance Commission</td>
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<tr>
<td>Carlo Colosimo</td>
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</tr>
<tr>
<td>Matt Conrad</td>
<td>Cross Lutheran Church, Pastor; Community Action Advisory Board</td>
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<tr>
<td>Chris Cooper</td>
<td>Mental Health Advisory Board</td>
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<tr>
<td>Melissa Creamer</td>
<td>Kendall County Health Department, Community Action Services Div.</td>
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<tr>
<td>Lynn Cullick</td>
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<td>Steve Curatti</td>
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<td>Jay DeMarco</td>
<td>Kendall County Board of Health</td>
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<tr>
<td>Susan DeMasie</td>
<td>Rush Copley Medical Center</td>
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<tr>
<td>Ishani Doshi</td>
<td>Kendall County Health Department, Community Health Services Div.</td>
</tr>
<tr>
<td>Anne Englehardt</td>
<td>Kendall County PADS (Public Action to Deliver Shelter)</td>
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<tr>
<td>Eric Fisher</td>
<td>Community Action Advisory Board</td>
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<tr>
<td>Jackie Forbes</td>
<td>Environmental Health Advisory Board</td>
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<tr>
<td>Beckie Frieders</td>
<td>Kish Health System, Valley West Community Hospital</td>
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<tr>
<td>Kerri Fuentes</td>
<td>Kendall County Health Department, Mental Health Services Div.</td>
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<tr>
<td>Erik Gauss</td>
<td>Cross Lutheran Church, Senior Pastor</td>
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<tr>
<td>Omayra Giachello</td>
<td>Illinois Department of Public Health</td>
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<td>Evelyn Givens</td>
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<td>Joseph Gruber</td>
<td>Kendall County Board of Health</td>
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<td>Elexis Hartell</td>
<td>Lewis University Student</td>
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<tr>
<td>Michelle Hawley</td>
<td>Kendall County Health Department, Mental Health Services Div.</td>
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<tr>
<td>Andrea Higuera</td>
<td>Kendall County Health Department, Mental Health Services Div.</td>
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<tr>
<td>Karla Hoinkes</td>
<td>Kendall County Resident</td>
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<tr>
<td>Lisa Howe</td>
<td>DuPage &amp; Kendall Housing Authority</td>
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<tr>
<td>Arissa Hunt</td>
<td>Kendall County Health Department, Administration</td>
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<tr>
<td>Ashley Hunt</td>
<td>Kendall County Health Department, Environmental Health Div.</td>
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<td>Brian Jahp</td>
<td>Mental Health Advisory Board</td>
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<td>Jim Jensen</td>
<td>Yorkville Police Department, Chief; Kendall County Board of Health</td>
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<tr>
<td>Name</td>
<td>Title</td>
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<tr>
<td>Kelly Jordan-Licht</td>
<td>Kendall County Health Department, Community Health Services Div.</td>
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<td>Dick Joyce</td>
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<td>Stephanie Kane</td>
<td>Lewis University Student</td>
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<td>Cathy Kavanaugh</td>
<td>Kendall County Resident</td>
</tr>
<tr>
<td>Karen Kelly</td>
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<td>Christopher Mehochko</td>
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<tr>
<td>Renay Montalbano</td>
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<td>Victor Ortiz, Ph.D.</td>
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<td>Nanci Reiland</td>
<td>Lewis University; Kendall County Board of Health</td>
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<td>Doug Szempucz</td>
<td>Waubonsee Community College, Counseling Manager</td>
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<td>Amaal Tokars</td>
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<td>Unnati Upadhyay</td>
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<td>RaeAnn VanGundy</td>
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<td>Robyn Vickers</td>
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<td>Emma Wallis</td>
<td>Lewis University Student, Mental Health Intern</td>
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<td>Yuzheng Wei</td>
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<td>Cheryl Weiler</td>
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<td>Stacy Zeng</td>
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The strength of our broad and diverse community participation resides in its potential to create health impact through collective efforts in ways that could not so readily be done individually; collective efforts representative of a dedicated and inspired local public health system.

*Community leadership is the courage, creativity and capacity to inspire participation, development and sustainability for strong communities.*  ~ Gustav Nossal
Assessment Methods/Community Health Plan Process

The Kendall County Health Department implemented the community-driven MAPP process for its ability to promote strong community connections that would foster and produce the collective wisdom of our community partners - essential to identifying, and eventually addressing, community health concerns by consensus. Although interrupted by COVID-19, we took our community and community partners, collectively referred to as our Community IPLAN Committee, on a journey through community health improvement planning using concepts that included visioning, an environmental scan, the identification of strategic issues, and the formulation of strategies. This was accomplished through the vehicle of MAPP’s four unique and progressive assessments. The community members, partners and sectors making up our IPLAN Committee were very active for our first assessment, then participation was stifled in Spring of 2020 when stay-at-home orders were mandated. This abrupt shift to remote work made it difficult to maintain relatively consistent members throughout the duration of our next two assessments. That said, the public at large, through the use of mainstream and social media, was kept informed of our progress, their input and remote/in-person participation encouraged, with each assessment performed. Once we reconvened in-person during the summer of 2021, new Committee members were added and gladly welcomed.

In our first assessment, the Local Public Health System Assessment, our Committee collaborated to measure the capacity of our local public health system to conduct essential public health services. This lead to our Community Themes and Strengths Assessment, during which health department staff collected, analyzed, prepared and discussed a great deal of information shared by members of our community unable to join us at the table, identifying public health themes that interest and engage our community, their perceptions about quality of life, and that which they believed to be community assets. While unable to meet with our Committee at this juncture due to the pandemic, they were privy to this information later in the MAPP process. Our Committee then enjoyed the results of a comprehensive, data-driven Community Health Status Assessment, during which they were made privy to analyzed data about our community’s health status, quality of life, a broad and diverse cross section of public health risk factors, and associated health assets. In our fourth and final assessment, the Forces of Change Assessment, our Committee worked closely to identify forces that are occurring or will occur that will affect our community or our local public health system. Pulling it all together, our Committee applied their cumulative experiential and data-driven knowledge gained through all four assessments to create by consensus, meaningful public health priorities intended to positively impact the health and well-being of our community for the next five years.

Local Public Health System Assessment
February 21, 2020 Meeting

Our Local Public Health System Assessment, the first of four assessments, was designed and conducted using the guidelines set forth by the National Public Health Performance Standards Program (NPHSP), and served to assess the collective capacity of the larger public health system. A consultative relationship was established with the Illinois Public Health Institute which included recommendations around valuable materials to be used, the training/guidance of group facilitation/recording for this event, and an educational presentation to the entire group on the assessment process. Preparing for this event was very time intensive as it included the organization of assessment related materials for each of our participants. These materials again placed emphasis on the ten essential health services as well as the relationship between the Local Public Health System Performance Assessment Instrument and health improvement planning. The location was selected so as to ensure easy access to community partners, and accommodations that would provide for a smooth flow between sessions. Cross Lutheran Church was generous in donating the use of 7 separate rooms, including a full sized kitchen and lunchroom, which were strategically used for different phases of this all-day event.
Participants in this all day assessment included; board of health, advisory boards/committees, hospitals, social service providers, agricultural/ environmental organizations, community-based organizations, business sector, the faith community, county officials, law enforcement, school system, and some health department staff. We very carefully identified community partners and stakeholders that contribute to the delivery of the Ten Essential Public Health Services in Kendall County by providing formal and informal input via their perceptions and experiences with the health system.

Consumers of the local public health system were also active participants. These consumers were not identified as such and instead, simply identified themselves as affiliated with their place of employment, a church, or as a community member. We were successful in hosting over 40 partners and 22 employees during that all day event.

The Local Public Health System Assessment was embedded into an all-day retreat format which included a Welcome and Orientation to materials provided as well as to the assessment process. The actual assessment process took place via the work of five separate work groups, A through E, each with their own facilitator and recorders. Each work group room had on display helpful visual materials to help guide the process. These groups were charged with employing the Local Public Health System Assessment Instrument in ascertaining the health system’s capacity to carry out the Ten Essential Services through the model standards. Group A was assigned Essential Services 1 and 2; Group B, 3 and 4; Group C, 5 and 6; Group D, 7 and 9; and Group E, 8 and 10. A key responsibility of these work groups was to cite challenges and opportunities by identifying strengths and weaknesses of our current local public health system. At the end of the day, pulling it all together, the larger participant group reconvened to report on these areas in their own words.

Highlights were delivered in the forms of strengths and opportunities. As strengths, the Kendall County public health system has strong communication between Kendall County Health Department and other services such as; local law enforcement, municipalities, villages and stakeholders; the Health Department thoroughly understands the law and ordinances and provides communities with education in regards to those mandates; and lastly, there is plenty of desire to improve the local public health system. Concurrently, there exists many opportunities, such as: there is a lack of collaboration with agencies outside of Kendall County when conducting Emergency Preparedness drills; the Kendall County public health system lacks a community platform for all services/resources provided by different local organizations; and lastly, as local health strategist, the Board of Health needs to be more visible to the community. This valuable information, drawn from the assessment in this forum, served to inform the overall health assessment process.

COMMUNITY THEMES & STRENGTHS ASSESSMENT
MAY 5, 2020 MEETING

We consider our Community Themes and Strengths Assessment to be a key component of our IPLAN development process. The purpose of this assessment is to gather data on local quality of life and assets, and that which is important to the residents of Kendall County - through first hand experiences and perceptions of community residents. Our Community Themes and Strengths Assessment was designed to engage a broad and
diverse cross section of community members that had not been or could not be proportionately represented at our engagement forums thus far.

We intentionally chose to implement ethnographic interviewing techniques in an effort to obtain valuable narrative data directly from community members describing the health and well-being themes and strengths of their/our community. Ethnographic interviewing techniques involve culturally sensitive use of non-scripted questions and discourse in order to understand the lived experiences of others. Our use of ethnographic interviewing techniques proved effective in securing our community residents’ valued voice on strengths and needs related to community health and well-being, through the lens of their lived experiences. And while the COVID-19 pandemic caused a reduction in the original number of interviews for which we planned, enough were performed and ample data collected to consider this assessment meaningful and worthwhile.

A dedicated cross-disciplinary group of health department staff was trained in select elements of the ethnographic interviewing technique. Staff learned about the following relevant principles; ethnography, artifact, deductive, inductive, neutrality, qualitative, quantitative, recording, reflexivity, and superstructure. Staff were also trained on interviewing question types and the importance of interviewer reliability. Interested community members were asked in non-verbatim, open-ended fashion to provide their reflections on community themes and strengths around socio-economic well-being, environmental health, mental health, physical health, and community resilience. These semi-private interviews were completed in public places in a number of diverse settings including local business, KCHD, laundromats, retail establishments, senior centers, school cafeterias, and Kendall County Jail. All interviewees were over the age of 18 and some interviews were conducted in Spanish. It should be noted that in the ethnographic method, a subject’s reported experience/perspective is not merely understood as opinion. Instead, it is put through the process of data analysis to ascertain the potential of its contribution to emergent themes and potential key findings. In total, before COVID-19 caused a statewide Stay at Home Order, 21 full interviews were completed. The narrative data (reflections and responses) and numeric data (demographic information) were recorded, transcribed, coded, analyzed, and prepared in a format for community review of findings. Due to the pandemic, in lieu of our traditional community gathering we conducted a focus group via Zoom. Also, to supplement the reduced number of interviews conducted, focus group members were assigned in advance, carefully selected readings on topics germane to community health and wellness on which to report.

At our 5/5/20 Community Themes and Strengths Assessment meeting, we shared with our focus group an analysis of the interview data collected, the emergent and salient points relevant to our community’s wellness. Members then took turns sharing their respective learnings and drawing out valued group discussions. The following findings grounded in both community narrative and academic research were presented as our community’s themes and strengths:

**Community Themes**

- Access to **affordable housing** to maintain financial stability.
- Important to understand the **stigma related to mental illness** still exists.
- Promote **physical activity and healthy eating** throughout the community.
- Vector control and surveillance through tracking high risk areas and abatement of breeding sources is essential to contain the mosquito population and the transmission of their infectious diseases.
- **Targeted interventions** assists parents and adolescents in a variety of settings should be implemented to reduce episodes of major depressive disorder.
- Protect our environment by advocating for **legislation and policies that improve the overall health** of our communities in a balanced approach.
- **Managing stressors**, affects the ability to care for one’s health, as well as, the health and wellbeing of the entire family.

**Community Strengths**

- Kendall County is a **good community** where people work together very well.
Kendall County focuses interventions on promoting **adolescents to modify their health behaviors and enhance their emotional and social skills.**

- Understanding and measuring **post-traumatic growth** those served.
- Kendall County has strong **vector control and surveillance** programs in place.
- **Resilient County**: being able to cope with setbacks, maintain personal strength, working together, all while there are support systems in place.
- Kendall County understands the **concepts and strengths of contact tracing** as related to disease.
- As education is an important protective factor, Kendall County has **scholarships** available.

A summation of our Community Themes and Strengths Assessment was prepared and made available to our entire community via the health department’s website; complete with a request for further community input. While further input was not received, the information shared, at minimum, served to inform our community of our findings and progress made towards our Community Health Improvement Plan.

**COMMUNITY HEALTH STATUS ASSESSMENT**
**AUGUST 20, 2020 MEETING**

Our Community Health Status Assessment was the third of four MAPP assessments conducted in our IPLAN process. The purpose of this assessment is to describe the health and well-being conditions of our community through relevant data-driven information. This assessment was rooted in a number of prominent constructs including the World Health Organization’s definition of health, participatory engagement and data-driven diversity. These constructs were considered essential to a successful IPLAN process and inasmuch were included in our IPLAN discussions from the very beginning.

The World Health Organization’s definition of health and wellness, shared as a part of our presentation, states that “Health is a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity.” This definition makes clear that each of the aforementioned aspects of health is essential to complete health and does not place them in a ranking order. Participatory engagement continues to be an area of emphasis for us in that we seek more than questions and feedback rendered from traditional processes of participation. Participatory engagement has the potential to reveal new understandings (knowledge production) about trends inherent to a particular community and social responsibility with regard to action (praxis) or acting with efficacy upon health issues. Data-driven diversity remained a critical construct for us as we sought to develop a presentation based upon diverse aspects of health as well as one that would engage persons from diverse personal/professional backgrounds in the community. Although all slides within the body of the presentation are data-driven, we also deliberately utilized data embedded in narrative and/or cited data-driven sources as a means to be sure to engage a broad range of participants in sophisticated dialogue about these health matters. We also took care to include kinds of data that came out of health concerns raised in previous discussions. Data placed in charts and graphs served to help our participants grasp visually the messages to be conveyed.

In creating the Community Health Status Assessment and presentation, data-driven information, relevant to our community, was collected to help to describe demographic characteristics, socio-economic characteristics, behavioral risk factors, environmental health-related risks, social and mental health indicators, and infectious disease. More specifically, demographic characteristics describe our community’s make-up in terms of age, race, sex, economic status, level of education, income level and employment, and also include very informative hospital utilization data; socio-economic characteristics include data taking a close look at poverty, homeless population, housing, income and unemployment; behavioral risk factors include data on substance abuse, vaccine hesitancy and chronic disease; environmental health-related risks include ground water depletion, vector-borne diseases (with a focus on mosquitoes and ticks), indoor radon gas exposure and solid waste management issues; social and mental health indicators includes data on mental health awareness, youth anxiety, depression and suicide; and infectious disease includes sexually transmitted infections and tuberculosis, active and latent. Following these health indicators were thoughtful listings of community assets.
Individually, health indicators represented by this data were studied for a number of characteristics that included, in addition to a clear description of the issue: key demographics, the existence of any disparities, contributing causes, and community assets potentially capable of minimizing if not preventing the associated health risks. Collectively, this data served to create a profile with regard to the context of our community, the strengths and risks of the community related to health and well-being, and the health status of the community. The data consisted of local data, as well as national data, and data-driven information relevant to understanding the local health status. The Kendall County Health Department partnered with Rush Copley Medical Center and Northwestern Medicine in the data collection process. The Health Department is deeply appreciative of these contributions.

Due to the pandemic and our need to ensure the health and safety of all, staff provided the presentation using a virtual platform. On the evening of the Community Health Status Assessment presentation, our community partners were warmly welcomed, their interest and participation appreciated. We explained that the purpose of the data-driven presentation was to promote thoughtfulness in the area of demographic trends, key risks, and key strengths as related to health and well-being in our community. Participants were told that their comments, insights, and questions were welcome throughout the presentation, and that if time permitted we hoped to engage in quality dialogue following the presentation. Our partners were provided with a Community Health Improvement Plan process update that included a recap on the first two assessments; noting that the Community Health Status Assessment is third in the series of four; and providing a brief description of the forthcoming and final assessment, Forces of Change. They were then provided with a brief yet thorough review of the progress of our 2016-2021 IPLAN, and a summation of findings from the 2020 Local Public Health System and Community Themes and Strengths assessments, before introducing the 2020 Community Health Status Assessment presentation.

Community partners were encouraged to share their thoughts and any questions they may have had. They expressed their appreciation for the scope and diversity of health issues presented, and the fact that we provided this presentation in the midst of a global pandemic. One partner thanked us for the time and efforts put into local vector-borne disease surveillance. Several partners concurred with the importance of better understanding vaccine hesitancy, especially given the fact that a COVID-19 vaccine was currently under study. Community members expressed surprise and appreciation for the variety of public health services available to the community. Community partners expressed understanding of the Community Health Status Assessment as being collaborative and one facet of the larger IPLAN development process. In an effort to close out this meeting on time as promised, community partners were informed that the entire Community Health Status Assessment presentation would be made accessible on the KCHD website for further review, and that valued input would continue to be solicited over the months ahead, either through the KCHD website or a phone call to the health department administrator.

It is important to note that the Community Health Status Assessment is not a static process. The assessment of our community’s health status did not end with our meeting in August. After the initial data was collected, much time and effort was put into describing the data in ways that would support a diverse and participatory community engagement process. Health indicators have been continuously revisited to refresh and fine tune our understanding of community health status.

**FORCES OF CHANGE/STRATEGIC ISSUES/FORMULATING HEALTH PRIORITIES**
**JUNE 10, 2021 MEETING**

This multistep meeting, deeply rooted in community partner participation, was designed to have the Forces of Change Assessment seamlessly flow into the identification of strategic issues, to be followed by the development of IPLAN health priorities for Kendall County.

In September of 2020, amidst the COVID-19 pandemic, community partners were asked to share brainstormed forces they believed to be impacting the health and well-being of our community during small group discussions. These discussions took place during four virtual advisory board meetings and at the virtual Board of Health meeting. Results of those small group discussions were shared during the final Forces of Change
meeting, where the larger group was then given the opportunity to further discuss key forces identified. A Threats and Opportunities Worksheet was created on a large whiteboard for all to follow and consider. Key forces were converted to threats posed. A discussion on threats posed lead to the creation of possible opportunities. Trends/forces of change presented included: increased trauma, lack of trust in government and medical society, affordable housing, closure of Dresden Nuclear Plant, infectious disease on the rise, water resources, partnership awareness, access to healthy food, and social, emotional and financial long lasting effects from COVID-19. Threats presented included: lack of affordable/available housing, unknown impact of COVID-19 on childhood education, heightened vaccine hesitancy amidst variants and surge, vector-borne diseases (mosquitoes and ticks), increased domestic violence, and decreased water resources. Assets/opportunities presented included: strong community support evident during COVID-19 response, utilization of telemedicine, Mental Health First-Aid available to community, importance of meaningful public health work, increased funding to assist those affected by COVID-19, able to assist many more homeless citizens in Kendall County, efforts of local volunteers(heroes) during COVID-19 response, local school districts, local law enforcement, and many area physicians. These opportunities, including the findings from the Local Public Health Status Assessment, Community Themes and Strengths Assessment, and Community Health Status Assessment, served as a foundation for the identification of strategic issues.

Once the previous assessment findings were reviewed, strengths and opportunities were defined, the IPLAN Committee took an active role in creating a vision statement that would reflect values they believed to represent the health and well-being of their community. To seed our partner’s thinking and to promote collaborative discussion, each member was provided with a copy of the 2016-2021 IPLAN Vision Statement. Partners were asked to consider the statement merely as an example, a point of reference; but to feel free to capture any part or parts of this statement, or none at all, in the creation of their very own. The discussion proved to be both considerate and productive as our partners, through consensus, developed and presented the following deeply meaningful and community driven 2021-2026 IPLAN Vision Statement.

*Complete health includes equitable access to environmental, mental, physical, and socio-economic health and well-being services. Together with our community, we aspire to empower, protect, educate, motivate, and inspire every individual in Kendall County to make healthy choices.*

Prepared with this information, the larger group was separated into three facilitated breakout groups, each representing a different strategic area. The three strategic areas reflected were environmental health, mental and social well-being, and physical health. In addition to Forces of Change Brainstorming Worksheet results, the following five important supplemental documents were furnished at each table where community partners and meeting facilitators gathered to brainstorm: Illinois’ State Health Improvement Plan; Presence Mercy Medical Center 2018-2021 Health Needs Assessment; Edward Hospital/Elmhurst Memorial Healthcare Health Needs Assessment, Rush Copley Medical Center’s 2019 Health Needs Assessment; and Kendall County Health Department’s Community Health Needs Assessment. Also provided was a computer with internet access in the event our participants desired to access additional supporting information.

A consensus process was used by each breakout group to move from the strategic issues to the selection of health priorities. Possible strategies to address the priorities selected were discussed by KCHD staff and their respective table facilitators as a means of ensuring that the strategies captured the true meaning and essence of each table’s discussion. Health priorities were then selected to address and provide for a positive impact on both individual and population health.
**RESULTS OF HEALTH STATUS/COMMUNITY HEALTH PROFILE**

The following paragraphs describe data-driven health information relevant to the Kendall County community and served as an integral part of our community health assessment process. More detailed data-driven information and analysis related to the three health priorities chosen by our community partners is addressed later in this document. The health information collected reflects demographic characteristics, socio-economic characteristics, health resource availability, behavioral risk factors, environmental health-related risks, social and mental health indicators, and infectious disease. More specific, demographic characteristics describe our community’s make-up in terms of age, race, gender, economic status, level of education, income level and employment, and very informative local hospital utilization data. Socio-economic characteristics include data on poverty, housing, employment and education. Behavioral risk factors contain data on substance abuse (esp. opioids), chronic disease and vaccine hesitancy. Environmental health-related data includes risks posed by vector-borne diseases (primarily mosquitoes and ticks), indoor radon exposure, ground water depletion, and solid waste management issues. Social and mental health includes data on mental health awareness, youth anxiety, and depression and suicide. And infectious disease includes data on sexually transmitted infections and tuberculosis. Following each of the aforementioned health indicators is a listing of known local community assets capable or potentially capable of minimizing if not preventing the health risks associated with their respective health indicator. It is important to note that this data represents information available through August 2020 as it was presented to community partners in our Community Health Status Assessment on August 20, 2020. Demographic and healthcare utilization data was generously supplied by our valued partners, Rush-Copley Medical Center and Northwestern Medicine; their source of demographic information, Illinois Health and Hospital Association’s COMPdata informatics, August 2020.

We were most fortunate to have Rush Copley Medical Center and Northwestern Healthcare prepare and provide us with demographic and hospital utilization information for Kendall County. Sources of data included the U.S. Census Bureau and the Illinois Hospital Association’s COMPdata (August 2020). Of note are the following demographic highlights.

In 2019, an estimated 114,000 residents lived in Kendall County, a number projected to grow by 6% in the next five years (to a population of 120,712 by 2024). The median age of the Kendall County resident, 35.4, was a few younger than that of Illinois at 37.8 and the US at 37.9. Notably, Kendall County’s median household income, at over $93,000, was between $23,000 and $26,000 higher than Illinois and the U.S., respectively. The unemployment rate in Kendall County, at 2.9%, was trending a percent lower than that of our state and nation. The Hispanic population made up close to 20% of Kendall County’s population, slightly higher than that of Illinois and the U.S. as a whole.
Our local hospital system partners, using inpatient discharge data, provided insightful information on the leading causes of hospitalization. Interestingly, our partners have experienced a 2% increase in inpatient hospitalizations over both the last three years (2017-2020) and the last year (2020). Within the year 2020 the top diagnoses for these admissions were related to the following: pregnancy and childbirth, joint replacement, heart failure, pneumonia, behavioral health and gastrointestinal illness.
Like inpatient hospitalization, Emergency Department (ED) visits have increased – 1% over the last three years and 2% over the last year. In 2020 the top diagnoses for the ED visits were related to the following: chest pain, respiratory infection, urinary tract infection, influenza, and headache.

Table 1.

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<td>705</td>
<td>817</td>
<td>13%</td>
<td>15%</td>
</tr>
<tr>
<td>Acute urinary tract infection</td>
<td>877</td>
<td>934</td>
<td>764</td>
<td>13%</td>
<td>14%</td>
</tr>
</tbody>
</table>

Table 2.

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>MRY 1</th>
<th>MRY 2</th>
<th>MRY 3</th>
<th>5-Year Change</th>
<th>1-Year Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute myocardial infarction</td>
<td>1,342</td>
<td>1,370</td>
<td>1,393</td>
<td>7%</td>
<td>6%</td>
</tr>
<tr>
<td>Acute respiratory infection</td>
<td>978</td>
<td>1,018</td>
<td>949</td>
<td>13%</td>
<td>14%</td>
</tr>
<tr>
<td>Acute urinary tract infection</td>
<td>798</td>
<td>860</td>
<td>948</td>
<td>5%</td>
<td>6%</td>
</tr>
<tr>
<td>Acute respiratory illness</td>
<td>751</td>
<td>705</td>
<td>817</td>
<td>13%</td>
<td>15%</td>
</tr>
<tr>
<td>Acute urinary tract infection</td>
<td>877</td>
<td>934</td>
<td>764</td>
<td>13%</td>
<td>14%</td>
</tr>
</tbody>
</table>
The Environmental Health Services division examined health indicators for 2021-2026 that include ticks and tick-borne diseases, ground water, radon gas, and solid waste issues.

Ticks and Tick-Borne Diseases

The number of counties in Illinois with an incidence of ten or more confirmed cases of tick-borne diseases per 100,000 persons increased from 324 in 2008 to 415 in 2018. This is a 22% increase in ten years. Since the start of Kendall County’s tick surveillance program in 2016, there have been 170 ticks collected. 138 of those are deer ticks with the remaining 32, dog ticks. Deer ticks can transmit Lyme disease while dog ticks cannot. Underreporting of tick-borne diseases is a serious issue; the CDC estimate that for every 100,000 cases of reported Lyme Disease, a factor of 100 more are unreported. Outpatient incidence of Lyme Disease was highest among boys 5-8 years of age and persons 60-64 years of age (Nelson et al., 2015).

There are fifteen tick species in Illinois, but only three to five are commonly encountered by people. Figure 2 below shows the prevalence of four tick species in Illinois from a 2018 collection: IXSC (Ixodes scapularis, also known as the deer tick or the black-legged tick), AMAM (Amblyomma americanum, or Lone Star tick), DEVA (Dermacentor variabilis, or American dog tick), and AMMA (Amblyomma maculatum, or Gulf Coast tick).

Figure 2. Summary of Tick Species for 2018 I-TICK Hub Collections

Additionally, a Lone Star tick carrying the Heartland virus was detected in Kankakee County in 2018 and a second in Williamson County in 2020. The Heartland virus is an emerging pathogen in Illinois that had not been detected since 1999 (Yates, 2020). According to Holly Tuten, a vector ecologist with the Illinois Natural History Survey, “with COVID-19 on the collective mind, a tickborne viral infection could be overlooked, especially in cases where a tick bite was missed” (2019).
Other diseases commonly carried by ticks include anaplasmosis, babesiosis, Lyme disease, and the Powassan virus in the black-legged or deer tick; ehrlichiosis, STARI (southern tick-associated rash illness), and Alpha-gal allergy in the Lone Star tick; and Rocky Mountain spotted fever, tick paralysis, and tularemia in the American dog tick (University of Illinois, 2020).

Figure 3 demonstrates the black-legged or deer tick in Illinois counties. It is believed “established” in Kendall County as it has been found repeatedly in the environment. The Lone Star tick and American dog tick are presumed prevalent throughout the state (IDPH, 2020).

**Ground Water Depletion**

Ground water depletion has the potential to be a serious issue for Kendall County residents in the near future (Environmental Integrity et al., 2018).

Due to population growth in Kendall County, water usage has increased from 1.2 million gallons a day in 1975 to more than 5 million gallons a day in 2000, and the water levels in the aquifer system have declined by as much as 600 feet (Kay et al., 2005).

Joliet, the third-largest city in Illinois, has the potential to run out of groundwater by 2030 unless changes are made (O'Shea, 2019). Additionally, due to water being over-pumped, Kendall County as a whole is predicted to expect major well failure by 2050. In the last eighteen years, at least sixty wells have run dry, thirty-two of which ran dry between 2005-2006 during a period of major population growth (Wehrman, 2010).

In order to address this issue, studies suggest that aquifer withdrawals in Kendall County should be reduced by at least 40-50% to ensure adequate water for the region in the long term. Also, for the city of Joliet, potential
new water sources include Lake Michigan, the Kankakee River, and the Illinois River. Figure 4 depicts regional Lake Michigan water usage from a University of Illinois 2012 study. Joliet was not using Lake Michigan water, though surrounding areas were.

Figure 4

Regional Lake Michigan Water Usage

Radon Gas in Homes

Kendall County has an above-average radon gas level in family homes. Approximately 47% of results generated by tests in Kendall County were found to exceed the USEPA action level of 4.0 pCi/L (picocuries per liter). The U.S. average radon-in-air level in single family homes is 1.3 pCi/L (Kendall County, IL).

The EPA estimates that twenty-one thousand deaths from lung cancer per year are related to breathing radon gas. If exposed to 4 pCi/L of radon over a lifetime, a smoker has a 6.2% chance of getting lung cancer. A non-smoker exposed to the same amount of radon over a lifetime has a 0.7% chance (Indoor Air, 2020). Figure 5 demonstrates that Kendall County is in Zone 1, Highest Potential Risk, for radon exposure.
Solid Waste Problems and Impacts

Solid waste has global impacts. International exchange and shipping involving hazardous materials are making their way to developing countries.

In Kendall County, the recycling rate has been between 27-30% from 2015-2019. The United States is a large exporter of recyclables, and contamination in this waste has risen, yet this poses a burden on the rest of the world which cannot be borne forever. For example, China has mostly banned two dozen different recycling materials, such as plastic and mixed paper, with an eye to a complete ban in future.

Electronics are a particular concern for recycling, as device lifespans are short and electronic devices are not allowed in landfills under the Consumer Electronics Recycling Act.

Assets and Barriers

Among our assets, the Environmental Health Services division has a knowledgeable and dedicated staff. This is a crucial element in our success as a program. We have acquired grant resources to help fund water and radon programs, and collaborated with the Illinois State Water Survey and Illinois’ state and county municipal solid waste associations. Access to well permits and well logs, along with well contractors and experts, allow us to collect data and perform analyses. We have access to data at the state level for radon test results. We sell radon test kits to people in the community which provides additional data from them. Local haulers provide solid waste data. All of this data helps us to perform analyses and make recommendations based on evidence.

Barriers for our division include a lack of a time and outside support as we are leading new programs, especially the tick surveillance initiative. There is a lack of funding to run bigger projects, or to run large ads to reach and educate a wider audience. The lack of water means that water testing is more difficult; the cost of advanced test
results in water is also a barrier. Private property rules do not allow us to test private wells, meaning a lack of access to complete county-wide data. The homeowner radon test kits sometimes produce inaccurate data or have incomplete data. The changing face of solid waste can also make it hard for the public to keep up.

COMMUNITY ACTION SERVICES ASSESSMENT

Major health indicators examined by Community Action Services include poverty, the unhoused population, housing, income, and unemployment.

Poverty

According to the five-year estimates from the American Community Survey with the U.S. Census Bureau (2014-18), the poverty rate for Kendall County was 5.32% of the population, 6,598 out of 124,009 individuals. This is lower than the poverty rate of 8.79% for neighboring Grundy County, and the poverty rate of 13.06% for the state of Illinois as a whole, as well as the poverty rate of 14.05% for the United States.

Table 3

<table>
<thead>
<tr>
<th>Report Area</th>
<th>Total Population</th>
<th>Population in Poverty</th>
<th>Population in Poverty, Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Report Location</td>
<td>173,952</td>
<td>10,087</td>
<td>5.82%</td>
</tr>
<tr>
<td>Grundy County, IL</td>
<td>49,943</td>
<td>4,389</td>
<td>8.79%</td>
</tr>
<tr>
<td>Kendall County, IL</td>
<td>124,009</td>
<td>6,598</td>
<td>5.32%</td>
</tr>
<tr>
<td>Illinois</td>
<td>12,523,283</td>
<td>1,635,503</td>
<td>13.06%</td>
</tr>
<tr>
<td>United States</td>
<td>314,943,184</td>
<td>44,257,979</td>
<td>14.05%</td>
</tr>
</tbody>
</table>

Similarly, the child poverty rate in Kendall County is 5.8%, and 10.3% in Grundy. The rate of seniors in poverty was 6.3% in Kendall County, and 9.8% in Grundy. Kendall County had lower poverty rates for both groups (children and senior citizens) compared to Illinois or to the United States as well.

Twenty-seven percent of Kendall County students were eligible for a free and reduced lunch program, which was higher than the numbers reported by Grundy County, but lower than the numbers for the state of Illinois or the United States (Jusufi, 2020). The number of households receiving SNAP (Supplemental Nutrition Assistance Program) was also lower in Kendall County, at 7.64%, than in Grundy County, the state of Illinois, or the United States. The majority of households receiving SNAP in Kendall County had an income above the poverty level.
Homeless Population

One of the resources in Kendall County to address the issue of unhoused individuals is PADS (Public Action to Deliver Shelter), along with the Grundy Area PADS (Public Action to Deliver Sustenance). The Kendall County PADS 2019 season served 44 guests and had a total of 1190 overnight stays. The Kendall County PADS 2020 season served 54 guests but closed in mid-March due to the COVID-19 pandemic (Engelhardt, 2020). The Grundy County PADS 2019 season served 85 guests with a total of 2,364 overnight stays. The Grundy County PADS 2020 season served 57 guests before it also closed in mid-March due to the pandemic (Gaska, 2020).

The number of homeless youth students by year in Kendall County has increased dramatically from numbers near zero in 2006 to almost 250 in 2020. The initial spike came in 2008 as the numbers neared 100, and it has only increased in recent years, with almost 300 homeless youth students recorded in 2017.

Housing

According to the Out of Reach 2020 research from the National Low Income Housing Coalition, the two-bedroom fair-market rent for Kendall County is $1,240, and in Grundy County is $1,158.

A housing wage, meaning earning enough to afford that rent, is $23.85 an hour in Kendall County, and $22.27 an hour in Grundy County. This is slightly less than the Chicago-Joliet-Naperville HUD Metro FMR Area (HMFA) housing wage of $24.00 an hour, and higher than the housing wage of $19.15 an hour in DeKalb County or $17.54 an hour in Kankakee County (NLIHC, 2020).
Kendall County has the highest foreclosure rate in the state of Illinois and the fifth highest in the nation. The Kendall County foreclosure rate is 1 in every 802 houses; in Grundy County, the rate is much lower, at 1 in every 9,308 houses (ATTOM Data, 2020).

According to the U.S. Census Bureau, the median annual household income in Kendall County in 2018 was $93,345. This is higher than the $79,348 reported for Grundy County, or the $65,063 for the state of Illinois, or the $61,937 for the United States. A median value is not the average income, but the middle-most reported income.

In 2019, Kendall County’s unemployment rate was 3.1%, while Grundy’s was 4.1%. By May of 2020, however, following pandemic downturns in the economy, Kendall and Grundy both had an unemployment rate of 13.8%. This was similar to surrounding counties such as DeKalb, Kane, DuPage, Will, and Kankakee, higher than many counties located mostly in the middle of the state, and lower than some counties in Illinois (including Cook and LaSalle Counties and some of the counties in southern Illinois) which saw unemployment rates of 15.1% or higher (IDES, 2020).

Community Action Services collected client comments from surveys regarding unemployment in Kendall County. A representative sampling includes comments such as the following: “I have no problem finding a job. I have skills and education. I have problems finding a permanent full-time job. I find a job and it’s temporary part-time or temporary full-time or it’s a contract job. I am good for a little while and I get laid off. Then I go back on unemployment and the cycle continues.”

Another client shared, “I think the wages of jobs are starting to increase slowly in some places. The workforce is changing. But every job needs experience of some years, or a certificate, or a degree or really where are the entry-level jobs where they trained you on the job? Instead these jobs want you all trained up at some fancy for-profit school before you even start and that costs money. No one can just walk in and apply for a job anymore” (Community Action Partnership, 2019).

**Assets and Barriers**

Community Action Services has many assets in the form of established community resources and programs, including Continuum of Care, the Kendall County Interagency Council, Department of Commerce and Economic Opportunity funding, the Salvation Army, utility partnerships, advisory boards, workforce development ‘one-stop-shop’ centers, and local university partnerships.

However, the division also faces barriers, including lack of funding for client assistance, lack of funding for staff, an unknown future for the PADS shelter with the ongoing COVID-19 crisis, and lack of funding for technology and informatics. It is the second-lowest funded agency in the state of Illinois.

**BEHAVIORAL HEALTH SERVICES ASSESSMENT**

The primary health indicators studied by Behavioral Health for this period included mental health awareness, youth anxiety, suicide, depression, and the dangers of opioid use/misuse.

Mental health awareness involves barriers to care such as lack of insurance or being under-insured, mental illness stigma among minority populations, lack of diversity or cultural competency among mental health care providers, language, and distrust in the healthcare system.

In 2020, 16% of adults in Illinois reported having some form of mental illness; of those, 55.7% did not receive treatment. In 2018, Kendall County mental-health providers saw an average of 1,235 patients.

Mental health awareness is also informed by research on risk, such as four or more adverse childhood experiences, using demographic factors such as race/ethnicity. In 2013, the Illinois Behavioral Risk Factor Surveillance System found that 13.7% of White individuals reported four or more adverse childhood
experiences, compared to 18.5% of Black individuals, and 7.7% of “Others” (Illinois Department of Public Health, 2020).

The Healthy People 2020 baseline goal of increasing primary care facilities that provide mental health treatment has a desired projected increase of 8% to get to a total of 87%. Access to healthcare is often informed by insurance status. The total institutional Medicare and Medicaid providers, including hospitals, nursing facilities, federally qualified health centers, rural health clinics, and community mental health centers for Kendall County are shown in Table 6. According to the U.S. Department of Health and Human Services, there were seven active Medicare and Medicaid institutional service providers in Kendall County in the fourth quarter of 2019 (Healthy People, 2020).

Table 6

*Medicare and Medicaid Healthcare Providers in Kendall County, Illinois, and the United States*

Youth Anxiety

According to the Centers for Disease Control and Prevention (2018), 7.1% of children aged 3-17 years (approximately 4.4 million) have diagnosed anxiety. For children aged 3-17 years with anxiety, more than 1 in 3 also have behavior problems (37.9%) and about 1 in 3 also have depression (32.3%). It is important to consider that decades of research in psychiatry have shown that anxiety disorders and substance use disorders co-occur at greater rates than would be expected by chance alone (US National Library of Medicine National Institutes of Health, 2008).

Substance abuse indicators for youth also increased for eighth-graders between 2016 and 2020, with a 200% increase in cigarette use, a 100% increase in marijuana use, and a 50% increase in perceptions of social pressure to drink regularly. The percentages of actual use or perception were still all in single digits, however (Center for Prevention Research and Development, 2020).

Table 7

*Use and Perceptions of Tobacco, Marijuana, and Alcohol among Eighth Graders*

<table>
<thead>
<tr>
<th></th>
<th>8th graders in 2016</th>
<th>8th graders in 2020</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Used cigarettes in the past year:</td>
<td>3%</td>
<td>9%</td>
<td>200% increase</td>
</tr>
<tr>
<td>Used an e-cigarette for the first time within the last year 1-2 times:</td>
<td>5%</td>
<td>8%</td>
<td>60% increase</td>
</tr>
<tr>
<td>Smoked marijuana within the last year 1-2 times:</td>
<td>2%</td>
<td>4%</td>
<td>100% increase</td>
</tr>
<tr>
<td>Perceive that their peers will think they are cool if they start smoking marijuana:</td>
<td>5%</td>
<td>7%</td>
<td>40% increase</td>
</tr>
<tr>
<td>Perceive that their peers will think they are cool if they start drinking regularly:</td>
<td>2%</td>
<td>3%</td>
<td>50% increase</td>
</tr>
</tbody>
</table>
Suicide

Suicide has been on an upward trend in Kendall County, Illinois, and the United States as a whole. The age-adjusted suicide rate in the United States in 2017 was 0.014% (14 out of 100,000), 33% higher than the rate in 1999. In 2018, suicide was the eighth leading cause of death in Kendall County, compared to being the tenth leading cause in 2017. In 2019, Kendall County had 12 suicides, with 16% being females and 83% being males (Curtis and Hedegaard, 2019).

The rate of death in Kendall County due to intentional self-harm (including suicide, alcohol-related diseases, and drug overdoses) per 100,000 population rose from 15.1 in 2001-2007 to 26.48 in 2011-2017. Kendall County was 38% closer to the national rate in 2001-2007 than it was in 2011-17. Suicide is considered an indicator of poor mental health (Illinois Public Health Community Map, 2018).

Table 8

Rate of Death due to Intentional Self-Harm in Kendall County, Illinois, and the United States

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Kendall County, IL</td>
<td>121,386</td>
<td>32</td>
<td>15.1</td>
<td>26.48</td>
</tr>
<tr>
<td>Illinois</td>
<td>12,982,989</td>
<td>4,450</td>
<td>24.5</td>
<td>34.6</td>
</tr>
<tr>
<td>United States</td>
<td>3,186,797,673</td>
<td>129,605</td>
<td>28.9</td>
<td>40.67</td>
</tr>
</tbody>
</table>

Depression

Depression was also a significant factor for Behavioral Health in Kendall County. Between 2015-2019, 18.4% of Kendall County residents were told they had a depressive disorder. This represents a 65% increase from the previous rate of 11.1% from 2010-2014. The numbers in Kendall County were slightly higher than in Illinois as a whole, and slightly less than in the United States as a whole (Kendall County, IL, 2017).

In 2018, 17.7% of Illinois residents were told they had some form of depression. Of that number, 13.3% were male, 21.9% female; 21.7% were between 18-24 years old, and 24.1% were 25-34 years old; 32.2% were multiracial, non-Hispanic individuals, and 19% were White, non-Hispanic individuals. Nationally, in 2018, 19.6% of the population was told they had some form of depression.

Opioids

In 2019, 48% of parents or guardians of eighth graders within Kendall County in the past year did not speak to their children about non-medical opioid use (Center for Prevention Research and Development, 2020). However, the numbers indicate that opioid-involved deaths are the highest percentage of drug-related deaths in both Kendall County and the state of Illinois (Purcell, 2019).

In 2017, there were 560 deaths in Kendall County, of which there were seventeen drug-induced deaths, and fourteen involving opioids; by percentage, only 3% of Kendall County deaths were drug-induced, but, of that number, 82% involved opioids (Purcell, 2019).

Similarly, in 2018, there were 598 deaths in Kendall County, of which there were nineteen drug-related deaths, and fifteen involving opioids; by percentage, 3.2% of Kendall County deaths were drug-related, but 79% of that number involved opioids (Purcell, 2019).
Statewide, there were 109,726 deaths in Illinois in 2017, of which 2,779 were drug-induced deaths, 2,202 involving opioids. This means by percentage, similarly to Kendall County, 2.5% were drug-induced deaths, but 79% of that number involved opioids.

In 2018, there were 110,012 deaths in Illinois, of which 2,722 were drug-related, 2,167 involving opioids. This means by percentage, again similarly to Kendall County, 2.5% of Illinois deaths were drug-related, but 80% of those involved opioids.

**Assets and Barriers**

Assets of Behavioral Health Services include deep community partnerships, access to diverse populations, the availability of bilingual interventions (English and Spanish), a strong presence in county schools, highly credentialed and dedicated staff, and multiple office locations throughout the county, including at the Kendall County Health Department, the Oswego Police Department, the Plano Police Department, and the Kendall County Jail.

Barriers to Behavioral Health Services include an apparent community lack of awareness of the services offered, threats to funding, COVID-19 parameters in the community, and staff access to resources while working remotely.

**Community Health Services Assessment**

Health indicators studied by Community Health Services include chronic disease, sexually transmitted diseases, tuberculosis (latent to active), and vaccine hesitation.

**Chronic Disease**

Six in ten adults in the U.S. have a chronic disease, and four in ten adults have two or more (CDC, 2021). Chronic diseases are defined broadly as conditions that last one year or more and require ongoing medical attention or limit activities of daily living or both. Chronic diseases include heart disease, cancer, chronic lung disease, a stroke, Alzheimer’s disease, diabetes, and chronic kidney disease (CDC, 2021).

Chronic diseases such as heart disease, cancer, and diabetes are the leading causes of death and disability in the United States and are also leading drivers of the nation’s $3.5 trillion in annual healthcare costs (CDC, 2021).

More than 859,000 Americans die of heart disease, stroke, or other cardiovascular diseases every year – that’s a third of all U.S. deaths. These diseases also take an economic toll, costing $213.8 billion a year for our healthcare system and $137.4 billion in lost productivity from premature death alone (CDC, 2021). See Figure 6 for heart disease mortality rates in Illinois in 2018, according to the Centers for Disease Control and Prevention.
Diabetes is a serious chronic disease that poses a major health problem. Nearly 30.3 million people in the United States (9.4% of the population) have diabetes. About one-third of these people do not know they have diabetes. Each year, 1.5 million new cases of diabetes are diagnosed in people aged 20 years and older (CDC, 2017).

In Illinois, approximately 1.3 million (12.5% of the population) adults have diabetes, but roughly 341,000 of those don’t know they have the disease. It is estimated that about 3.6 million people in Illinois have pre-diabetes (CDC, 2017).

Diabetes is the seventh leading cause of death nationally and in Illinois. Persons with diabetes may suffer from complications such as heart disease, vision loss, and amputations. The burden of diabetes is highest among minority populations, such as African Americans, Hispanics/Latino Americans, American Indians or American Natives, and Asian Americans and Pacific Islanders (CDC, 2017).

Cancer is another serious chronic disease. Each year in the United States, more than 1.6 million people are diagnosed with cancer, and nearly 600,000 die from it, making it the second leading cause of death. The cost of cancer care continues to rise and is expected to reach almost $174 billion by 2020 (CDC, 2020).

In 2013-17, Kendall County saw a higher rate of five-year cancer incident counts per 100,000 than the state of Illinois as a whole. According to the Illinois State Cancer Registry with the Illinois Department of Public Health, the male rate in Kendall County was 556.4 per 100,000 and the female rate was 472.7 per 100,000. These numbers are for all races and all cancer combined (Garner and Shen, 2021).

<table>
<thead>
<tr>
<th>YEARS</th>
<th>LOCATION</th>
<th>MALE</th>
<th>MALE RATE</th>
<th>FEMALE</th>
<th>FEMALE RATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013-2017</td>
<td>Illinois</td>
<td>169,222</td>
<td>504.2</td>
<td>173,288</td>
<td>442.0</td>
</tr>
<tr>
<td>2013-2017</td>
<td>Kendall</td>
<td>1,305</td>
<td>556.4</td>
<td>1,340</td>
<td>472.7</td>
</tr>
</tbody>
</table>
Sexually Transmitted Diseases / Infections

Sexually transmitted diseases (STDs), also called sexually transmitted infections (STIs), generally are acquired by sexual contact. The organisms (bacteria, viruses, or parasites) that cause STIs may pass from person to person through blood, semen, or vaginal or other bodily fluids.

Chlamydia infection, caused by the bacterium Chlamydia trachomatis, is the most commonly reported notifiable infection in the United States and Illinois, according to the Illinois Department of Public Health (2017, 3). Chlamydia can be easily treated and cured with antibiotics recommended by the CDC; however, many people infected with chlamydia do not have any symptoms and therefore often do not realize they are infected and do not seek medical treatment. If left untreated, chlamydia infections can lead to serious long-term complications. The populations most affected by chlamydia infection are adolescent and young adult females.

Illinois ranked tenth out of all fifty states by chlamydia rate in 2017, and the chlamydia rate in Illinois is above the national rate, according to the Illinois Department of Public Health (2017, 3). The rate of chlamydia in Kendall County is significantly lower by percentage of population than the Illinois rate, as shown in Table 10, which presents data from the Centers for Disease Control and Prevention. However, the rate of chlamydia increased in Kendall County by 0.15%, from 0.19% to 0.34%, from 2013 to 2018. This is a significant increase from less than one-fifth to more than one-third of one percent of the total population. The increase in Kendall County is also occurring at a higher rate than in the state as a whole, which increased by 0.12%, from 0.49% to 0.61%, over the same period of time (IDPH 2017).

<table>
<thead>
<tr>
<th>Year</th>
<th>USA</th>
<th>Illinois</th>
<th>Kendall County</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>1,401,906</td>
<td>63,797</td>
<td>223</td>
</tr>
<tr>
<td>2014</td>
<td>1,441,789</td>
<td>66,536</td>
<td>262</td>
</tr>
<tr>
<td>2015</td>
<td>1,526,658</td>
<td>69,610</td>
<td>294</td>
</tr>
<tr>
<td>2016</td>
<td>1,598,354</td>
<td>72,201</td>
<td>364</td>
</tr>
<tr>
<td>2017</td>
<td>1,708,569</td>
<td>75,518</td>
<td>412</td>
</tr>
<tr>
<td>2018</td>
<td>1,758,668</td>
<td>77,325</td>
<td>431</td>
</tr>
</tbody>
</table>

**Table 10**  
*Cases of Chlamydia in the USA, Illinois, and Kendall County*

**Tuberculosis**

Tuberculosis remains one of the top ten causes of death worldwide. Cases and rates have been declining overall in the United States. In 2018, the highest rates in Illinois were in Chicago and suburban Cook County, although the state of Illinois as a whole, with a rate of 2.48 cases per 100,000, was still lower than the national rate of 2.8. Excluding Chicago, the Illinois rate would be even lower, at 2.01 (Illinois Department of Public Health, 2018a).

In 2018, Kendall County was one of only seven counties in the state of Illinois to exceed the Healthy People 2020 goal of 1.00 or fewer cases per 100,000, yet not equal or surpass the state rate of 2.48. Despite its relatively smaller population as compared to suburban Cook County and the city of Chicago, Kendall County had a rate of 1.63 cases of tuberculosis per 100,000 (Illinois Department of Public Health, 2018a).
For the calendar year 2020, as of August there were a total of twenty-three cases of tuberculosis on file in Kendall County. Two were active cases, and twenty-one were latent. Community Health Services delivered five Direct Observational Therapy Treatment plans. Seven persons with latent tuberculosis infection (LTBI) were receiving treatment through their personal care providers, while Community Health Services followed their labs up to completion of treatment, and six were not receiving LTBI treatment, related to other comorbidities or medications.

Fourteen of the cases had traveled to other countries within the last year. Eleven of the cases were female clients, and twelve were male. Ages ranged from 15 to 75 years old. Three individuals expired with a diagnosis of COVID-19 and a medical history of LTBI. All required tracking of labs and treatment and were recorded in Illinois’ National Electronic Disease Surveillance System (I-NEDSS).

Vaccine Hesitancy

Vaccine hesitancy was named a top-ten global health threat by the World Health Organization in early 2020 even before the worldwide crisis of the COVID-19 pandemic.

Additionally, measles cases globally had risen 300% by the spring of 2019 (World Health Organization, 2019). From January 1 to September 5, 2019, 1,241 individual cases of measles had been confirmed in thirty-one states, including Illinois, in the United States. This was the greatest number of cases reported in the U.S. since 1992 and since measles was declared “eliminated” from the U.S. in 2000 (CDC, 2019).
The Illinois Department of Public Health (IDPH) declared a statewide community outbreak of Hepatitis A in December 2018 after observing an increase in person-to-person transmitted cases (2018b). As of September 4, 2019, IDPH reported a Hepatitis A outbreak comprised of 154 total confirmed cases that were not associated with international travel and were not foodborne-related. Several of these cases were among individuals at high risk for infection, including men who have sex with men (MSM). Hepatitis A is spread through person-to-person contact. One death (0.7%) and 101 hospitalizations (65.8%) statewide were recorded statewide. The majority of cases were in Chicago and suburban Cook County; Kendall County had a one case in this outbreak (IDPH, 2018b).

Fast forward to August 2021, 58.1% of the Illinois population was fully vaccinated against COVID-19; 75% had received at least one dose. By comparison, in Kendall County, 53.37% of the population was fully vaccinated: 48.69% of those age 12 to 17, the fifth-highest in the state; 63.48% of those age 18 to 64, the third-highest in the state; and 92.35% of those 65 or older, the highest in the state (Illinois Department of Public Health, 2021). Kendall County’s COVID-19 vaccination statistics were also above the U.S. national average of approximately 49% of the population fully vaccinated.

Many factors enabled Community Health Services to successfully vaccinate the majority of the Kendall County population. These include many dedicated local volunteers, outreach and relationship-building from administration and division personnel, the City of Yorkville’s donation of a sizable facility from January to mid-June 2021, and valued community partners, such as Yorkville High School, Oswego East High School, Plano High School, local police and fire departments, and many others. In February, March, and April 2021, Community Health Services, with volunteers and community partners, reached highs of approximately 2,500 COVID-19 vaccines a day at some weekend mass clinics. The Community Health Services team also administered thousands of COVID-19 vaccines during the week at that time. In July to September 2021, however, COVID-19 vaccination rates in Kendall County appeared to have plateaued, and the number of Kendall County Health Department clinic vaccinations had decreased to fewer than 100 per week, prior to the approval of a booster.

**Assets and Barriers**

Assets of the Community Health Services division include the Advisory Board, community and state partner support, educated staff, grant support, and educational / training support through CDC and IDPH.

Barriers to the work of Community Health Services include lack of access to data relating to rural areas, lack of access to local providers, lack of awareness and education, lack of funding related to community size, lack of support services in the local area, some religious beliefs, inadequate transportation systems, and risky behaviors.

**Sentinel Events**

We have tracked several sentinel events since presenting our Community Health Status Assessment. In the time between this presentation and our Community Health Improvement Plan write, we have experienced several issues that merit further, ongoing surveillance and consideration.

It is not surprising that all viruses, including SARS-CoV-2, the virus that causes COVID-19, change over time. While most changes appear to have little to no impact on the virus’ properties, SARS-CoV-2 has proven otherwise. In the summer of 2021 the Centers for Disease Control and Prevention (CDC, 2021) reported an alarming increase across the country in new COVID-19 cases and related hospitalization rates - reversing what had been a steady decline (in cases) since January 2021.

According to the CDC, in large part due to the emergence of a more highly infectious variant, the Delta variant, in late June, the 7-day moving average of reported cases was around 12,000. On July 27, the 7-day moving average of cases reached over 60,000. The Delta variant is currently the predominant variant of the virus in the United States. We look forward to the CDC publishing more information as more data become available on Delta, and continue to monitor and survey for other possible highly infectious variants.
Another area of concern involves the effects of what appears to be our continuously and dangerously changing
global, national and local climates. Such effects appear to be experienced across most of our nation. Recent
news releases from the National Oceanic and Atmospheric Administration draw a great deal of growing concern
with headlines such as “Astounding heat obliterates all-time records across the Pacific Northwest and Western
Canada in June 2021” (www.climate.gov, June 2021), and “2021-22 Winter Outlook: drier, warmer South, wetter
North with return of La Niña” (www.climate.gov, October 2021).

Closer to home, Northwestern University in April of 2021 published an article entitled “Climate change is
transforming Illinois, with more to come” in which the author warns that human health, agriculture, water
supplies and ecosystems are at risk without immediate, lasting action. We will continue to monitor these effects
as we strive to address both direct and indirect causes, especially in the areas of local flooding events and
excessive heat waves.

One needs only read the December 2019 Behavioral Health Workforce Education Center Task Force Report
to the Illinois General Assembly to develop an alarming understanding of the mounting crisis that is the
shortage of mental health providers. The report reveals that Mental Health America ranks Illinois 29th in the
United States in mental health workforce availability based on a 480-to-1 ratio of population to mental health
professionals, and asserts the Kaiser Family Foundation estimates that only 23.3% of Illinoisans’ mental health
needs can be met with its current workforce.

The Task Force goes on to explain that long wait times for appointments with psychiatrists — as much as 4 to
6 months in some cases — high turnover rates, and unfilled vacancies for social workers and other behavioral
health professionals have compromised the gains in insurance coverage for mental illness and substance use
disorders under the Affordable Care Act (ACA). We at Kendall County Health Department have struggled for
well over a year to fill three vacancies for licensed mental health clinicians, 30 percent of our clinical staff. The
concern over this ongoing, growing workforce shortage has been exacerbated by the increase in demand for
care brought on in large part by our nation’s opioid epidemic, and now the experience of living through a global
pandemic. While resources have been diminishing, the need for our services has never been greater. We are
dedicated to addressing and meeting these needs with effectiveness and efficiency.
Community Health Assets & Strategic Issues

The use of Mobilizing for Action through Planning and Partnerships (MAPP), our choice of a community-driven strategic planning process for improving community health, proved efficient and effective in successfully guiding our community partners through the identification of community health assets and strategic issues. Specifically, our implementation of three MAPP health planning assessments, the Local Public Health System Assessment, the Community Themes and Strengths Assessment, and the Forces of Change Assessment. The Local Public Health System Assessment resulted in our community IPLAN Committee citing strengths and weaknesses of the local public health system. The Community Themes and Strengths Assessment resulted in the Committee citing assets and priorities related to health and well-being in our community. And the Forces of Change Assessment resulted in the Committee naming forces, threats, and opportunities related to the health of the community. To simplify the following discussion; strengths, assets, and opportunities will be referenced as health assets in the community. Likewise; weaknesses, priorities, and threats will be referenced as strategic issues in the community.

Significant health assets identified in the culmination of these assessment results included: a public health system that has strong communication between partners and stakeholders, strong understanding of law and ordinances while providing communities with education in regards to mandates, and there is plenty of desire to improve the local public health system. These are some of the key findings from our Local Public Health System Assessment. Some of the key findings of assets in our Community Themes and Strengths assessment were described as: Kendall County is a good community where people work together very well, there are focused interventions on promoting adolescents to modify their health behaviors and enhance their emotional and social skills, understands and measures post-traumatic growth of those served, strong vector control and surveillance programs, resilient community, understands the concepts and strengths of contact tracing as related to disease, and as education is an important protective factor, higher educational scholarships are made available. It is apparent that both our local public health system and the community we serve think very broadly about health and well-being issues as they pertain to our community.

Assets that were cited in our Forces of Change Assessment in the form of health opportunities include: strong meaningful networking groups to assist seniors and low-income residents with valuable resources; strong community volunteer base that assisted in mass vaccination efforts during a global pandemic; promotion of Mental Health First Aid availability to all interested; access to telehealth services; sharing of healthy foods through community gardens and farmers markets; food pantries expanded to meet the increased demand and the normalization of shared mental health concerns, such as increased anxiety.

Some of the strategic health issues described as weaknesses in our Local Public Health System Assessment were described as: lack of collaboration with agencies outside of Kendall County when conducting emergency preparedness drills, public health system lacks a community platform/informational hub for all services/resources provided by different local organizations and as the local health strategists, the Board of Health needs to be more visible to the community.

Our Community Themes and Strengths Assessment revealed the following thoughtful key strategic health issues cited as possible priorities: access to affordable housing to maintain financial stability; important to understand the stigma related to mental illness still exists; promote physical activity and healthy eating throughout the community; vector control and surveillance through tracking high risk areas and abatement of breeding source is essential to contain the mosquito population and the transmission of their infectious diseases; targeted interventions assist parents and adolescents in a variety of settings should be implemented to reduce episodes of major depressive disorders; protect our environment by advocating for legislation and policies that improve the overall health of our communities in balanced approach and managing stressors affects the ability to care for one’s health, as well as, the health and wellbeing of the entire family. Our Forces of Change Assessment cited the following strategic health issues referred to as threats; the impact of infectious diseases on the rise; lack of education on vaccine preventable diseases and the science behind vaccines; aquifer expected to run out around 2030, therefore researching new water sources; distrust in the medical community and in our national government; high cost of housing and lack of appropriate housing size; increased need for mental health
services for all ages/income amidst the COVID pandemic; continuation of vector-borne disease surveillance and lack of behavioral health workforce. The culmination of strategic health issues from these three community health assessments served to inform the health priorities selected through consensus by our community IPLAN committee.

An in-person community IPLAN Committee was facilitated using the findings from previous stakeholder interviews utilizing the Forces of Change Brainstorming Worksheet. The results of the worksheet were shared with the Committee members, alongside all other findings from the previous three assessments. Our partners then took the opportunity to discuss key forces identified with the larger group. A Threats and Opportunities Worksheet was shown on screens for all to see. Key forces, discussed by Committee members, were channeled into threats posed. Group discussion ensued about threats. Threats were then channeled into opportunities created prompting group discussion about opportunities and further identification of strategic issues. A consensus process was used to move from strategic issues to the selection of health priorities.

**Prioritization of Results**

Three health priorities have been selected. Chosen through community partner consensus, these three health priorities represent health and well-being initiatives unduplicated by efforts already established in the local public health system, and can be distinguished by innovation from efforts yet established in the public health system. The community engagement processes by which these priorities were selected are elaborated upon later in this document. The three health priorities proudly represent community driven health priorities.

The three health priorities are on the health and well-being topics of:
- Promote Opportunities to Reduce Vaccination Hesitancy
- Increase Community Awareness to Protect Against Vector Borne Disease
- Connect our Most Vulnerable to Assets that Reduce Socio-Economic Duress & Support Mental Health

The data analysis, risk factors and outcome detail is elaborated upon later in this document.
COMMUNITY HEALTH PLAN

DOCUMENTATION OF BOARD OF HEALTH ADOPTION

The Kendall County Board of Health adopted the 2021-2026 IPLAN and priority objectives at its February 15, 2022 Board of Health meeting.

PURPOSE STATEMENT

The purpose of this community health plan is to reflect the strategic issues and priority objectives identified by the community, to devise sound strategies around the priority objectives, and to design an action cycle capable of meaningful impact around the implementation of those objectives.

COMMUNITY PARTICIPATION

While Kendall County Health Department is responsible for protecting and promoting the health and well-being of its community, it cannot be effective acting unilaterally. We partnered with community members, and other sectors and organizations of our local public health system to plan and share the responsibility for community health improvement. These partners have access to additional data and bring their own experiences and perspectives to the planning table. Such a collaborative planning process creates a shared ownership and responsibility for the plan’s implementation. And it is very likely that this collaborative planning process will extend into the implementation phase, serving as the basis for taking collective action and fostering further collaboration.

Equally important to the numbers and diverse make-up of partners engaged in our collaborative planning process was the process itself. Anchored by five essential elements, this process fully infused with community participation included: Data-Driven Information, Diversity of Community, Locally Relevant, Participatory Engagement, and Stakeholder Voice. Not only did these elements form the IPLAN process, but they served to inform the health priorities chosen.

Data-driven information means the critical use of data to understand not only our community’s health status, but also deepen our analysis of that particular health status. Therefore, the data behind data-driven information includes data sets reflecting local county level information, state level information, and national level information; research-based journal articles useful to understanding our local health status, and numeric and narrative data derived from our individual community health assessments. The analysis of this data-driven information assisted our IPLAN committee in identifying and determining health and well-being issues prevalent or emerging in our community.

Diversity of community reflects an IPLAN Committee made up of many individuals, organizations and sectors of our community. Some of these community partners included: local clinics/hospitals, faith-based organizations, law enforcement, members of local governance, State partners, and school system. In addition to the numbers and diversity of organizations and sectors represented, the diversity of individual participants was also greatly valued. The age, race, and socio-economic diversity of participants required served to infuse diversity in values, perceptions and experiences into our IPLAN dialogue.

Locally relevant describes a process providing for parallels with the lived and professional experiences of both our local public health system and community partners. It inspires a community to consider and strategize around key health and well-being needs of their own community, and fosters an increased sense of ownership and responsibility.

Participatory engagement means an IPLAN process that strongly promotes and places a high value on the responses of the community to data-driven information presented. More importantly, participatory engagement ensures that the community’s input actually influences the larger understanding of the data-driven information. In
actively sharing personal knowledge, perceptions and experiences the community serves as co-expert in the examination of data as it relates to health and well-being matters in their community.

Stakeholder voice reflects the importance placed on input received from our diverse multi-sector local public health system. Our local public health system not only included those professionals involved in the delivery of public health services, but those in need of or who had received them, the latter possess valuable firsthand experience with the delivery of these services.

These five essential elements of community participation were embedded in our IPLAN process with intentionality and in an integrated manner. There is an overlapping relationship between these essentialities. They were and will continue to be present through the action cycle.

**THE ACTION CYCLE**

**FROM STRATEGIC HEALTH ISSUE TO HEALTH INTERVENTION STRATEGY**

Strategic health issues were closely examined and selected by our community partners. Once priorities were selected, health department leadership put forth a great deal of thought and engaged in group discussions with other staff to identify promising health intervention strategies. Health department leadership served to ensure that the implementation of proposed strategies would be feasible, and be representative of both population-based and personal health care interventions.

**COMMUNITY PARTICIPATION**

Community participation will remain a cornerstone of the 2021-2026 IPLAN, and will continue through our action cycle in a number of ways. The health department’s Board of Health serves and is served by advisory boards/committees made up of community members and professionals in our local public health system. Members of these advisory boards/committees served as active participants in our IPLAN process and will continue to be provided with many opportunities to share their valued input into priority objectives throughout the action cycle. The entire community IPLAN Committee will also be convened during the action cycle to receive an update on the IPLAN process and progress made, and will certainly be encouraged to provide their input. The community at large will also be invited to this important event. Since health strategies represent both population-based and personal health care interventions, we anticipate that there will be great opportunities to gather valuable data as well as insight from community members targeted by these strategic interventions.

**EFFICACY REVIEW**

Key to the successful implementation of our community-chosen priorities will be routine evaluations of health strategies for their efficacy in fulfilling if not exceeding our priority objectives. Such evaluations will include regular updates and related discussions among program staff; tracking and monitoring data-driven results of our strategic efforts, as well as appealing to our community partners and members for their valued feedback. While our priority health objectives will remain the same, our priority health strategies cannot be considered static. Initial strategies may evolve and new strategies may be tested based on data-driven information and related lessons learned. It is our sincere intention to actively engage the participation of our community, individually and collectively, in pursuance of optimal health and well-being.
DESCRIPTION, ANALYSIS & PRIORITY OBJECTIVES

PRIORITY: PROMOTE OPPORTUNITIES TO REDUCE VACCINATION HESITANCY

The Kendall County Health Department’s (KCHD) Community Health Services division is committed to protecting the community’s health and well-being by assisting with inspiring healthy lifestyle choices and preventing disease. This includes certain health behaviors and increasing access to routinely recommended vaccines and reducing disparities in vaccine coverage and promoting health equity. KCHD will implement both direct client services and population-based interventions in an effort to increase community population opportunities for access to routinely recommended vaccines and the knowledge thereof.

To increase our communities’ opportunities for access to routinely recommended vaccines, KCHD intends to collaborate with our Primary Care Physicians and Health Care Centers to promote engagement in increasing vaccine availability and the knowledge of benefits of immunization, thus increasing vaccine acceptance, which will ultimately prevent infectious disease spread for the general population and for specific or at-risk populations.

Additionally, KCHD will strive to advance Kendall County Community’s knowledge on ways in which to prevent infectious disease and illness and promote knowledge of the benefits of immunization through at least two educational presentations annually, and creating a web page linking individuals to routine and emerging vaccine education and support.

In sum, the initiatives above will allow individuals to become aware of the real and extended health impacts of not receiving available vaccines in the past but also to allow them to make knowledgeable choices, provide a positive impact within their family health circle and in addition to the entire community they live in.

IMPORTANT OF PRIORITY HEALTH NEED

It is important to first understand the definition of vaccine hesitancy. It refers to a delay in acceptance or refusal of vaccination despite availability of vaccination services. Vaccine hesitancy is complex and context specific, varying across time, place and services. It is influenced by such factors as complacency, convenience and confidence (Butler, 2016).

Despite compelling evidence of the value of vaccines in preventing disease and disability and in saving the lives of millions of children every year, vaccine hesitancy has become a growing focus of attention and concern (Butler, 2016; Benoit & Mauldin, 2021; Kempe, 2011), given its potential to lead to vaccine delays and refusals, and to risk public health consequences of vaccine preventable disease outbreaks. The World Health Organization (WHO) considers vaccine hesitancy to be one of the 10 most critical public health challenges the world currently faces (WHO, 2019; Dube et al., 2021). The spread of non-scientific and false information by individuals who oppose vaccines is eroding vaccine confidence, vaccine acceptance, and progress toward reducing the burden of vaccine-preventable diseases (VPD) in the United States and globally (Benoit & Mauldin, 2021; Larson et al., 2015; U.S. Health and Human Services, 2021).

Given that vaccine hesitancy is specific to sub-groups within populations and is rarely population-wide, it is important to first understand who is hesitant about vaccinations, what their concerns are – i.e., which of the various possible reasons (outlined in the analysis work plan), are driving their hesitancy, and where the hesitant individuals are located, i.e., in which demographic, socio-cultural or political context that may be contributing to the hesitancy.

Vaccine rates are cyclical. They rise and fall due to many variables. But the fact remains that vaccines do assist in preventing diseases. For children born between 1994 and 2013, childhood vaccinations averted 322 million illnesses, prevented 732,000 premature deaths from VPDs, and saved $1.38 trillion in costs to society (CDC, 2021). Within a decade following introduction of the human papillomavirus (HPV) vaccine in 2006, prevalence of vaccine-preventable HPV infections decreased by 86% among females aged 14-19 years and by 71% among
those aged 20–24 years (CDC, 2021). However, despite this impact, HPV vaccination rates remain low among adolescents. In 2019, only 54% of adolescents completed the HPV vaccination series (Elam-Evans et al., 2020).

In contrast, adult vaccination rates remain low overall and continue to lag well behind those for children. For instance, during the 2019–2020 season, influenza vaccination coverage among adults was only 48% (CDC, 2020). The annual burden of VPDs is particularly high among adults, with approximately 1 million cases of herpes zoster each year (CDC, 2021), more than 3,000 cases of acute hepatitis B infections, and about 40,000 cases and 4,000 deaths from invasive pneumococcal disease. Large and prolonged outbreaks of hepatitis A in multiple states in 2016–2018 among people experiencing homelessness highlight the need to redouble efforts to protect at-risk populations from VPDs (Snyder et al., 2019).

Disparities in vaccination coverage by race, ethnicity, gender, geography, and other demographic characteristics reflect underlying health inequities in the United States that contribute to the gaps in vaccination efforts and rates. Racism, employment, housing, education, and transportation, among other social determinants of health, contribute to these health inequities. Immunization rates are lower among children living in poverty, Medicaid-enrolled children, and Black children. Among adults, vaccination coverage is generally lower among non-Hispanic Blacks, Hispanics, and non-Hispanic Asians compared to non-Hispanic whites (Simmons et al., 2021).

As of 2018, around 38.6 percent of White (non-Hispanic) adults aged 60 and over in the U.S. had received a shingles vaccine at some point in their lifetime, compared to just 19.5 percent of Latino/Hispanic adults, and 18.8 percent of Black/African-American (non-Hispanic) adults (CDC, 2021). The following chart shows the percentage of U.S. adults aged 60 and over who had ever received a shingles vaccine as of 2018, by race/ethnicity.

A study funded by the Kaiser Family Foundation (2021) found that safety and potential side effects continued to be prominent concerns when it comes to parents’ views of COVID-19 vaccines for kids (Hamel et al.). While about six in ten parents (63%) say they are confident that the COVID-19 vaccines are safe for adults, fewer say they are confident the vaccines are safe for children between the ages of 12 and 17 (52%) and for children ages 5 to 11 (43%). Most parents say getting infected with COVID-19 would be a bigger risk to their child's health than getting vaccinated. However, majorities of unvaccinated parents believe the vaccine poses a greater risk than the virus itself, even though scientific bodies have concluded the opposite is the case. Access barriers are also a concern for some parents when it comes to getting their children vaccinated. Hispanic parents, Black parents, and those with lower incomes are more likely than other parents to say they are concerned they might have to miss work to get their child vaccinated, that they won’t have a trusted place to go, or that they’ll have
difficulty traveling to a vaccination location (Hamel et al., 2021). The following chart indicates the greater barriers experienced by Black, Hispanic, and lower-income parents in accessing COVID-19 vaccines for their children (Hamel et al., 2021).

![Chart showing concerns about accessing COVID-19 vaccines for children among Black, Hispanic, and lower-income parents.]

Additionally, the following table shows that individuals who were Black, Hispanic, lower-income, and mothers were more likely to report negative impacts of the pandemic (Hamel et al., 2021).

![Table showing the percentage of individuals who report major or minor negative impacts of the pandemic in various categories.]
Pediatricians remain parents’ most trusted source of information on the COVID-19 vaccine for children, including across partisans and across race and ethnicity (Hamel et al., 2021). Still, fewer than half of parents of children ages 5 to 17 have talked with their child’s pediatrician or health care provider about the vaccine. Notably, not all pediatricians are recommending that parents get their children vaccinated for COVID-19; among the 40% of parents who spoke with their child’s health care provider, one-third (16% total parents of teens) say the provider did not recommend the COVID-19 vaccine for their teen and four in ten (15% of total parents of 5-11 year-olds) say the doctor did not recommend it for their child ages 5-11 (Hamel et al., 2021).

About half of parents of school-age children say their child’s school provided information about how to get their child vaccinated for COVID-19, and more than four in ten say their child’s school encouraged parents to get their children vaccinated (Hamel et al., 2021). Parents who say their school has encouraged them to get their children vaccinated are more likely to say their child has indeed gotten vaccinated. In fact, parents of 5-11 year-olds whose school encouraged vaccination are four times as likely as those whose school did not encourage vaccination to say their younger child has already gotten the COVID-19 vaccine (28% vs. 7%). While previous KFF Vaccine Monitor reports have shown that a majority of the public supports COVID-19 vaccination requirements for K-12 school teachers, parents oppose schools requiring COVID-19 vaccines for eligible students by a 2-to-1 margin (Hamel et al., 2021).

Most Unvaccinated Parents Say They Will Definitely Not Get Their Children Vaccinated For COVID-19

<table>
<thead>
<tr>
<th>Parents of children ages 12-17 COVID-19</th>
<th>Vaccinated</th>
<th>Unvaccinated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vaccinated</td>
<td>75%</td>
<td>7%</td>
</tr>
<tr>
<td>Unvaccinated</td>
<td>7%</td>
<td>16%</td>
</tr>
<tr>
<td>Only if required</td>
<td></td>
<td>70%</td>
</tr>
<tr>
<td>Definitely not</td>
<td></td>
<td>11%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Parents of children ages 5-11 COVID-19</th>
<th>Vaccinated</th>
<th>Unvaccinated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vaccinated</td>
<td>25%</td>
<td>9%</td>
</tr>
<tr>
<td>Unvaccinated</td>
<td>39%</td>
<td>64%</td>
</tr>
<tr>
<td>Right away</td>
<td>21%</td>
<td>8%</td>
</tr>
</tbody>
</table>

The CDC’s National Immunization Survey-Child (Birth Cohort), 2017-2018, examined the percentage of children who received by age 35 months all recommended doses of the combined seven-vaccine series: diphtheria and tetanus toxoids and acellular pertussis (DTaP) vaccine; measles, mumps and rubella (MMR) vaccine; poliovirus vaccine; Haemophilus influenzae type b (Hib) vaccine; hepatitis B (HepB) vaccine; varicella vaccine; and pneumococcal conjugate vaccine (PCV). The state of Illinois was at 75.4%, which was also the U.S. national value in 2017-18; Massachusetts was the healthiest state in terms of immunization for that age group at 92.3%, and Alaska was the least healthy state at 64.66% (CDC, 2021).

The development of COVID-19 vaccines has prompted open discussions in health care and public health communities and in public forums on the importance of ensuring the public’s confidence in vaccine safety and effectiveness. Developing and making available a safe and effective vaccine is not enough, particularly in minority and disenfranchised communities (Larson et al., 2015; Shen and Dubey, 2019)). In addition, there have been precipitous declines in numbers of vaccines routinely administered to children and adults in the early months of the COVID-19 pandemic. These declines have put further stress on the health care and public health systems in the United States and may lead to outbreaks of diseases that vaccines would prevent. The rapid development and distribution of the COVID-19 vaccine also presents and will continue to present many lessons to be incorporated into the strategies to reach our Community Health Improvement Plan objectives.
ANALYSIS TO IDENTIFY POPULATION GROUPS AT RISK

Vaccination is one of the most successful public health interventions. The increase in life expectancy during the 20th century is largely due to improvements in child survival; this increase is associated with reductions in infectious disease mortality, due largely to immunization. However, infectious diseases remain a major cause of illness, disability, and death. Immunization recommendations in the United States currently target seventeen vaccine-preventable diseases across the lifespan. Since the widespread use of vaccines, smallpox has been eradicated worldwide and endemic polio, measles, rubella, and congenital rubella syndrome have been eliminated in the Americas.

A complex range of cultural, psychological, social, and political factors contribute to vaccine hesitancy: lack of confidence (in effectiveness, safety, the system, or policy makers), complacency (perceived low risk of disease), and lack of convenience (in the availability, accessibility, and appeal of immunization services, including time, place, language, and cultural contexts) (Shen and Dubey, 2019). Shen and Dubey identify misinformation online as a major factor in vaccine hesitancy. Social media such as Facebook or Instagram can expose individuals to anti-vaccinators and misinformation about the safety and side effects of vaccines. Official government media and communication can cause overload or confusion with conflicting or new directives. The news media can also be responsible for misinterpretation or insufficient evidence in their reporting as well.

Vaccine hesitancy has been an issue since long before the COVID-19 pandemic. According to Healthy People 2020, for each birth cohort vaccinated with the routine immunization schedule (including DTap, Td, Hib, Polio, MMR, Hep B, and varicella vaccines), 33,000 lives are saved, 14 million cases of disease are prevented, and tens of billions of dollars are saved in direct and indirect healthcare costs. Since the widespread use of vaccines, smallpox has been eradicated worldwide, and endemic polio, measles, rubella, and congenital rubella syndrome have been eliminated in the Americas (Shen and Dubey, 2019).

The following chart shows estimated vaccination coverage by age 24 months by birth year, 2011-2018 (preliminary), from the National Immunization Survey on the Child, provided by the CDC.

![Vaccination Coverage Chart](image)

Nationally, routine childhood vaccination rates decreased substantially in 2020 compared to 2018 and 2019. Physicians across the country ordered 11.5 million fewer vaccine doses in 2020 compared to 2019 (Murthy et al., 2021). A decline in vaccination coverage can compromise herd immunity and propagate outbreaks; now is the time to invest in our collective health and future.

In addition, vaccination exemption rates, after peaking in 2012-13 in Illinois at a total of 6% of kindergarteners, were on the rise again in 2019-20 at 2% of kindergarteners, as the School VaxView chart below illustrates (CDC,
Non-medical exemptions were more common than medical exemptions in every school year from 2011 to 2020, indicating that religious or philosophical reasons, not medical need, were driving the rise.

Approximately 42,000 adults and 300 children still die each year in the United States from vaccine-preventable diseases. For example, influenza leads to more than 200,000 hospitalizations and 36,000 deaths per year, and the 2009-2010 H1N1 influenza pandemic caused an estimated additional 270,000 hospitalizations and 12,270 deaths (1,270 of which were people under age 18). Many recent outbreaks of measles, mumps, rubella, and pertussis have been linked to under-vaccinated communities (Shen and Dubey, 2019). From January 1 to December 31, 2019, 1,282 individual cases of measles were confirmed in 31 states in the United States, the highest number of cases reported in the country since 1992; the majority of cases were among people who were not vaccinated against measles (CDC, 2021). Measles is more likely to spread and cause outbreaks in communities where groups of people are unvaccinated. The following chart shows the incidence of measles cases from 2008-2021 in the U.S. Another high point was in 2014 with 667 cases.

Measles had been eliminated in the U.S. in 2000, but, during January 1–April 26, 2019, a total of 704 cases were reported, the highest number of cases reported since 1994 (Patel et al., 2019). Outbreaks in close-knit communities accounted for 88% of all cases. Of 44 cases directly imported from other countries, 34 were in U.S. residents traveling internationally; most were not vaccinated. Unvaccinated U.S. residents traveling internationally are at risk for acquiring measles. Close-knit communities with low vaccination rates are at risk for sustained measles outbreaks. Of the 704 individuals who had cases during that time period, 503 were unvaccinated, and the vaccination status of another 125 was unknown. Additionally, 66 were hospitalized, and 24 suffered complications from pneumonia. High coverage with measles, mumps, rubella (MMR) vaccination is the most effective way to limit transmission and maintain elimination of measles in the United States (Patel et al., 2019). The following image demonstrates the prevalence of measles cases in the United States during this
time period (Patel et al., 2019). New York, Washington, California, and Michigan were among the most affected states.

In addition, the graph below shows the number of reported measles cases ($N = 704$), by week of rash onset, in the United States, during the beginning of the outbreak from January 1 to April 26, 2019 (Patel et al., 2019). While the number of measles cases in 2020 and 2021 were near zero, due in part to increased social distancing and other personal preventative measures taken by many U.S. residents during the COVID-19 pandemic, the 2019 outbreak demonstrates that this disease cannot be considered fully eradicated, and another outbreak could happen at any time if not controlled by vaccination.

The percentage of children aged 19-35 months who were vaccinated against MMR rose from 89% in 1994 to 91.5% in 2017, as shown by the following graph.
In addition, the percentages of U.S. children aged 19-35 months who received all doses of recommended vaccines in 2017 are shown in the following table.

![Vaccination Rates Chart]

In a 2019 cross-sectional study of 14,602 pediatric travelers, 91.7% of infants, 59.6% of preschool-aged travelers, and 3.2% of school-aged travelers were eligible for MMR (measles, mumps, and rubella) vaccination; however, 44.1% of MMR vaccination–eligible infants, 56.5% of MMR vaccination–eligible preschool-aged travelers, and 88.5% of MMR vaccination–eligible school-aged travelers were not vaccinated (Hyle et al.). The US population is experiencing a resurgence of measles, with more than 1000 cases during the first 6 months of 2019. Imported measles cases among returning international travelers are the source of most US measles.
outbreaks, and these importations can be reduced with pre-travel MMR vaccination of pediatric travelers. Although it is estimated that children account for less than 10% of US international travelers, pediatric travelers account for 47% of all known measles importations. Clinician decision and guardian refusal were the most common reasons for non-vaccination (Hyle et al., 2020).

Nationally, researchers have found that older populations are more willing than younger to be vaccinated, that the highest income bracket (earning $90,000 or above annually) is more willing than all others, and that vaccine hesitancy is related to both ideology and the level of real or perceived risk (Baumgaertner et al., 2020). In addition, the CDC found that the percentage of children who received no vaccinations by age 24 months was higher among uninsured (3.3%) than privately insured (0.8%) children. Coverage was lower for both Black and Hispanic children compared with White children for most vaccines. Finally, coverage was lower among children living below the poverty level than among those living at or above the poverty level for all vaccines except the HepB birth dose (Hill et al., 2021).

According to the U.S. Census Bureau’s 2020 survey, the median age in Kendall County for Hispanic or Latino residents is 28.7 years old, and for Black or African-American residents is 28.5. The median age in the state of Illinois is 38.6 years old, which is the same as the median age for White residents in Kendall County. For Asian residents in Kendall County, 43.8 is the median age. Additionally, while the median income in Kendall County was over $96,000 in 2019, 4.1% of families were living in poverty. Poverty is often correlated with less access to healthcare, and 6.4% of those under 65 years of age in Kendall County did not have health insurance (U.S. Census Bureau, 2020).

A 2020 study found that another prominent demographic risk factor for vaccine hesitancy is lower education level (Chung-Delgado et al., 2021). In Kendall County, 63.8% of the population age 25 or older does not have a bachelor’s degree or higher (U.S. Census Bureau, 2020).

Due to these factors, the population groups most at risk for vaccine hesitancy in Kendall County, and those who primarily need to be served by promoting opportunities to reduce vaccine hesitancy in many ways, including outreach and education, are the younger populations, especially those who are Hispanic/Latino and Black/African-American, families living in poverty, people without health insurance, and those with lower education levels.

Vaccine hesitancy has been found to be higher nationally among Hispanic/Latino and Black/African-American demographic groups, relative to their percentage of the total population (CDC, 2021; Khubchandani et al., 2021). According to the CDC, coverage with most childhood vaccines among children born in 2017 and 2018 was lower among those who were uninsured, Black, Hispanic, or living below the federal poverty level than it was among those who were privately insured, White, or living at or above the poverty level (Hill et al., 2021). Persistent disparities in vaccination coverage by health insurance status, race and ethnicity, and poverty status indicate that improvement is needed to achieve equity in the national childhood vaccination program. Efforts by health care providers and parents are needed to ensure that all children are protected from vaccine-preventable diseases (Hill et al., 2021).

The following table from the CDC indicates that vaccination rates have mostly increased slightly among children born during the period from 2015 to 2018, by the age of 24 months. However, one category had decreased: those who had received more than or equal to three doses of DTaP. In addition, the number of children in that cohort who had no vaccinations decreased by 0.4%. The greatest increase was in children who received more or equal to two doses of vaccination against influenza, an increase of 4.5 percentage points. Additionally, the rate of children receiving a birth dose of the vaccine against Hepatitis B rose by 4 percentage points.
In Kendall County, 45% of the overall population in 2019 had not received the flu vaccine: 44% of Whites, 46% of Asian-Americans, 57% of Hispanics/Latinos, and 60% of Black/African-Americans, according to the University of Wisconsin Population Health Institute. As demonstrated by the table below, this is equal to the top U.S. performers and 6% above the Illinois state average.

Flu vaccinations rates are also increasing in Kendall County over the years, as shown by the graph below from the University of Wisconsin Population Health Institute. In 2018, flu vaccination rates were reported at 55%, the highest they had been in at least seven years. By contrast, flu vaccinations rates were at 48% in the U.S. in 2018 and 49% in the state of Illinois.
At the time of this write, the most recent IDPH records indicate that in Kendall County over 47% of the Hispanic/Latino community remains unvaccinated against COVID-19, while over 42% of the Black/African-American population was also unvaccinated against COVID. In Kendall County, 20% of the population is Hispanic/Latino, and 8% is Black/African-American, so the vaccine hesitancy for COVID-19 is relatively higher within those groups. By contrast, over 67% of the population is White alone (not Hispanic/Latino), and 64.09% of the White alone demographic has received at least one dose of the COVID-19 vaccine. Approximately 79.21% of the Asian population in Kendall County was fully vaccinated against COVID-19, and approximately 87.55% of the Asian population had received at least one dose of a COVID-19 vaccine (IDPH, 2021). This correlates with the finding above that Community Health Services needs to focus on providing more opportunities for outreach, education, and accessibility for those who are Hispanic/Latino and Black/African-American in Kendall County.

According to the U.S. Department of Health and Human Services, 12.49% of the Kendall County population was estimated hesitant or unsure about getting the COVID-19 vaccine, of which 7.76% was estimated hesitant, and 4.72% was estimated strongly hesitant (ASPE, 2021). In the map below from the CDC report on the federal
data, Illinois is visually demonstrated to have a slightly lower number “estimated strongly hesitant” than many of the surrounding states; the lighter colors on the map indicate lower vaccine hesitancy rates.

Kendall County’s numbers were almost identical to those of neighboring Grundy and Kane Counties and very close to the state of Illinois as a whole, while significantly lower than those of many southern counties in Illinois. The data was drawn from the American Community Survey (2019) and the U.S. Census Bureau’s Household Pulse Survey (May 26, 2021, to June 7, 2021). While these percentages represent a minority of the total population of Kendall County, it is still imperative for Community Health Services to focus on identifying and assisting those at risk for vaccine hesitancy, or those who are already hesitant or strongly hesitant, with education, outreach, and accessibility.

As of November 30, 2021, Illinois Department of Public Health (IDPH) records showed that Kendall County had 173,368 administered vaccine doses (IDPH, 2021). The population of Kendall County was 127,915, and, of that population, 85,617 (66.93%) had been vaccinated with at least one dose, and 76,912 (60.13%) were fully vaccinated (vaccinated with a complete series for Pfizer and Moderna, or a single dose for Johnson and Johnson). In addition, 15,566 booster doses had been administered in Kendall County (IDPH, 2021).

The following IDPH chart shows the Kendall County daily reported administered vaccine doses in 2021. The highest peaks came from February to May, with an early high of 2,161 on February 2, and 2,198 on May 20. After May and over much of the summer of 2021, administered vaccine counts fell, as mask mandates were relaxed, a significant number of the population had been fully vaccinated, and a general sense of relief pervaded the county and state. During this time, the Community Health Services staff continued holding smaller COVID-19 vaccination clinics twice weekly, with the assistance of community volunteers.

COVID-19 case counts spiked again in fall with the rise of the Delta variant and colder weather driving more gatherings indoors, along with the resumption of school for children, many of whom were not then eligible for vaccination. Correspondingly, vaccination numbers also increased. For example, August 29 saw a high of 1,169 doses administered. With the official recommendation for booster shots or third doses, vaccine administration counts continued to rise into the end of the year. Kendall County COVID-19 vaccination clinics were always fully booked, with a waiting list.
Kendall County continues to be designated an area of high transmission for COVID-19, like much of the state of Illinois, by the IDPH. As of November 30, IDPH records showed that Kendall County reported 18,282 cases of COVID-19 (14.29% of the population) and 128 deaths (0.1% of the population) from COVID-19. By comparison, the state of Illinois as a whole reported 1.81 million cases (14.29% of the population) and 29,349 deaths (0.23% of the population) in a population of 12.67 million, neighboring Grundy County reported 8,139 cases (15.94% of the population) and 94 deaths (0.18%) in a population of 51,054, and neighboring Kane County reported 73,338 cases (13.77% of the population) and 953 deaths (0.18% of the population). By percentage of population, therefore, COVID-19 cases in Kendall County were the same as in the state of Illinois as a whole, slightly lower than in neighboring Grundy County, and slightly higher than in neighboring Kane County. Reported deaths from COVID-19 in Kendall County were a slightly lower percentage per capita than in neighboring Grundy and Kane Counties and over a tenth of a percentage point lower than in the state of Illinois as a whole.

Kendall County was consistently among the highest in the state for percentage of the population vaccinated against COVID-19. Strong community volunteer support and the use of a large building from the City of Yorkville, as well as multiple public school gymnasiums, helped the Community Health Services team in this achievement. As of November 30, 2021, Kendall County was the highest county in the state for percentage of the population 65 or older who were fully vaccinated, at 95.41%. Additionally, Kendall County was the third-highest in the state for percentage of the population aged 18 to 64 who were fully vaccinated, at 71.66%, and the fourth-highest in the state for percentage of the population aged 12-17 who were fully vaccinated, at 62.03%. For all of the above-mentioned age groups, Kendall County was also above Illinois state average. With the recent recommendation for pediatric COVID-19 vaccines, Kendall County had a percentage of the population aged 5-11 who were vaccinated with at least one dose at 17.02%, slightly lower than the Illinois state average.
CONNECTION TO HEALTHY PEOPLE 2030

Healthy People 2030 includes multiple objectives in line with the goal of promoting opportunities to reduce vaccine hesitancy. Among these are objectives related to maintaining vaccination coverage level of MMR for children in kindergarten and by the age of 2; reducing vaccine-preventable HPV infection in young adults; increasing HPV vaccines, the flu vaccine, and DTaP vaccines among the relevant populations. Additionally, Healthy People 2030 has objectives related to increasing the proportion of people with vaccination records in an information system, increasing the proportion of women who receive the Tdap vaccine during pregnancy, and increasing the proportion of adults age 19 or older who get recommended vaccines. Also, Healthy People 2030 has the objective of maintaining the elimination of measles, rubella, congenital rubella syndrome, and polio.

In addition, there are two objectives in Healthy People 2020 related to website quality. The first is objective Health Communication and Health Information Technology (HC/HIT) 8.1: increase the proportion of health-related websites that meet 3 or more evaluation criteria for disclosing information that can be used to assess information reliability. The second is objective HC/HIT-8.2: increase the proportion of health-related websites that follow established usability principles.

In 2020-2021, public-sector vaccine orders in Kendall County decreased by 14% compared to 2019. Measles vaccine orders fell by 20 percent. Furthermore, the COVID-19 pandemic disrupted routine well-child visits in 2020, leading to many children falling behind on normal vaccination schedules (KCHD, 2021). The Illinois County Behavioral Risk Factor Survey for Kendall County residents (2015-19) found that 38.7% had had influenza, and 61.3% of residents had not received the flu vaccine in the past 12 months. Additionally, the survey found that 29.8% of Kendall County residents had had pneumonia, and 70.2% had never received a pneumonia vaccine. The chart below illustrates these vaccination rates.

<table>
<thead>
<tr>
<th>ICBRFS - Kendall County</th>
<th>Estimated Population</th>
<th>Weighted Percent</th>
<th>95% Confidence Interval</th>
<th>Number of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>HAD INFLUENZA VACCINATION PAST 12 MONTHS</td>
<td>33,052</td>
<td>38.7%</td>
<td>31.8%-46.1%</td>
<td>150</td>
</tr>
<tr>
<td></td>
<td>52,299</td>
<td>61.3%</td>
<td>53.9%-68.2%</td>
<td>218</td>
</tr>
<tr>
<td>EVER HAD PNEUMONIA VACCINATION</td>
<td>22,930</td>
<td>29.8%</td>
<td>23.4%-37.0%</td>
<td>124</td>
</tr>
<tr>
<td></td>
<td>54,118</td>
<td>70.2%</td>
<td>63.0%-76.6%</td>
<td>211</td>
</tr>
</tbody>
</table>

Promoting opportunities to reduce vaccine hesitancy under these circumstances is a priority health need for our community, particularly among under-served demographics as identified in the previous section – people who are younger, particularly those who are Hispanic/Latino and Black/African-American, who are living in poverty, who have lower education, or who do not have health insurance.

For 80 patients aged 24-36 months as of December 20, 2021, Community Health Services at the Kendall County Health Department site had vaccinated 52.5% for DTaP 4+, 73.8% for Polio 3+, and 65.0% for MMR 1+, as well as providing additional vaccines as shown in the chart below from the Illinois Comprehensive Automated Immunization Registry Exchange (I-CARE). These rates of immunization by Community Health Services assisted other vaccination sites in the county as a whole toward the Healthy People 2020 goal of 90%.
In addition, as of December 20, 2021, among 4,636 adolescent patients (aged 13-17), Community Health Services at the Kendall County Health Department site had vaccinated 62.8% against Tdap (tetanus, diphtheria, and pertussis), 68.3% against polio, and 65.9% against MMR (measles, mumps, and rubella), as well as providing other vaccines as detailed in the chart below from I-CARE (2021). This assisted the county as a whole in considering the Health People 2020 goal of 80% vaccinated for that age group. The vaccination rate for this age group against Hepatitis B had met the 80% goal set by Healthy People 2020 just from the vaccinations provided at the Kendall County Health Department.

**Risk Factors, Direct Contributing Factors, Indirect Contributing Factors**

Our community health improvement plan priority in Kendall County is addressing vaccine hesitancy, by promoting opportunities to reduce vaccine hesitancy. Risk factors for our community have been identified as the following: lack of access to healthcare, misinformation, vaccine barriers, and behavioral choices.

Lack of access to healthcare is a risk factor that includes social determinants such as transportation issues, being un-/under-insured, or lacking in citizenship or security. Also, community or cultural factors may impact an individual’s access to healthcare: this includes language barriers, past/historical negative experiences, or religious beliefs. Thirdly, unaffordable healthcare can impact lack of access, including cost barriers and being low-income or un- or under-employed.
Misinformation is a second risk factor. Social media is one avenue of misinformation, including anti-vaccine viewpoints, misinformation with regard to vaccine safety or side effects, and cross-communication with data or official directives. These official government directives can also be a source of misinformation, causing overload and confusion in the public, or conflicting with previous or other directives. Finally, the news media can cause misinformation due to misinterpretation or reporting with insufficient evidence.

A third risk factor is vaccine barriers, including lack of education, choice, and stigma. Lack of education may result in low or no awareness, misunderstandings or language barriers, and lack of medical providers or supplies. Conceptions of personal choice in terms of freedom or liberty can also be barriers. Stigma regarding vaccines can also be a barrier, including the fear of the unknown, (in)efficacy, and long-term side effects.

A fourth risk factor is behavioral choices, including stress, peer pressure, and lack of education. Stress can result from being un- or under-insured or un- or under-employed. Peer pressure can cause conflicting messages or lack of awareness. Lack of education can result in inability to make informed decisions or financial barriers.

**Measurable Outcome Objectives**

- By 2026, KCHD will approach 100% of Kendall County physicians and health-care centers to promote engagement in increasing access and knowledge to routinely recommended vaccines.

**Measurable Impact Objectives**

- By 2026, create a web-accessible site on the Kendall County Health Department website to link individuals to routine and emerging vaccine education and support.
- By 2026, advance the Kendall County community’s knowledge of ways in which to prevent infectious disease by receiving recommended vaccines and vaccines under development, by providing two community educational vaccine programs, annually.
- By 2026, increase provider capacity to promote knowledge of the benefits of immunization and increased vaccine acceptance by the public by sharing information with 100% of Kendall County physicians and health-care centers.

**Proven Intervention Strategy**

Increasing knowledge of and confidence in routinely recommended vaccines is a goal of the 2021-25 national strategic plan from the U.S. Department of Health and Human Services. The increasing spread of mis- and disinformation and mischaracterization of science and institutions erodes confidence and sows hesitancy in the use of vaccines. Scientists and researchers believe that growing vaccine hesitancy and decline in vaccine confidence is a significant public health crisis with potentially devastating impacts. Promoting opportunities to reduce vaccine hesitancy will require a multifaceted approach.

An intervention strategy recommended by research is to increase transparency about the vaccine development and regulatory process and build understanding and support for the individual and social benefits of vaccination through education awareness efforts. The messages should be plain, and linguistically and culturally appropriate. In addition, a focus on outreach to health care providers in Kendall County will help to strengthen their capacity to make strong vaccination recommendations and promote vaccine acceptance.

Also, we recognize that differences across communities and cultures within our county will influence vaccine confidence and acceptance. To reduce disparities in immunization rates and promote health equity, we will develop a better understanding of these differences with stakeholders working collaboratively together to tailor messaging and strategies to address specific issues and concerns in communities. Enhancing the health care workforce to be reflective of populations served may also increase communities’ confidence in recommended vaccines. Currently, one of the four nurses on staff at the Kendall County Health Department is Black / African American, and three staff members are Hispanic/Latino. Several factors contribute to COVID-19 disparities, most stemming from long-standing systemic inequalities and structural racism: underlying health and social
inequities put many racial and ethnic populations at increased risk of getting sick, having more severe illness, and dying from COVID-19; inequities related to employment can affect the risk of occupational exposure to COVID-19, and inequities in income may limit access to safe housing, transportation, or medical care that could affect risk of exposure to COVID-19 (Simmons et al., 2021). Other predictors of higher COVID-19 infection rates include larger household sizes, lack of a high school degree, and larger share of non-citizens in a community, the latter of which may relate to immigrants’ perceived or actual ability to obtain needed medical care and participate in government programs (Simmons et al., 2021). Delivering culturally appropriate and linguistically tailored services, including through utilization of community health workers and community-based organizations, can help address health disparities by correcting misinformation and connecting patients with care providers who help them feel comfortable and engaged in their care (Simmons et al., 2021).

Another important proven intervention strategy is increasing access to and use of routinely recommended vaccines. Achieving this goal requires addressing the social determinants of health, which contribute to disparities in access. In addition, expanding the number and type of health care settings that provide vaccinations can increase opportunities for people to be vaccinated. In particular, expanding community-based points of access to vaccines, such as pharmacies, schools, and community-based organizations, are necessary. The Kendall County Health Department has recently partnered with local school districts, as well as the Osco Pharmacy, and the Oswego Public Library District, among others, to provide COVID-19 vaccines during the pandemic. Partnerships with additional organizations and institutions serving lower-income, lower-educated, and younger people, especially among the Hispanic/Latino and Black/African-American communities, will help to promote vaccination opportunities. Tens of millions of low-income uninsured or underinsured adults lack access to routine life-saving vaccines. Creating a robust safety net for this population is critically important. The Kendall County Health Department, through the Women, Infants, and Children (WIC) program and the Section 317 vaccination program, is able to use grants to screen, refer, and immunize underserved populations.

Another intervention strategy recommended by researchers is addressing vaccine hesitancy by starting early with parents and children. With this strategy, nurses, pediatricians, and other providers present vaccination as the default approach, build trust, demonstrate honesty about side effects, provide reassurance on vaccine safety, focus on protection of the child and community, tell stories, and address pain (Shen and Dubey, 2019). Studies have demonstrated the validity of this strategy: parents who delayed or refused vaccines were twice as likely to start thinking about the vaccines before their children’s births, adherence to the immunization schedule improved with a single pre-natal educational session, and immunization rates benefited from step-wise education interventions prenatally, post-natally, and one month after birth (Glanz et al., 2013; Saitoh et al., 2017; Hu et al., 2017). According to a survey of primary-care physicians in the United States, the most common communication practices deemed very effective for convincing skeptical parents were personal statements by physicians about what they would do for their own children and about their personal experiences with vaccine safety among their patients (Kempe et al., 2011).

Researchers also provided practical, evidence-based counseling tips and concrete statements that can be used in conversations: for example, use the presumptive approach by saying, “Today we are going to give your child the recommended vaccines to keep the child healthy,” or “Your child needs three vaccines today,” instead of asking an open-ended question such as “What do you want to do about the shots?” If parents are still unsure, the provider can continue the conversation, address concerns, and make a strong recommendation, such as: “These shots are very important for protecting your child from serious diseases. I strongly recommend your child receive these vaccines today” (Shen and Dubey, 2019). Shen and Dubey also shared recommendations for reducing the pain associated with vaccination, as described in the table below (Taddio et al., 2015).
Finally, promoting opportunities to reduce vaccine hesitancy with a webpage on the Kendall County Health Department website has some initial research support, as well as relating to Healthy People goals and objectives in 2020 and 2030. One study found that the digital ecology and community-building of a vaccine website may impact its effectiveness: in other words, its amount of inter-connectivity with other websites, including government websites as well as other vaccine resources, and its promotion of relationships and storytelling among its users (Grant et al., 2015). Another study stated that most US adults have limited health literacy skills and struggle to understand complex health information and services and to make informed health decisions; therefore, the Internet has quickly become one of the most popular places for people to search for information about their health, making access to quality information on the Web a priority (Devine et al., 2016).

There are two objectives in Healthy People 2020 related to website quality: the first is the objective on Health Communication and Health Information Technology (HC/HIT) 8.1, to increase the proportion of health-related websites that meet three or more evaluation criteria for disclosing information that can be used to assess information reliability; the second is the objective HC/HIT-8.2, to increase the proportion of health-related websites that follow established usability principles. Healthy People 2030 additionally has the objective to increase the number of state health departments that report using social marketing in health promotion and disease prevention programs.

<table>
<thead>
<tr>
<th>TYPE OF INTERVENTION</th>
<th>STRONGLY RECOMMENDED INTERVENTIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Procedural</td>
<td>For all children, no aspiration during intramuscular vaccine injections; inject the most painful vaccine last</td>
</tr>
<tr>
<td>Physical</td>
<td>For children aged ≤2 y, breastfeed during vaccine injections. For children aged ≤1 mo, encourage skin-to-skin contact</td>
</tr>
<tr>
<td>Positioning</td>
<td>For children aged ≤3 y, encourage holding during injections, and if holding is not used, encourage patting or rocking after injections. Encourage children &gt; 3 y to sit up during injections</td>
</tr>
<tr>
<td>Pharmacologic</td>
<td>For children aged ≤12 y, consider topical anesthetics before injections. For those aged ≤2 y, consider sucrose or glucose solutions before injections</td>
</tr>
<tr>
<td>Process</td>
<td>Educate parents of children of all ages about pain management for vaccine injection before or on the day of vaccination. For children aged ≤10 y, parents should be present during vaccine injections</td>
</tr>
</tbody>
</table>
HEALTH PROBLEM ANALYSIS WORKSHEET

VACCINE HESITANCY

- LACK OF ACCESS TO HEALTHCARE
- COMMUNITY/CULTURAL FACTORS
- UNAFFORDABLE HEALTHCARE
- SOCIAL MEDIA
- OFFICIAL DIRECTIVES
- NEW MEDIA
- LACK OF EDUCATION
- CHOICE
- STIGMA
- STRESS
- PEER PRESSURE
- LACK OF EDUCATION

- TRANSPORTATION ISSUES
- UN/UNDER INSURED
- LACK OF CITIZENSHIP/INSECURITY
- LANGUAGE BARRIER
- PAST HISTORICAL NEGATIVE EXPERIENCES
- RELIGIOUS BELIEFS
- COST BARRIERS
- LOW INCOME/UN/UNDER EMPLOYED
- ANTI-VACCINE CAMPAIGNS
- MISINFORMED WITH ROUTINE SAFETY & SIDE EFFECTS
- CROSS COMMUNICATION DATA OFFICIAL DIRECTIVES
- CONFLICTING DIRECTIVES
- OVERLOAD/CONFUSION
- MISINTERPRETATION
- INSUFFICIENT EVIDENCE
- NO/LOW AWARENESS
- MISUNDERSTANDING/LANGUAGE BARRIERS
- FREEDOM/LIBERTY
- FEAR OF UNKNOWN
- EFFICACY
- LONG TERM SIDE EFFECTS
- UN/UNDER INSURED
- UN/UNDER EMPLOYED
- CONFLICTING MESSAGES
- LACK OF AWARENESS
- LACK OF INFORMATION
- FINANCIAL BARRIERS

RISK FACTORS

DIRECT CONTRIBUTING FACTORS

SOCIAL DETERMINANTS

INDIRECT CONTRIBUTING FACTORS

HEALTH PROBLEM

VACCINE BARRIERS

BEHAVIORAL CHOICES

LACK OF INFORMATION
## Community Health Plan Worksheet

<table>
<thead>
<tr>
<th><strong>Health Problem:</strong></th>
<th><strong>Outcome Objective(s):</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Vaccine hesitancy</td>
<td>By 2026, KCHD will approach 100% of Kendall County physicians and health-care centers to promote engagement in increasing access and knowledge to routinely recommended vaccines.</td>
</tr>
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<table>
<thead>
<tr>
<th><strong>Risk Factor(s) (May Be Many):</strong></th>
<th><strong>Impact Objective(s):</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>• Lack of access to vaccinations</td>
<td>• By 2026, increase provider capacity to promote knowledge of the benefits of immunization and increased vaccine acceptance by the public by sharing information with 100% of Kendall County physicians and health-care centers.</td>
</tr>
<tr>
<td>• Misinformation – anti-vaccine campaigns</td>
<td>• By 2026, advance the Kendall County community’s knowledge of ways in which to prevent infectious disease by receiving recommended vaccines and vaccines under development, by providing two community educational vaccine programs, annually.</td>
</tr>
<tr>
<td>• Behavioral choices limiting access to available vaccines</td>
<td>• By 2026, create a web-accessible site linking individuals to routine and emerging vaccine education and support.</td>
</tr>
<tr>
<td>• Vaccine barriers</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Contributing Factors</strong> (Direct/Indirect; May Be Many)</th>
<th><strong>Proven Intervention Strategy(ies):</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>• Social Determinants: Un/under insured, transportation access, lack of citizenship/insecurity, cost</td>
<td>• Increasing availability and knowledge of routine vaccines as well as vaccines under development (COVID-19 boosters).</td>
</tr>
<tr>
<td>• Community /Cultural Factors: Language barriers, religious beliefs, past negative experiences</td>
<td>• Increasing transparency about the vaccine development and regulatory process and build understanding and support for the individual and social benefits of vaccination through education awareness efforts</td>
</tr>
<tr>
<td>• Social Media/Official Directives: Anti-vaccine campaigns, misinformation, misinterpretation, conflicting directives</td>
<td>• Reducing disparities in immunization rates and promote health equity, and developing a better understanding of these differences with stakeholders working collaboratively together to tailor messaging and strategies to address specific issues and concerns in communities</td>
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<td>• Lack of Education/Knowledge: no/low awareness</td>
<td>• Enhancing the health care workforce to be reflective of populations served</td>
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<td>• Stigma: Fear, efficacy, long-term side effects.</td>
<td>• Delivering culturally appropriate and linguistically tailored services, including through utilization of community health workers and community-based organization</td>
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<td>• Choice: Freedom/liberty</td>
<td>• Increasing access to and use of routinely recommended vaccines by addressing the social determinants of health, which contribute to disparities in access</td>
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<td>• Peer pressure: Conflicting messages, lack of information</td>
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• Expanding the number and type of health care settings that provide vaccinations can increase opportunities for people to be vaccinated, especially community-based settings
• Addressing vaccine hesitancy by starting early with parents and children
• Promoting opportunities to reduce vaccine hesitancy with a webpage on the Kendall County Health Department website

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**DESCRIPTION OF HEALTH PROBLEMS, RISK FACTORS AND CONTRIBUTING FACTORS (INCLUDING HIGH RISK POPULATIONS, AND CURRENT AND PROJECTED STATISTICAL TRENDS):**

Vaccine hesitancy is an ongoing issue. Risk factors include lack of access to health care, misinformation, behavioral choices, and vaccine barriers. Contributing factors include high-risk populations such as the young, under-educated, and Black/African-American or Hispanic-Latino groups.

**CORRECTIVE ACTIONS TO REDUCE THE LEVEL OF THE INDIRECT CONTRIBUTING FACTORS:**

Recommended actions include reducing disparities in immunization rates and promote health equity, and developing a better understanding of these differences with stakeholders working collaboratively together to tailor messaging and strategies to address specific issues and concerns in communities. Also, enhancing the health care workforce to be reflective of populations served will help deliver culturally appropriate and linguistically tailored services, including through utilization of community health workers and community-based organization. Increasing access to and use of routinely recommended vaccines by addressing the social determinants of health, which contribute to disparities in access and expanding the number and type of health care settings that provide vaccinations can increase opportunities for people to be vaccinated, especially community-based settings also help to reduce the level of the indirect contributing factors.

**CONTRIBUTING FACTORS (DIRECT/INDIRECT; MAY BE MANY):**

Social determinants affect vaccine hesitancy, including being un/under-insured, and issues with transportation access, lack of citizenship/insecurity, and concerns over cost. Community and cultural factors can involve language barriers, religious beliefs, and past negative experiences. Social media and official directives can involve anti-vaccine campaigns, misinformation, misinterpretation, and conflicting directives that cause confusion. Lack of education/knowledge can lead in the public and community at large to no/low awareness of vaccine benefits. Stigma regarding vaccines can involve fear, concerns over efficacy, and concerns over long-term side effects. American ideals of freedom or liberty can also impact vaccine hesitancy. Peer pressure can involve conflicting messages and lack of information.

**PROPOSED COMMUNITY ORGANIZATION(S) TO PROVIDE AND COORDINATE THE ACTIVITIES:**

Kendall County physicians and health care providers.

**EVALUATION PLAN TO MEASURE PROGRESS TOWARD REACHING OBJECTIVES:**

We will measure progress as follows: By 2026, KCHD will promote access to all routinely recommended vaccines, for uninsured/underinsured populations and the general population. By 2026, we will address provider capacity to promote knowledge of the benefits of immunization and increased vaccine acceptance by the public. By 2026, we will advance the Kendall County community’s knowledge of ways in which to prevent infectious disease by receiving recommended vaccines and vaccines under development by providing 2 community educational vaccine programs, annually. By 2026, we will create a web accessible linking individuals to routine and emerging vaccine education and support.
**Priority: Increase Community Awareness to Protect Against Vector Borne Disease**

**Importance of Priority Health Need**

Vector borne disease is one of the most important environmental health concerns due to the variety of diseases spread and the prevalence of vectors. Mosquitoes and ticks are very common in Kendall County, throughout the state and many areas of the world. As such, different vector borne diseases are widespread. Our focus will be on a number of vector borne diseases that are either endemic or may soon be in Kendall County.

Vector borne diseases are carried by specific vectors. There are several vectors which can carry these diseases and are native to Kendall County. As such, we must consider the vectors themselves if we are to attempt to decrease these particular disease incidence rates. Diseases with local and regional incidence were given priority focus when developing this plan. For the purposes of this project, a review of local vector borne diseases was conducted utilizing both data from Illinois Department of Public Health disease surveillance and Arbonet, a disease surveillance system which is affiliated with the Centers for Disease Control and Prevention (CDC). It was determined that West Nile virus, Lyme disease, ehrlichiosis, and Rocky Mountain spotted fever will be the focus of this project. Associated vectors for these diseases include both mosquitoes and ticks. Culex pipiens, a native mosquito in our area is capable of transmitting West Nile virus. There are several ticks that spread other diseases including Ixodes scapularis, the black legged or deer tick, capable of spreading Lyme disease; Amblyomma americanum, the lone star tick, capable of spreading ehrlichiosis, and Dermacentor variabilis, the dog tick, capable of spreading Rocky Mountain spotted fever. A number of other diseases, including Dengue, Zika, Chikungunya, La Cross, Powassan virus and Eastern Equine Encephalitis are not referenced and included in this work as none of these diseases were locally acquired (ArcGIS web application 2021).

**Analysis of Populations at Risk and Relevance to Kendall County**

The vector borne diseases referenced above have all been identified in the population of Kendall County within the last several years with ehrlichiosis as a notable exception. All the vectors associated with these diseases are also present and native to Kendall County with the notable exception of Amblyomma americanum, the lone star tick. This tick and the associated ehrlichiosis disease were selected as part of this project as this vector appears to be rapidly spreading northward and will very likely soon be native to Kendall County.

Of course, exposure to these vectors is necessary to transmit the disease to humans and given the geography and environment present in Kendall County along with occupations engaged in and behavioral choices made by Kendall County residents, there are ample opportunities to come in contact with the vectors of concern. Further analysis into populations at risk is provided in detail in the following sections.

**West Nile Virus**

A number of mosquito borne diseases are passed on to humans across the country each year, though according to the CDC, West Nile virus is the most common in the continental United States (West Nile virus 2021). This virus is transmitted through the bite of the Culex pipiens mosquito, which is native to Kendall County. According to Illinois Department of Public Health, Illinois has seen West Nile virus in local mosquito and bird populations each year since 2002. In that year in particular, Illinois led the nation in human West Nile virus infection with a total of 884 cases and 67 deaths (Mosquitoes and disease 2021). Since 2002, the number of cases has dropped, but the virus has remained present and active. According to the Morbidity and Mortality Weekly Report, across the continental United States, West Nile virus is endemic, that is, regularly occurring, and periodically epidemic, that is, unexpectedly increasing, with 31,919 total cases recorded between 2004 and 2016 (Rosenberg et al., 2018). Illinois had 584 total cases in the years from 2015 to 2020 and Kendall County had two reported cases in this same timeframe according to Freeman (Tickborne Cases by Jurisdiction). The spread of the disease is highly weather dependent, with cool, wet summers limiting numbers of C. pipiens mosquitoes and virus, while hot, dry summers amplifying both the number of the vector and the number of disease cases.

West Nile virus is a form of encephalitis that causes a number of symptoms that vary with the severity of the disease. According to Mayo Foundation for Medical Education and Research, approximately 20% of West Nile...
virus cases will develop mild infections which could include the following symptoms: fever, headache, body aches, vomiting, diarrhea, fatigue and skin rashes. More serious infections occur in less than 1% of those infected and include the following symptoms: high fever, severe headache, stiff neck, disorientation or confusion, tremors, seizures, partial paralysis, vision loss, and numbness (Patient Care & Health Information - Diseases & Conditions - West Nile virus 2020).

According to Centers for Disease Control, West Nile virus can infect people of all ages, but those over 60 years of age are at highest risk. Additionally, those with medical conditions including cancer, diabetes, hypertension, kidney disease and organ transplant recipients are at greater risk. Recovery can take weeks to months and about 1 in 10 of the most severe cases die (West Nile virus 2019). However, there is evidence that longer term effects exist. According to a study published in the American Journal of Tropical Medicine and Hygiene, persistent symptoms such as fatigue, muscle aches, decreased activity, difficulty with memory, and difficulty concentrating lasted in excess of 6 months and possibly up until 12 months after acute West Nile virus induced meningitis (Cook et al., 2010).

Lyme Disease
In contrast to the singular mosquito borne illness, there are a number of tick borne illnesses that will also be the focus of this project, including Lyme disease, the most common tick borne disease in the United States, Illinois and Kendall County. Lyme disease is most often caused by the Borrelia burgdorferi bacteria and transmitted to humans through the bite of Ixodes scapularis, the deer tick or black legged tick. (Both the names, “deer” and “black legged” are commonly used for the Ixodes scapularis tick species, but we shall be using only the “deer” tick name for the remainder of this project).

According to Freeman, 11 reported cases of Lyme disease were recorded in Kendall County from 2015 to 2020. At the Illinois state level for this same time frame, 1758 reported cases of Lyme disease were recorded (Tickborne Cases by Jurisdiction). Lyme disease case numbers are also on the rise. In fact, case numbers have increased approximately by a factor of 10 in Illinois in the last 20 years as demonstrated below.

![Reported Cases of Lyme Disease in Illinois by Year 1990 - 2018](Illinois Department of Public Health, Illinois Lyme Disease Data 2021)

According to the United States Environmental Protection Agency, there has been a similar increasing trend in reported cases across the continental United States. Incidence of this disease has nearly doubled from 1991, from 3.74 reported cases per 100,000 people to 7.21 reported cases per 100,000 people in 2018 (Climate Change Indicators: Lyme Disease 2021). Interestingly, from 2008 to 2015, states classified as high incidence (Connecticut, Delaware, Maine, Maryland, Massachusetts, Minnesota, New Hampshire, New York, Pennsylvania, Rhode Island, Vermont, Virginia and Wisconsin) saw relatively steady rates of the disease while neighboring states, including Illinois, showed an overall increasing trend in the number of confirmed cases reported (Schwartz et al., 2017).
Persons who have contracted Lyme disease can show a variety of symptoms. Early after contracting the disease, they may experience fever, chills, fatigue, joint aches. 70% to 80% experience an Erythema migrans rash which begins at the bite site and expands gradually over time. Days to months later, the symptoms change to include severe headaches or neck stiffness, additional rashes, facial palsy, arthritis with swelling, intermittent pain in tendons, muscles, joints and bones, heart palpitations, dizziness or shortness of breath, inflammation of the brain and spinal cord, nerve pain and shooting pains, numbness, tingling of hands or feet (Centers for Disease Control, Signs and symptoms of untreated Lyme disease 2021).

Additionally, Lyme disease is severely underreported. Estimates from the CDC indicate that approximately 476,000 cases are diagnosed and treated for Lyme disease annually, based in part, on insurance claims. Only about 35,000 are actually reported to the agency each year. The reason for this disparity may be that the reporting system used by health care workers, the Nationally Notifiable Diseases Surveillance System, is a passive system that relies on health care providers to submit reports of the disease. Many cases simply are not reported into this system as health care workers are either too busy or simply overlook this reporting step (How many people get Lyme disease? 2021).

Another reason for underreporting may be that Lyme disease infections are difficult to detect. Not every case will experience the telltale rash, or even if present, the rash may originate in a hard to see area, for example under the scalp. Blood testing for the disease isn’t always able to detect the indicators of infection. This test looks for the antibodies produced by the body in response to the infection, which may not be detectable early in the infection before the immune system has time to react. This can lead to false negatives in those early stages of infection, which is the best time to start the treatment (Klass, 2019).

Since testing is not always a good indicator of infection, it is extremely important to look for the ticks themselves routinely and to remove any if present before Lyme disease can infect the host.

**Ehrlichiosis**

Ehrlichiosis is a bacterial disease and it is spread mostly by *Amblyomma americanum*, the lone star tick. This disease is caused by two different bacteria strains, *Ehrlichia chaffeensis* and *E. ewingii* with the former causing the majority of infections in this country. A third type of ehrlichiosis, *E. muris*, is present in the United States and is carried by the deer tick, but has only been found in Wisconsin and Minnesota (Centers for Disease Control and Prevention, Transmission 2019).

Early symptoms include fever, chills, severe headache, muscle aches, nausea, vomiting, diarrhea, loss of appetite, confusion and a rash appearing as red splotches or pinpoint dots. Later, if antibiotic treatment is delayed, a more severe illness can occur. Later stage symptoms include brain or nervous system damage, respiratory failure, uncontrolled bleeding, organ failure or even death. (Centers for Disease Control and Prevention, Signs and symptoms 2019).
Ehrlichia cases are on the rise across the country, which is likely due to two different factors, one being better differentiation from rickettsia and the other is the increasing expansion of the lone star tick, its principal vector (Snowden, 2021). There is significant overlap in distribution of the principal vectors for both ehrlichia (*A. americanum*, the lone star tick) and rickettsia (*D. variabilis*, the Dog tick) as demonstrated in the following maps:

Cases of ehrlichiosis have been rising across the country over the last 20 years, when it first became a reportable disease. Up until 2008, *E. ewingii* was not considered separately reportable so numbers before that date include both primary varieties of the disease as demonstrated by the chart at the right. Notably, as cases and incidence rose over the years, the case fatality rate has declined since 2000. Case fatality rates are still roughly one percent of cases (Centers for Disease Control and Prevention, Statistics 2021). According to Freeman, Illinois has seen 211 cases of *E. chaffeensis* between 2015 and 2020 (Tickborne Cases by Jurisdiction). Kendall County has not seen any cases in this time frame, most likely as the principle vector, the lone star tick, is just starting to move into this area.

People between the ages of 60 and 69 years show the highest number of cases. Those with compromised immune systems, possibly due to cancer treatment, advanced HIV infection or organ transplants might be at an increased risk for severe disease (Centers for Disease Control and Prevention, Statistics 2021).

**Rocky Mountain Spotted Fever**

Rocky Mountain spotted fever is a bacterial disease spread through the bite of an infected tick. A number of different tick species can transmit this disease to humans, namely, the American dog tick, the Rocky Mountain wood tick and the brown dog tick. A number of symptoms are commonly associated with this disease including fever, headache, confusion, decreased appetite, chills, sore throat, nausea, diarrhea, body aches, light sensitivity. Another distinguishing feature is a non-itchy rash, consisting of flat, pink spots, starting on the hands, arms, feet and legs, occurring 5 to 10 days after the bite. (John Hopkins Medicine, Rocky Mountain spotted fever 2021). Rocky Mountain spotted fever has been reported in all states across the continental United States, except for Maine and Vermont (Masters, Rocky Mountain Spotted Fever 2003). Like other tick borne diseases, cases of spotted fever rickettsia have risen in the last several decades and while the case count has risen, the case fatality rate has declined since the 1940’s as antibiotics became available. According to the Centers for Disease Control and Prevention (Centers for Disease Control and Prevention, Epidemiology and statistics 2021).
According to Freeman, 556 cases of Rocky Mountain spotted fever were reported from the years 2015 through 2020 across the state of Illinois. The year with the highest reported cases was 2018 with 151 and the lowest being 2020 with 24 cases, though this lower number may relate to the emergence of the COVID-19 pandemic early in 2020. In Kendall County, two cases were reported from 2015 to 2020, one in 2015 and one in 2017 (Tickborne Cases by Jurisdiction). While there is a low number in Kendall County, it’s important to note that a number of surrounding counties routinely reported Rocky Mountain spotted fever cases as well, indicating that the virus is indeed present in our region of the state.

Despite this low number of local cases, Rocky Mountain spotted fever must be considered important and is included in this work. According to Masters, “The broad yet sporadic distribution of RMSF, coupled with the relatively nonspecific signs and symptoms early in the illness, compounds the diagnostic difficulty for physicians who are unfamiliar with the epidemiological and clinical features of this disease. Periodic reinforcement of RMSF in the differential diagnoses of tick-borne illnesses is important because a delayed or missed diagnosis can be catastrophic” (Masters, 2003). Of all tick borne diseases referenced in this project, Rocky Mountain spotted fever is the most severe and can lead to death in a matter of days without proper treatment (Centers for Disease Control and Prevention, Signs and symptoms 2019).

**Vectors, Transmission**

There are several different vector borne diseases that are present in this county and are the subject of this project. While there is some overlap, by and large, each identified disease is carried by a different vector including one mosquito species and 3 different types of ticks.

*Culex pipiens* – The common house mosquito

The *Culex pipiens*, or common house mosquito is the principle vector of the West Nile virus in Kendall County. The mosquito is native throughout the northern two thirds of the United States (National environmental Health Association 2021). This is a small and rather inconspicuous mosquito that usually bites at dusk or dawn.

In optimal conditions, this mosquito takes just seven to ten days to go from egg to adult. Gravid female *C. pipiens* lay egg rafts in nutrient rich, stagnant water. Usual egg laying environments include barrels, horse troughs, ornamental ponds, unmaintained swimming pools, puddles, creeks, ditches and marshy areas. Eggs hatch into larva in a few days. In this stage the mosquito is aquatic and susceptible to predation by other aquatic insects, fish and amphibians. Mosquito larvae are active, feeding on other aquatic organisms and molt several times in this stage. Within several more days, they pupate and no longer feed. Within 2 to 3 more days, the adult mosquito emerges from the pupa and flies off. The female mosquito needs a blood meal in order to produce and lay eggs, starting the cycle anew (Centers for Disease Control and Prevention, Life cycle of Culex species mosquitoes 2020). Mosquito season in Illinois generally lasts from May through the first hard frost in October. After this point in the year, mosquitoes overwinter in protected areas such as storm sewers.
C. pipiens plays an extremely important role in the spread of West Nile virus. This mosquito is an opportunistic feeder, biting both birds and mammals, including humans. Principle host birds include perching birds such as crows, blue jays, robins, grackles, starlings and others. Some birds that become infected with the virus especially crows and blue jays will frequently die, most other birds will survive (Centers for Disease Control and Prevention, West Nile virus & dead birds 2021). When an infected bird is bitten, the virus is transferred to the mosquito and moves to its salivary glands, allowing it to transfer to another host at its next feeding. The transfer of the disease from bird to mosquito and back again is the primary transmission cycle of the disease (Mayo Clinic, West Nile virus transmission cycle 2021). When a West Nile virus infected mosquito bites a human or a horse, they can pass along the virus, but those mammals serve as dead end hosts as the viral load cannot amplify enough to infect other biting mosquitoes.

Ticks
Ixodes scapularis, Amblyomma americanum and Dermacentor variabilis
There are three ticks that will be considered with this project including Ixodes scapularis (the deer tick), Amblyomma americanum (the lone star tick) and Dermacentor variabilis (the dog tick). Both I. scapularis and D. variabilis have been collected locally and are considered native to Kendall County.

All three of these ticks are native to the eastern half of the continental United States. Both I. scapularis and D. variabilis extend the entire length of the country from north to south, with the A. americanum’s range extending from the southern United States and ending just south of the Kendall County border (Center for Disease Control and Prevention, Regions where ticks live 2021).

All ticks, go through incomplete metamorphosis, starting life as a larva, then molting into a nymph then again into an adult. Transitioning to different life stages requires a blood meal (Centers for Disease Control and Prevention, How ticks spread disease 2020). Ticks find their hosts using a combination of numerous detectors to sense carbon dioxide, body odors, heat, moisture and vibrations. They are usually passive hunters, waiting in a position known as “questing” on high points of grasses and vegetation with their first pair of legs outstretched, allowing hosts to come to them. Once a potential host brushes past, the tick will climb aboard and look for an area to attach, oftentimes, under the arms, in or around the ears, inside the belly button, behind the knees, in and around hair, between the legs and around the waist (Centers for Disease Control and Prevention, Preventing tick bites 2020). Finding an adequate location on the host can take up to 2 hours (How ticks spread disease 2020). Mating may occur on or off the host and once fed, the female drops off to lay eggs, often numbering in the thousands (American Lyme Disease Foundation, Inc., Deer tick ecology 2021).
Lyme disease can be spread through the saliva of an infected *I. scapularis* (deer) tick if the tick can remain attached at least 36-48 hours. According to the Centers for Disease Control and Prevention, one cannot get Lyme disease from person to person contact, from pets, by eating venison or squirrel meat, through air or water, from the bites of other parasites and there is no evidence of acquiring the disease through a blood transfusion 

(*Transmission* 2020). Ehrlichiosis is spread primarily through the bite of an infected *A. americanum* (lone star) tick. Infection occurs approximately 24 hours after the tick has begun feeding. Also, though rare, this disease is known to be transmitted through blood transfusion, from mother to fetus, or through direct contact with a slaughtered animal (Mayo Clinic, *Ehrlichiosis and Anaplasmosis* 2020). Rocky Mountain spotted fever is spread through the bite of an infected *D. variabilis* (dog) tick. It can also be transmitted through contamination with tick blood or feces. Both adults and children can contract this disease.

Both *I. scapularis*, the deer tick and *D. variabilis*, the dog tick, are well established in several areas of Kendall county and were both routinely collected during the last five years as part of the county’s tick surveillance program. Reports have shown that *A. americanum*, the lone star tick has been spreading northward and may soon become established in Kendall County. According to I-Tick, the lone star tick has already been reported within Kendall county (*I-tick passive surveillance - vetmed.illinois.edu* 2021). Conversely, the Illinois Department of Public Health does not yet recognize these ticks in Kendall County. According to Gronemeyer, discovery of the *A. americanum* tick through active surveillance programs including field sampling will be necessary for this official recognition (*FYI – Lone Star Tick*).

**Effects on Companion Animals**

A number of the mosquito and tick borne diseases highlighted in this project can infect dogs and cats. West Nile virus can infect both dogs and cats and can be transmitted in the same way as it infects humans. However, these companion animals are more resistant to this disease than horses and humans (Gardiner, 2020).

Lyme disease can effect both dogs and cats and it is more common in dogs. A vaccine is available for dogs, but not for cats (*Lyme disease: A potential, but unlikely, problem for cats* 2018). Dogs and cats can also contract ehrlichiosis, though the specific species of ehrlichia bacteria is different than those that infect humans (Llera et al., 2021). Rocky Mountain spotted fever can infect both dogs and cats, though, similar to Lyme disease, the incidence rate is much lower in cats. Although pets cannot transmit tick borne diseases directly to their owners, pets do serve as a method in which ticks can be brought indoors allowing the vectors the opportunity to seek other pets and human family members.

According to Companion Animal Parasite Council, both Lyme disease and ehrlichiosis were reported in Kendall County. Lyme was reported in 2.31% of tests and ehrlichiosis was reported at 2.14% (*Parasite prevalence maps* 2019). It is reasonable to assume that if these companion animals become infected in Kendall County, humans, too are at risk of contracting these diseases.

**Climate Change Effect**

Climate change can have a profound effect on the spread of vector borne disease. A number of direct factors can impact the life cycle of mosquitoes and ticks including temperature, which affects biting, survival and reproductive rates; precipitation, which has an effect on mosquito aquatic life stages; and humidity, which can have an impact on tick survival. A number of other factors have indirect impacts on the spread of vector borne diseases including drought and water storage, land use and irrigation as well as deforestation (Campbell-Lendrum et al., 2015).

**Temperature**

Mosquitoes and ticks are arthropods and are cold blooded, therefore they are impacted heavily by temperature. Rising temperatures increase vector abundance and feeding activity and would speed vector development cycles. Additionally, warmer temperatures would also increase the rate of development of pathogens themselves within the vector. Cooler temperatures can help stunt the progression of the disease in the vector as the rate of pathogen development may be so slow or the time that a vector is alive and capable of feeding is so short that the vector itself may die before becoming infective (Rocklöv & Dubrow, 2020). Further, vectors and associated diseases that are not native to Kendall County, specifically those which are much more common in the southern
United States, may push northward with rising temperatures due to climate change. According to Ogden, there are three main threats that must be considered when considering rising temperatures and its effect on vectors: endemic vector borne disease may increase due to long term change in temperature and rainfall patterns, vector borne diseases may shift their geographic ranges poleward where they weren’t before, and last, climate change may increase the chance of non-native vectors and pathogens venturing farther north to new areas (Ogden, 2017). This last threat is precisely the concern regarding the lone star tick and its inclusion into this project is due, in part, to its recognized expansion towards and into Kendall County.

Warmer temperatures also increase exposure potential for humans as both mosquito and ticks are active earlier and later into the season if the weather is favorable. Mosquito activity stops when there is the first hard frost of the season, usually in October, and ticks go dormant at around 40 degrees Fahrenheit, although become active again when temperatures rise above 40°F despite the season. Surveillance data gained from our Kendall County Tick Surveillance Program confirms such tick activity as we have collected active male and female Deer ticks on tick drags in every month of the winter season when temperatures were above 40°F. Humans generally spend more time outdoors when the temperature is warmer, coinciding with vector activity, which in turn increases potential exposure to the vectors and subsequent increased risk of contracting associated diseases.

Each year, West Nile virus follows a pattern where the viral load starts off small and then increases through the season, leading to higher percentages of the mosquito infected by the end of the season leading to more human infections into the fall. If temperatures rise and stay warmer longer into the fall due to climate change effects, this can lead to a longer exposure period with the potentially highly virulent mosquito population staying active longer, able to infect a greater number of people before going dormant.

Precipitation and Moisture
Ticks generally need higher humidity environments in order to survive and therefore, spend a great deal of their life resting in leaf litter on forest floors. These areas are known as microclimates and they provide ticks with more steady temperatures and humidity. Ticks gain moisture from the air around them if the relative humidity is 80-85% and they lose moisture if the humidity drops below this (Boehnke et al., 2017). Moisture fluctuations affect tick mortality and behavior. According to Burtis, “Duration of exposure to dry conditions is an important factor in determining I. scapularis mortality, with longer periods of exposure leading to significantly higher rates of mortality.” Further, this research also shows that in drier periods, these ticks will quest at lower height to stay closer to moist habitats for rehydration (Burtis et al., 2016). This has an impact on the types of hosts that are likely to be parasitized.

Mosquitoes are also impacted by moisture, but in a different way. The *Culex pipiens* mosquito, the principle vector for West Nile virus, despite its need for water in which to lay eggs, thrives in dry conditions. Heavy rains have a flushing effect on containers and catch basins while a lack of rain causes these water bodies to eutrophy, making them more habitable to mosquito larva. In fact, droughts can actually amplify West Nile virus. According to Johnson and Sukhdeo, “seasonal conditions associated with drought (i.e., increased temperatures and decreased precipitation totals) correspond to epidemic transmission (of West Nile virus) levels at both the local and regional levels” (Johnson & Sukhdeo, 2013). As our climate is changing, both temperature and precipitation can fluctuate far from the norms and cause these drought conditions more often.

**THE RELATIONSHIP OF PRIORITY TO HEALTHY PEOPLE 2030**

Healthy People 2030 is a series of health objectives assembled by subject matter experts and stakeholders coordinated by the US Department of Health and Human Services as well as the Office of Disease Prevention and Heath Promotion. The goals of Healthy People 2030 include identifying needs and priority populations, allowing agencies across the nation to set their own goals, providing inspiration and practical tools, allow monitoring of national progress and provide benchmarks (*Use healthy people 2030 in your work*).

While protecting against the threat of vector borne disease is not explicitly referenced as an objective, the topic is referenced in the key issue Quality of Housing, which factors into the Neighborhood and Built Environment domain (*Quality of housing*). This idea also fits neatly into the “Residential Environment” contributing factor
which is identified in our preliminary work and also included in our Community Health Plan Worksheet, which appears at the end of this priority.

Though the references to vector borne disease, West Nile virus, Lyme disease, ehrlichiosis, or Rocky Mountain spotted fever are not included in Healthy People 2030, we believe that this priority is important as it has impacts on the health and the quality of life for our residents. Further, it has been demonstrated to be on the rise in our own local community as well as in different regions across the country.

**Connection to the Illinois State Health Improvement Plan**

The 2021 Illinois State Health Improvement Plan sets out to improve health and address health equity in the state. It accomplishes this by identifying a series of priorities identified by stakeholders, in community health needs assessments and resulting community health improvement plans, health system assessments and other groups.

The state identified Mental Health, Chronic Disease and Maternal and Child Health as the three priorities to work on in this improvement cycle (*State Health Improvement Plan*). While vector borne disease is not referenced in these selections and their associated goals, it was likely reviewed and considered, especially in the data review portion of this process. It is our hope that this project, in conjunction with other vector borne disease related community health improvement plans in the near past contributes to future consideration for this priority in future editions of the State Health Improvement Plan.

**Risk Factors, Direct Contributing Factors, Indirect Contributing Factors**

The main contributing risk factor for vector borne disease is exposure to the vector itself. More specifically, direct contributing factors include occupation, behavioral choices, recreational activities and the residential environment. Each of these direct contributing factors can be broken down into a number of indirect contributing factors as well. Scientific research studies have revealed links between risk factors and the risk of potential exposure to vectors such as mosquitoes and ticks.
Some indirect contributing factors that derive from occupational risk include, but are not limited to, occupations such as equestrian center work, forestry/park work, outdoor construction, fieldwork, landscaping, farming and outdoor education. According to the CDC, everyone in the world is vulnerable to diseases spread by vectors such as mosquitoes and ticks (CDC, 2020). However, working outdoors and or with animals increases the risk of exposure to vectors that carry disease as more time is spent outdoors. The map of Kendall County above depicts approximately 146,000 acres of agricultural land, forest preserves and equestrian centers. These areas make up about 70% of the land in Kendall County. On the map below, the green areas represent forest preserves, the yellow areas represent agricultural land and the red areas represent equestrian centers. Although the map does not depict areas which are incorporated into cities and villages (gray area), it is clear that Kendall County’s geography promotes interactions with the outdoors, for both vocation and recreation.

In a literature review conducted by Vonesch et al, the occupational groups that are mostly affected by vector borne diseases are outdoor workers which include farmers, foresters, landscapers, groundskeepers, gardeners, painters, roofers, pavers, construction workers, laborers, mechanics and any other worker spending time outside (Vonesch et al, 2016). Some outdoor occupations may be at a greater risk than others. These occupations include those who work in vector high traffic areas such as places where there is tall grass or stagnant water and those areas frequented by animals which are known tick carriers, such as white tailed deer and the deer mouse. Moreover, time of day of work activities can affect exposure to vectors. Longer rest periods in the middle of the day and increased work at dawn and dusk could correspond to periods when vectors are most active, therefore, increasing the risk of West Nile virus transmission (Vonesch et al, 2016).

Working outdoors increases the risk of exposure to vector borne diseases. A study conducted by St. Pierre et al showed that both those who worked outdoors and those who did not, demonstrated the same low level of knowledge about Lyme disease (St. Pierre et al, 2020). This shows that more education related to prevention and protection is needed in those who do not work outdoors and high risk occupational groups as well.

As previously mentioned, behavioral choices are also a direct contributing factor. Some indirect contributing factors related to behavioral choices include lack of repellant use and protective clothing, leisure time spent outdoors during dusk and dawn during mosquito season, allowing water to accumulate and stagnate for long periods of time, pet ownership and lack of knowledge or refusal to believe sound science and public health intervention strategies. According to Aerts et al, a person’s behavior, specifically choices about prevention, plays a key role in infection transmission of vector borne disease (Aerts et al, 2020). Some behavioral choices that can prevent or reduce tick and mosquito bites include, using an appropriate insect repellant, treating clothing with permethrin, conducting tick checks on clothing, gear, the body and pets, and showering soon after being outdoors.

Removing standing water, avoiding brushy areas with high grass and walking in the center of trails can also reduce risk of exposure. Studies have shown that the implementation of positive behavioral prevention strategies is influenced by perceived risk. Thus, educating the population on the risk of contracting specific vector borne diseases may prove to be beneficial in increasing positive behavioral choices in regards to vector borne disease prevention. According to Niesobecki et al, effective promotion of recommended preventative behaviors is influenced by several factors. The person receiving the information needs the ability to access current information on the implementation of prevention strategies and the individual must be open to receiving said information (Niesobecki et al, 2019). If current strategies are not available, or there is not an appropriate vehicle to get the information out, it will be lost. If the information receiver is reluctant to listen to, understand or engage in potential prevention strategies, the information is lost as well.

Indirect contributing factors derived from recreational activities include but are not limited to students attending outdoor education, outdoor organized sports, hiking, running, biking, hunting, fishing, camping and backyard recreation such as gardening and on property do-it-yourself projects. In a study conducted by Bron et al, the association between the adoption of personal protective behaviors for tick bites and the frequency of outdoor activities, both recreational and non-recreational was evaluated. The study outcomes showed that there was a relationship between adaptive human behavior and engaging in outdoor activities and the use of methods to
prevent tick bites. Study participants who engaged in frequent outdoor activities including gardening were 1.4-2.3 times more likely to use personal protective measures to prevent tick bites (Bron et al, 2020). According to Montgomery et al, a serosurvey conducted in Houston, Texas found that the amount of time spent outdoors significantly influenced infectivity rates of West Nile virus (Montgomery et al, 2015). Data showed that 12.5% of those who reported spending greater than 12 hours outdoors tested positive for West Nile virus compared to only 2% who reported spending less than or equal to 6 hours outdoors (Montgomery et al, 2015). With this information we can conclude that an increase in outdoor activity can increase one's risk of exposure to West Nile virus. It also demonstrates that those individuals who spend more time outdoors are more likely to have a favorable attitude towards preventative behaviors. As established earlier in a study by St. Pierre et al, both those who work indoors and outdoors are in need of more knowledge related to protective behaviors. Therefore, education directed at these individuals may prove more likely to have a greater impact on reducing the incidence of West Nile virus in these diverse populations.

In addition to recreational activities, residential environment can also reveal indirect contributing factors. These include proximity to open prairies, woodlands, retention ponds, and storm drains. Poorly maintained property, the presence of deer/mice on or near the property and the presence of a mosquito abatement district should also be considered. Individuals who live near stagnant water sources have been found to be at a higher risk for contracting West Nile virus (Montgomery et al, 2015). In a study conducted in Houston, Texas West Nile virus patients were more likely to live near slow moving/stagnant water sources with heavier vegetation (Montgomery et al, 2015). In the similar study conducted in El Paso, Texas West Nile virus patients were more likely to live near yards that were regularly flooded by irrigation canals (Montgomery et al, 2015).

Until recently, ticks and tick borne diseases were primarily a concern in forested and low intensity residential areas. Now we have knowledge that risk of exposure to ticks can be a concern in both rural and urban areas (Dolan et al, 2016). Studies have shown that the highest risk of exposure to the deer tick is most likely due to fragmented forest landscapes, other land use characteristics and the intrusion of humans into the habitat for deer ticks and their host (Feldman et al, 2015). According to Dolan and Eison, multiple studies have identified that *I. scapularis* nymphs are most abundant in wooded areas that are located directly adjacent to residential properties, in unmaintained yards or ecotone, and near or in yard vegetation (Dolan et al, 2016).

**Measurable Outcome Objective**

- By 2026, increase awareness in residents of Kendall County by utilizing an outreach and education program, including both in person and social media education. Surveys will be conducted that will demonstrate a minimum 50% increase in potential protective behavioral change over 5 years.

**Measurable Impact Objective**

- By 2026, enhance surveillance program for disease causing vectors. A minimum of 5 sites will be surveyed for mosquitoes and tick drags will be performed at a minimum of 3 sites annually.
- By 2026, a social media campaign focusing on vector and vector borne disease will be developed and implemented. A minimum of 1 survey will be administered annually through social media.
- By 2026, at least two community presentations will be delivered to county residents annually.
- By 2026, awareness and surveillance information will be updated and shared on social media routinely. Links to state run data webpages will be shared annually.
- By 2026, targeted notification and education will be provided for near proximity residents for all initial positive West Nile virus mosquito pools detected.

**Proven Intervention Strategy:**

**Literature Review:** There have been many successful intervention strategies used to target vector borne disease in the past few years. Some of these intervention strategies include working to eliminate or reduce the number of vectors through abatement programs. In a study conducted by Garnett et al (2011), the use of control
Interventions targeting deer and their effects on Lyme Disease incidence rates was examined in Connecticut. The study methods included proposed deer targeted intervention strategies. These included applying a topical acaricide to white tail deer, which is the primary host for deer ticks and a deer reduction program. Results showed that there was a significant decrease in Lyme Disease cases (Garnett et al, 2011).

In a study conducted by Tedesco et al, (2010) a total of four Cook County mosquito abatement districts were evaluated for their actions during the Chicago West Nile virus outbreak that occurred in 2002. The four mosquito abatement districts that were examined were South Cook, Northwest, North Shore and Des Plaines Valley. Both North Shore and South Cook mosquito abatement districts experienced significantly higher numbers of case clusters than Northwest and Des Plaines Valley (Tedesco et al, 2010). Those districts with the lower number of cluster cases (Northwest and Des Plaines Valley) were shown to have implemented successful ongoing surveillance programs, effective communication with the community and other government agencies, and a lack of political hindering related to the use of larvicides and adulticide spraying (Tedesco et al, 2010). The use of adulticides is not only controversial due to concerns related to health and environmental impacts, effectiveness may also be limited (Tedesco et al, 2010). According to Tedesco et al, 2010, some evidence suggests that adulticide spraying can be most beneficial when used in conjunction with other prevention strategies during a potential disease outbreak. Findings showed that each of the four districts differences in local politics, related to mosquito control may have contributed to local scale geographic difference in West Nile virus incidence rates (Tedesco et al, 2010). Thus we can determine that although abatement programs have proven to sometimes be effective they can also be financially burdensome and dependent on other outside factors for success.

Based on the studies listed above, it is clear that abatement programs are effective at reducing mosquito and tick borne disease. However, executing program such as this would require a coordinated county-wide effort, which in itself would require a number of dedicated licensed staff and resources in order to impact the total population of the vectors of concern. This strategy would very likely extend beyond the reasonable scope of this project and the Kendall County Health Department as a whole and is therefore not considered a viable solution for this community health improvement plan.

Behavioral change is a key component in reducing the prevalence of vector borne disease. Through education we can improve public awareness on how individuals can protect themselves and their communities against vectors such as mosquitoes and ticks (WHO, 2021). Social media has become an affordable and effective way to disseminate information on a vast number of public health topics. A systematic review to identify the uses, benefits, and limitations of social media for health communication was conducted by Moorehead et al, in 2013. Published peer reviewed literature was reviewed using nine electronic databases and manual searches. The results concluded six benefits to using social media for health communication among the general public. These include increased interactions with others, more available shared tailored information, increased accessibility to health information, social emotional support, public health surveillance and the potential to influence health policy (Moorehead et al, 2013).

In Maryland a survey was conducted to assess the knowledge, attitudes and behaviors towards West Nile virus amongst high-risk adults. Using random sampling a telephone survey was provided to 211 Maryland adults. Results revealed that participates who expressed concern about West Nile virus were over three times more likely to use insect repellant in the previous 90 days and nearly three times more likely to drain standing water around their properties than those who were not concerned (Mitchell et al, 2018). The study also acknowledges that future interventions to promote West Nile virus prevention should strive to enhance knowledge related to the benefits of personal protective behaviors through media outreach and written messaging (Mitchell et al, 2018).

In a more recent study, social media was used to contrast behavioral and residential risk factors for Lyme Disease between high incidence rates in Northeastern and Midwestern states. Facebook and Twitter were used amongst other methods to recruit study participants. The Tick App, developed by the Midwest and Northeast Centers of Excellence for Vector borne Diseases and the University of Wisconsin-Madison Center for Health Enhancement Systems Studies, was used to collect information from study participants. This information included daily outdoor activities, the use of tick-borne disease prevention methods, tick encounters and GPS
locations. According to Bron et al, social media and the use of the smart phone application were beneficial in overcoming limitations such as time constraints and increasing geographic scope/increasing participation size (Bron et al, 2020). Conclusions of this study identified that the information derived from the surveys will be useful for “adapting risk reduction interventions and generating tailored public health messages for different populations across regions in the United States” (Bron et al, 2020).

Tailoring public health messages for different populations is a proven public health strategy used to reduce public health risk. In a study previously mentioned, Aerts et al identified that individual behavior, related to prevention choices, can be a key component in the transmission of vector borne diseases (Aerts et al, 2020). The purpose of the study was to identify if preventative behavior related to vector borne disease is reactive to risk perception (Aerts et al, 2020). Data was collected with questionnaires that were filled out during face to face interviews with 497 participants. The findings showed a link between risk perception and preventative behaviors against vector borne disease. Individuals who were more concerned about vector borne disease were more likely to engage in the use of preventative behaviors. The data also showed that higher education significantly improves knowledge and better knowledge increases the use of preventative behaviors (Aerts et al, 2020). With this information we can conclude that informing Kendall County residents of the risk related to vector borne disease, in conjunction with providing education related to preventative measures can have a positive impact on vector borne disease prevalence within the county.

**PROGRAM DESIGN & EVALUATION**

The primary program goal is to increase community awareness to protect against vector borne disease. The work will include a number of different tasks that fall into two main categories: Surveillance and Outreach.

**Surveillance**

The Kendall County Health Department will run a surveillance program to survey the *Culex pipiens* mosquitoes and the ticks present in our area, testing each for the presence of vector borne disease. Over the course of each calendar year, we shall survey a minimum of 5 mosquito producing sites, collecting nets weekly and testing those *Culex pipiens* mosquitoes for the presence of West Nile virus. Efforts will be made to select sites that produce mosquitoes. Additionally, care will be taken so that traps are spread throughout the county allowing for the ability to track West Nile virus in different areas. This program will be run through the mosquito season, running roughly from May through the first hard frost in October.

Additionally, the Health Department will run a tick collection program, annually conducting tick drags at a minimum of three different sites. Special attention will be paid for the presence of the lone star tick as it is slowly working its way into Kendall County and has not yet been collected as part of any previous tick drags. Eligible *Ixodes scapularis* (deer) and *Dermacentor variabilis* (dog) ticks will be tested for the presence of Lyme disease and Rocky Mountain spotted fever as long as funding can be secured.

All data collected will be used in outreach and reporting, allowing for real time information to be provided to those receiving the presentations.

**Outreach and Data Collection**

Kendall County Health Department will run an outreach and education program in order to provide vector borne disease information to residents. Particular attention will be paid to vector education, preventative behavior choices as well as emphasizing the importance of practicing this behavior. Outreach will be provided both in person and through print and electronic media, including social media.

Kendall County Health Department staff will provide presentations in person at a number of educational events and fairs, including Natural Resources Tour, the Play it Safe Fair, the Dickson Murst Farm Days and others. At least two presentations will be provided annually. The presentations are built to provide engagement with and increase the memory retention of the audience; providing first-hand accounts of field surveillance experiences as well as providing various props including actual mosquito and tick specimens for viewing and identification. Additional outreach will be primarily through traditional paper media and radio. Social media
will also be used as well to promote related outreach. Vector centric Facebook and Instagram pages will be created and maintained through the program. The pages will be evaluated annually to determine effectiveness and can be altered or changed at any time in order to maintain peak effectiveness.

Data will be collected through the completion of surveys in two ways. First, staff will work to establish relationships with local schools to provide vector borne disease information. Presentations will be conducted in a classroom setting and will be accompanied by a pretest and posttest focusing on basic vector and disease protective behaviors. Both the pretest and the posttest will contain the same 4 questions with answers to be reported on a Likert scale. Results will be measured and effectiveness will be determined through the change (improvement) in the answers provided between the pre and posttests. Tests will show a minimum 50% improvement between corresponding pre and posttest for each attendee. Additionally, data will be collected by utilizing built in online polls provided through Facebook and Instagram polls. Data will be collected and will show a 50% aggregate improvement rate annually.

There will be no separate control group or randomization. All county residents in schools will be grouped by age groups. Information collected will not contain any personal identifiers and will be reported in aggregate.
## Community Health Plan Worksheet

<table>
<thead>
<tr>
<th><strong>Health Problem</strong></th>
<th><strong>Outcome Objective(s)</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Vector Borne disease</td>
<td>Increase awareness in residents of Kendall County by utilizing an outreach and education program. This program will include both in-person and social media education and surveys that will demonstrate minimum 50% increase in potential protective behavioral change over 5 years.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Risk Factor(s) (May Be Many)</strong></th>
<th><strong>Impact Objective(s)</strong></th>
</tr>
</thead>
</table>
| Exposure to infected vectors | • Surveillance program for disease causing vectors – A minimum of 5 sites will be surveyed for mosquitoes and tick drags will be performed at a minimum of 3 sites per year.  
  • A social media campaign focusing on vector and vector borne disease will be developed. A minimum of 1 survey will be administered annually through social media.  
  • At least two community presentation will be delivered to county residents annually  
  • Awareness and surveillance information will be updated and shared on social media routinely. Links to state run data webpages will be shared annually.  
  • Targeted notification and education will be provided for near proximity residents for all initial positive West Nile virus mosquitoes pools detected. |

<table>
<thead>
<tr>
<th><strong>Contributing Factors</strong> (Direct/Indirect; May Be Many)</th>
<th><strong>Proven Intervention Strategy(ies)</strong></th>
</tr>
</thead>
</table>
| 1. **Occupation:** Equestrian centers, forestry/park work, outdoor construction, fieldwork, landscaping work, farming, teaching outdoor education.  
  2. **Behavioral Choices:** Lack of repellant use, lack of protective clothing, lack of tick checks, time spent outdoors during dusk and dawn during mosquito season, allowing standing stagnant water on properties, pet ownership, lack of knowledge or refusal to believe sound science based public health advice.  
  3. **Recreational Activities:** Students at outdoor education, outdoor organized sports, hiking/walking/biking, backyard recreation/gardening/on-property DIY, hunting, camping, fishing.  
  4. **Residential Environment:** Proximity to open prairie, woodlands, retention ponds, storm drains, poorly maintained properties, presence of | 1. Garnett et al. (2011): deer-targeted intervention  
  • Reduce the number of deer-ticks by targeting their primary hosts, the white tailed deer  
  • Controls the movement of ticks  
  • Reduce the number of mosquitoes by adulticiding, conducting surveillance, effective communication, lack of political hindering related to abatement  
  3. Moorehead et al. (2013): benefits of using social media for health intervention  
  • Increasing interaction, more available shared tailored information, increased accessibility to health information, public health surveillance  
  • Risk perception linked to preventative behavior against vector borne disease |
<table>
<thead>
<tr>
<th>Resources Available (Government &amp; Non-Governmental)</th>
<th>Barriers</th>
</tr>
</thead>
</table>
| IDPH, municipal stakeholders, forest preserve district contacts, Kendall County outdoor education contacts, Soil and Water Conservation Districts, Kendall County Farm Bureau, technology, I-Tick, Sportsman’s Clubs | • Scope and effectiveness of public awareness campaign with limited available resources (funding and staff)  
• Lack of participant cooperation/non-response  
• Lack of community events or reduced attendance  
• Additional outside hindrances to our work related to pandemic, misinformation, etc. |
DESCRIPTION OF HEALTH PROBLEMS, RISK FACTORS AND CONTRIBUTING FACTORS (INCLUDING HIGH RISK POPULATIONS, AND CURRENT AND PROJECTED STATISTICAL TRENDS):

Vector borne disease covers a number of different diseases that are either endemic to our area or have the great potential to enter our area with the spread of noted disease carrying vectors. Health effects from these diseases range from asymptomatic cases all the way through death. Due to the variety of diseases and vectors and the diversity of outdoor activities and occupations practiced in Kendall County, a large number of residents fall into high risk categories for contracting these diseases.

Further, the changing climate, with milder winters extends the active season for different vectors, putting humans at greater risk for coming in contact with them and potentially contracting diseases. There are a number of environmental factors present in Kendall County which promote vector survival, including wet areas with stagnant water, local population of birds, deer and mice to spread vectors themselves, storm drains and a built environment with stagnant water that promote vector breeding.

Lack of knowledge in residents concerning these vectors and diseases can lead to a reduction in practiced protective behaviors and a decrease in testing confirming presence of a disease in those infected. This ultimately leads to a lower reported incidence rate for these diseases which further reduces concern in the community. Also, virus incidence rate will likely rise as the lack of knowledge is perpetuated in the general population and as the climate warms, allowing increased exposure to the vectors.

CORRECTIVE ACTIONS TO REDUCE THE LEVEL OF THE INDIRECT CONTRIBUTING FACTORS:

Actions proposed to reduce the level of the indirect contributing factors include a number of data collection, outreach and notification strategies. Surveillance programs aimed at collecting and testing both mosquitoes and ticks will be continued and data collected from these programs will be used to inform program work. Outreach programs will be initiated or expanded in order to reach new populations to inform them of protective behaviors. A social media campaign, using multiple platforms, will be put into action in order to assist with this effort and to gather outreach effectiveness data and share health department data collected during surveillance activities. A number of educational presentations will be held annually to increase general vector and disease knowledge and promote protective behaviors and data will be gathered from such events to demonstrate effectiveness. Additionally, targeted notification in the event of a West Nile virus positive mosquito test will be performed to educate the public of the virus presence and to encourage protective behavior while the disease is present in close proximity to the population.

CONTRIBUTING FACTORS (DIRECT/INDIRECT; MAY BE MANY):

Many different factors are present throughout Kendall County that can contribute to the spread of vector borne disease. The principle factors are that of exposure to infected vectors, both mosquitoes and ticks. As such, outdoor activities and occupations play a role. People throughout Kendall County spend considerable time outdoors and in areas where there is exposure to disease causing vectors. Examples outdoor work types include equestrian, forestry, outdoor construction, fieldwork, landscaping, farming and outdoor education. Behavioral choices, such as lack of repellant and protective clothing, lack of tick checks, allowing water to collect and stagnate, time spent outside during dusk and dawn, lack of knowledge or refusing to trust science based on public health advice, also play a factor. Outdoor recreational activities, including outdoor organized sports, hiking, walking, biking, backyard recreation, gardening, on-property do it yourself work, hunting, camping and fishing play a factor as well. Further, the residential environment plays a part with a significant portion of Kendall county residents residing, working, participating in recreation in close proximity to open prairies, woodlands, retention ponds, storm drains, and poorly maintained properties.

PROPOSED COMMUNITY ORGANIZATION(S) TO PROVIDE AND COORDINATE THE ACTIVITIES:

A number of organizations will be providing and assisting in the execution of this project. Illinois Department of Public Health provides support for activities in the both mosquito and tick surveillance programs. I-Tick provides additional information related to vector distribution. Local municipalities and forest preserve districts
provide support by assisting in the amplification of some messaging and in providing permission to utilize public land for collecting specimens for surveillance. Kendall County outdoor education groups, the Kendall County Farm Bureau and local sportsman’s clubs can provide access to groups of people and educational forums for our presentations. Kendall County GIS can assist in surveillance and information dissemination.

**EVALUATION PLAN TO MEASURE PROGRESS TOWARD REACHING OBJECTIVES:**

A combination of online polls and in person surveys will be used to evaluate potential change in behavioral practices.

Impact objectives will be completed throughout the year. Annually, reviews of progress will be completed at different intervals for different objectives (for example, we will review our progress weekly for mosquito surveillance activities during the active mosquito season and quarterly for outreach/presentations conducted). Annually, findings will be provided in both a written report and in presentations to department advisory committees.
The Kendall County Health Department’s (KCHD) Mental Health Services and Community Action Services will endeavor to promote and preserve the socio-economic well-being and mental health needs of Kendall County’s most vulnerable populations. Kendall County’s most vulnerable populations are defined as persons who are experiencing a high exposure to poverty, who lack reliable transportation, who identify as English as a Second Language (ESL), who may be in residential isolation, and may have mental and physical disabilities. These categories represent a demographic within our community, thoughtfully chosen by our community partners, who may benefit greatly from efforts intended to address a lack of access to care. KCHD will work on using a combination of extensive community engagement and intentional care coordination, while increasing the delivery of person-based services in an effort to raise individual and community awareness and promote access to services which address mental health and substance abuse, social isolation and connectedness, and financial instability.

**IMPORTANCE OF PRIORITY HEALTH NEED WITH ANALYSIS TO IDENTIFY POPULATION GROUPS AT RISK**

KCHD utilized a multi-modal process to determine population groups at risk. Through the use of MAPP (Mobilizing Action for through Planning and Partnerships), the KCHD completed the Community Health Status Assessment, Local Public Health System Assessment, Community Themes and Strengths Assessment, and Forces of Change Assessment. Healthy People 2030, State Health Improvement Plan, Kendall/Grundy Community Action Plan, and IPLAN Data Systems were also included during the analysis. These assessments, in addition to other relevant data, helped to identify population groups at risk for this community health improvement plan priority of connecting the most vulnerable to assets that reduce socio-economic duress and support mental health.

The Covid-19 pandemic continues to be a major public health threat, challenging the provision of mental health services, and has led to the most significant economic disruption since The Great Depression. There was an expectation that depression and suicide rates would increase due to the pandemic. Before the pandemic, from January to June of 2019, 11% of adults reported symptoms of anxiety disorder and/or depressive disorder. In January of 2021, 41% of adults reported symptoms of anxiety disorder and/or depressive disorder. (Centers for Disease Control and Prevention, 2021, October 20) See chart below:
The Blue Cross and Blue Shield Health of America Report shows depression rates by state which was published in May of 2018. They reported Illinois having 4% of the population diagnosed with depression. Overall rates have gone up by 33% since 2013 with teen rates going up 63%. Women are two times as likely to be diagnosed compared to men. (Blue Cross and Blue Shield, 2018, May 10)

According to the Centers for Medicare and Medicaid Services, 11.5% of Kendall County beneficiaries are diagnosed with Depression. The prevalence rate for beneficiaries that are less than 65 years old is at 23.3% while for beneficiaries that are 65 years old and over the prevalence rate is 9.9%. (Centers for Medicaid and Medicare Services, 2021, January 15)

The County Health Rankings and Roadmaps 2021 report shows that Kendall County residents reported on average 3.8 days as poor mental health days in the past 30 days. The 2020 report showed Kendall County residents on average had 2.8 days that were poor mental health days in the past 30 days. (County Health Rankings, n.d.)

The annual suicide rate in the United States was 14.3 per 100,000 as of 2019. This rate has increased steadily since 2000, when it was 10.4 per 100,000. Suicide is the 10th leading cause of death in the United States across all ages. Reports since the pandemic have not found significant changes in the overall rates of suicide so far. However, studies of previous epidemics in history show an increase in suicide rates occurring later after pandemics subsided. This has been attributed to an increase in social connectedness, community cohesion, and mutual support in the acute phase of a pandemic. It is important for communities to be prepared to prevent mental health crises as the pandemic may have long term impacts moving forward. (Liang, Angela, Nestadt, Paul. John Hopkins Medicine, 2021, February 13)

Illinois and Kendall County’s suicide rates are less than the national rate. Illinois, for 2019, had a rate of 11.2 per 100,000 and Kendall County had 9.5 per 100,000. The suicide rate for Kendall county in 2017 was slightly lower at 8.1 per 100,000 while the rates were the same for Illinois and the United States. See chart below for the 2017 rates.
The Kendall County Coroner’s Annual 2020 report shows 13 deaths by suicide which were all males of different age ranges. See charts below from the report:

### DEATHS by MANNER

<table>
<thead>
<tr>
<th>Manner</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Natural</td>
<td>365</td>
</tr>
<tr>
<td>Accident</td>
<td>17</td>
</tr>
<tr>
<td>Suicide</td>
<td>13</td>
</tr>
<tr>
<td>Homicide</td>
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</tr>
<tr>
<td>Undetermined</td>
<td>0</td>
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<tr>
<td><strong>TOTAL DEATHS REPORTED</strong></td>
<td><strong>396</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Manner</th>
<th>Manner</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asphyxiation due to Bag Over Head</td>
<td>Suicide</td>
<td>53</td>
</tr>
<tr>
<td>Asphyxiation due to Hanging</td>
<td>Suicide</td>
<td>51</td>
</tr>
<tr>
<td>Asphyxiation due to Hanging</td>
<td>Suicide</td>
<td>92</td>
</tr>
<tr>
<td>Gunshot Wound to the Head</td>
<td>Suicide</td>
<td>83</td>
</tr>
<tr>
<td>Gunshot Wound to the Head</td>
<td>Suicide</td>
<td>52</td>
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<td>Asphyxiation due to Hanging</td>
<td>Suicide</td>
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<tr>
<td>Gunshot Wound to the Head</td>
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<tr>
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<tr>
<td>Gunshot Wound to the Head</td>
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<tr>
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<td>Suicide</td>
<td>48</td>
</tr>
<tr>
<td>Asphyxiation due to Hanging</td>
<td>Suicide</td>
<td>54</td>
</tr>
</tbody>
</table>
The Kendall County Coroner’s Annual 2019 report showed 12 deaths by suicide. Two were female and 10 were male mostly of middle age. See charts below for 2019 data:

### DEATHS by MANNER

<table>
<thead>
<tr>
<th>Natural</th>
<th>284</th>
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</thead>
<tbody>
<tr>
<td>Accident</td>
<td>12</td>
</tr>
<tr>
<td>Suicide</td>
<td>12</td>
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<tr>
<td>Homicide</td>
<td>2</td>
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<td>Undetermined</td>
<td>1</td>
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<tr>
<td>Pending</td>
<td>0</td>
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<tr>
<td><strong>TOTAL DEATHS REPORTED 2019</strong></td>
<td><strong>311</strong></td>
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<tr>
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According to the US Census Bureau, Kendall County’s population has increased by 131.11% since the year 2000, and forecasts show continuing growth. Kendall County’s growth is far above Illinois’ increase of 2.83% since 2000. This data opposes recent media reports regarding the amount of people leaving Illinois; according to the 2020 National Movers Study by United Van Lines, more residents moved out of Illinois than into Illinois, with 66.4% of moves being outbound while 33.6% were inbound. (United Van Lines, 2021)

New Census data that just came out for 2020 shows that the population rose even higher to 131,869 which is an increase of 14.9% from 2010. Not only is Kendall County’s population growing, it is becoming more diverse. The percentage of White county residents declined from 83.6% in the 2010 census to 67.4% in the 2020 census.
The percentage of Black county residents rose from 5.7% in 2010 to 8% in 2020 and the Hispanic population rose from 15.6% in 2010 to 20% in 2020. Asian residents account for 2.2% of the county’s 2020 population.

Even with Kendall’s growth, Kendall County still does not have a hospital in the county. Access to care has not met up with the population growth in Kendall County. Agencies have not seen an increase in funding or staff as more people are moving into the area looking for resources.

Kendall County has a poverty rate that is lower than the percentage for the state of Illinois and the United States and the rate has not changed significantly since the year 2000.

Females in the service area have a higher percentage of being in poverty than males.

The population by race alone shows that Black or African Americans, and Multiple Race are populations in poverty that are higher than Whites in Kendall County. The Hispanic or Latino population in poverty is at 4.35%. This population is also higher than Whites in poverty.
The Kendall County child poverty rate is at 5.0% while the senior poverty rate is at 6.4% which are both higher than the general poverty rate for Kendall County. These poverty rates are from the US Census Bureau and are from 2019, before the pandemic occurred. More current data at the county level has not been released yet by the US Census due to delays from the pandemic.

The amount of persons in poverty for Kendall County in 2019 was 5195 people. Community Action Services served 5073 persons with our low-income supports in 2019. Most of the services given were assistance with utilities and services that included case management with the goal of reaching a step forward out of poverty. To reach that level of care for our families in poverty we would need more funds and available staff. A one-time Low Income Home Energy Assistance Program payment for the year does not even begin to address the wide array of needs for our low-income population which would include a more holistic and coordinated approach. Poverty rates also may not give the entire picture of the socio-economic well-being of the community.

The National Low Income Housing Coalition (NLIHC) put out a report in 2021 showing that Kendall County is the second most expensive area in the state of Illinois to reside in. In Kendall County, the Fair Market Rent (FMR) for a two-bedroom apartment is $1,283. In order to afford this level of rent and utilities-without paying more than 30% of income on housing a household must earn $4,276 monthly or $51,320 annually. Assuming
a 40-hour work week, 52 weeks per year, this level of income translates into an hourly housing wage of $24.67. A person working a minimum wage job would have to work 84 hours a week to afford a two-bedroom apartment at FMR in Kendall County. (National Low Income Housing Coalition, 2021)

Kendall County has a higher eviction rate than the state and national percentage. The latest data on eviction rates was from 2016. Due to the pandemic, Illinois Gov. JB Pritzker banned evictions from March 2020 to August 2021. The Kendall County Sheriff’s Office began eviction enforcement at the end of the moratorium but there has been a backlog of filings.
Kendall County ranked as 5th in the nation with the highest foreclosure rate right before the pandemic occurred. Foreclosures, just like evictions, were banned from March 2020 to August of 2021 in Illinois. Looking at data for 2021, the states that did not have a moratorium are reporting foreclosures but not Illinois since the moratorium just ended at the time of this writing. KCHD will be vigilant in their surveillance of what the numbers will be a year from now when the courts start to catch up on foreclosure and eviction filings. In the meantime, requests for housing assistance since the pandemic have increased for Community Action Services. Before the pandemic, Community Action Services requests for housing assistance averaged about 100 a year. Since the pandemic started, Community Action Services have received 7,000 requests for housing assistance. The funding and staff availability is not enough to fulfill the need at this time. More funding for program support and case management is crucial to assist our most vulnerable in this time of crisis (Kendall County Health Department COVID-19 Community Action Plan Update, pg. 60).

The Kendall County PADS shelters have not opened for the past two seasons and the number of homeless in Kendall County has increased. The Regional Office of Education #24 Mckinney-Vento Liaison Rhonda Redgate-Offhaus gave us the following report on our area’s homeless families:

Below find the data for end of FY20 and FY21. Since last November when I started working with the schools an additional 56 children were identified. The number between FY20 and FY21 showed a decrease due to the usual reasons of moving, establishing a household, graduation etc... The biggest reason for the decrease is perceived need due to COVID-19. With technology and food provided to all, if the families were doubled up, they didn’t think as much of themselves being homeless. Our numbers went up, as students returned to in-person learning and my working with them in getting this population identified if that makes sense.

<table>
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<tr>
<th>RCDT</th>
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The chart above shows that there were 325 homeless children in the schools for 2020 and 249 in 2021.

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<tr>
<td><strong>Total</strong></td>
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The chart above shows the number of homeless families throughout the years in our service area. As Ms. Redgate-Offhaus stated above, 2021 shows a decline in the number of homeless families enrolled in school for that year (Kendall County Health Department COVID-19 Community Action Plan Update, pg. 61-62). There were also moratoriums put in place on evictions and foreclosures throughout the 2021 school year. At the time of this writing, Community Action Services has seen an increase of homeless persons coming in looking for shelter resources since the pandemic began. According to Community Services Single Tracking And Reporting System (STARS), in 2019 there were 273 case management services received to assist homeless individuals. For 2021 there have been 345 case management services received to assist homeless individuals. That is a 78% increase since before the pandemic. Community Action Services is anticipating a greater increase once the eviction and foreclosure filings become routine within the courts due to the suspension of the housing moratoriums in October 2021.

The above information was presented at a Community Action Services Advisory Board (CAAB) meeting. The CAAB members advised that the families with children that are being reported to the Regional Office of
Education as homeless must become a priority for services. Discussion on increased case management and caseworkers being directed towards those families occurred so that they have someone to assist them with navigating all possible services and opportunities (Kendall County Health Department Community Action Advisory Board, 2021, pg. 4).

**Connection to Healthy People 2030**

KCHD’s priority health need of connecting the most vulnerable to assets that reduce socio-economic duress and mental health support is in line with Healthy People 2030 which speaks to the ongoing difficulty for individuals and the importance of stability and quality of life. KCHD will work to outreach to 100% of community residents and partners, with whom we engage, to address the need for greater mental health awareness and support and to decrease socio-economic duress regarding our community’s most vulnerable. Likewise, in the 2021 State Health Improvement Plan (SHIP-FINAL), it is noted that “social determinants” affect health, and therefore it is important that health is addressed holistically with regards to employment, housing, and mental health (SHIP-FINAL, 2021, p. 38). Many of the goals cited within SHIP align with the priority set forth by KCHD, including “increasing behavioral health literacy and decrease stigma,” “improve the collection, utilization, and sharing of behavioral health-related data in Illinois,” and “build upon and improve local system integration” (SHIP-FINAL, 2021, p. 39).

Healthy People 2030 also seeks to increase the proportion of the population, in general, with mental health problems who access and engage treatment. KCHD will utilize strategies to promote mental health awareness for Kendall County residents at large, with the desire to increase engagement and awareness in those who are the most vulnerable. One area that is likely a barrier to access to care is language and cultural norms. Healthy People 2030 lists “Language and Literacy” as key issues in the Education Access and Quality Domain (People 2030, H., Language and Literacy). Within exploring this need, Healthy People 2030 cites the following regarding those who have English as their second language (ESL) compared to those who have English as their first language - those who are ESL “are more likely to have no usual source of care, report lower self-rate health, and report feeling sad most or all of the time (Ponce, et al.).” Additionally, due to health care and literacy being connected, literacy and language can pose as a barrier to “health knowledge access, proper medication use, and utilization of preventive services (People 2030, H., Language and Literacy).” KCHD staff will work to reduce stigma and increase staff cultural competencies for increased ability to deliver inclusive services to all, including the most vulnerable, to increase mental health support within the community.

Further regarding socio-economic duress and accessing assets and benefits is the barrier to transportation. Syed, Gerber, and Sharp discuss the relationship to health care access and transportation including rescheduled or missed appointments, delayed care, and difficulties with consistent medication usage (Syed, Gerber, Sharp, 2013). Public transportation in Kendall County is limited, if even available, and securing transportation through Kendall Area Transit (KAT) can be challenging with the high level of need in the community and prior authorization required. In the time of COVID and adaptability of KCHD, telephonic and telehealth services have become more widely utilized and accepted. However, in order to address those in the community, provide education, and bridge the ever looming gap of disparities, it will be important to continue to engage and outreach the community, at large, off-site and in creative ways to protect the individual’s information and decrease duress and barriers and increase support of both mental health and socio-economic assets.

**Risk Factors, Direct Contributing Factors, Indirect Contributing Factors**

Drawing on the Health Problem Analysis Worksheet below, KCHD concentrated on what may be the risk, direct contributing and indirect contributing factors to the health problem of connecting our communities most vulnerable to assets that reduce socio-economic duress and support mental health. Three significant risk factors associated with this health problem were established, they being selected as stigma and misinformation, infrastructure, and economic instability.

When contemplating the first risk factor of stigma and misinformation, four direct contributing factors emerged; social media, cultural traditions and societal norms, a decline in trust with institutions, and language
barriers. Indirect contributing factors associated with social media included specious journalism, unreliable sources and influencers, and tribalism. Considerations to the direct contributing factor of cultural traditions and societal norms include indirect contributing factors such as religion, gender and sexuality norms, and generational beliefs. The third direct contributing factor, language barriers, brought attention to three indirect factors; the Hispanic and Asian populations on the rise, and a lack of foreign language speaking professionals in the field of mental health and social work/services.

Direct contributing factors were discussed as having an impact on the second of three risk factors, infrastructure. They include staff shortages, lack of transportation, and a lack of facilities. Indirect contributing factors that may advance a lack of infrastructure are staff burnout, not enough professionals in the industry of community based social services, and competitive wages. Indirect factors pertinent to a lack of transportation is the lack of public transportation, rural residents may be more isolated, and the rapidly growing population of Kendall County. Indirect factors associated with the lack of facilities are the population growth and the lack of a hospital in Kendall County.

Reflecting on the third risk factor of economic instability, direct contributing factors include employment insecurity, housing instability, and transportation. Indirect contributing factors that fall under employment insecurity include lack of health coverage, inability to afford care, and a lack of living wage jobs in the area. The indirect contributing factors associated with housing instability are lack of affordable housing, the high foreclosure rate in Kendall County, and the high eviction rate. Transportation became the final direct contributing factor associated with the risk factor of economic instability. Assigned as indirect factors were the lack of public transportation, rural residents being more isolated and the rising cost of gas for vehicles.

**Measurable Outcome Objective**

- By 2026, outreach to 100% of community residents and partners, with whom we engage, to address the need for greater mental health awareness and support and to decrease socio-economic duress regarding our community’s most vulnerable.

**Measurable Impact Objective**

- By 2026, increase the number of outreach settings, to a minimum of three (3) underserved towns, beyond the building of the Kendall County Health Department to allow people closer access to services.
- By 2026, increase educational information access throughout the community by conducting a minimum of four (4) podcasts in both English and Spanish and a minimum of three (3) community presentations or events about services at the health department related to socio-economic and mental health services.
- By 2026, annually cultivate a minimum of one (1) new and/or strengthen a minimum of one (1) existing community partnership, dedicated to helping promote and address the need for socio-economic and/or mental health support.

**Proven Intervention Strategy**

KCHD will endeavor to connect our communities most vulnerable to assets that reduce financial instability and support mental health through a combination of extensive community engagement, seamless care coordination, and the delivery of person-based services.

KCHD possesses a great deal of experience in each of the aforementioned processes, including the delivery of person-based services using a people-centered approach to care.

Community engagement will be performed through traditional public outreach and through the use of technology. Under public outreach, three underserved towns beyond the building of the Kendall County Health Department. Outreach settings will become available to have a more convenient setting for customers who may not have access to reliable transportation. The proposed settings will be located in Plano, Newark, and Gardner Illinois. Staff will be present at these locations as well as other service partners including The Northern Illinois
Food Bank, Senior Services, and the Veterans Assistance Commission. KCHD will provide a number of presentations through various forms to community members to raise awareness of, promote, and educate access to services which address mental health, substance abuse, and financial instability. These various platforms will include podcasts, community presentations, and a summit. Additionally, with consideration to the use of technology, KCHD will leverage the 24/7 accessibility of the internet to prepare, provide and promote community-wide resources for mental health and financial stability-related information and related community resources. KCHD’s local public health system partners will be encouraged to inform and/or contribute to this community-wide offering of information. The availability of and access to this information will be actively promoted; the information routinely updated, and also communicated through social media messages (KCHD’s Facebook and Twitter), and KCHD’s quarterly electronic newsletter – made available to KCHD’s local public health system partners and the Kendall County population as a whole.

The Kendall County Domestic Violence Response Team (DVRT) was created in January of 2020. The team consists of the Kendall County State’s Attorney’s Office who presents the domestic violence case in criminal court, the Kendall County Sheriff’s Office who investigates complaints to inform the courts during case prosecution, Mutual Ground who provides support to the victims and the Kendall County Health Department who provides community resources to victims. KCHD will be adding more staff to assist with the referrals that come in through the DVRT. Additionally, KCHD has several partnerships with local police departments providing Crisis Intervention Team (CIT) work to those in need within the community. Through CIT, clinicians reach out to those who have had police contact due to a mental health or substance use concern and may need wrap-around services including counseling, financial resources, and referrals.

As such partnerships are vital to the engagement of the community at large and those who are most vulnerable, KCHD will cultivate and/or strengthen community partnerships, dedicated to helping promote and address the need for socio-economic and/or mental health support. KCHD’s efforts to engage and educate the community and providers, is intended to lead our communities most vulnerable to community supports and services capable of addressing their needs as they relate to mental health and financial instability. KCHD is one of Kendall County’s leading providers of these services.

In an effort to increase the KCHD workforce, KCHD will develop partnerships with the local universities to welcome interns to participate in KCHD activities. Community Actions services will participate in the Illinois Public Health Associations Academia meetings to engage in recruitment of interns as well as Aurora University’s School Community Resource Collaborative meetings. KCHD will endeavor to have representation on the National Alliance on Mental Illness Kane, DeKalb and Kendall Counties board to further deliver the message of holistic health and further increase provisions of resources to those in need.

Mental health is an integral part of health; indeed, there is no health without mental health (World Health Organization, 2021). KCHD will endeavor to raise awareness of mental health among both Kendall County’s population, and our local public health systems partners – in particular, our local health care and provider professionals. In an effort to educate and wrap around needed services around our most vulnerable members of our community, KCHD will create and provide to all customers seeking KCHD socioeconomic supports, information describing what mental health is; how to recognize mental health issues and illness; and where to receive help. This information will serve more than the possible needs of the direct recipients of this information. There may very well be a family member, friend or acquaintance of the recipients of this information, in need of mental health supports. Our information will be designed to be easily shared.

Concurrently, KCHD will strive to identify possible socio-economic duress among those seeking mental health treatment and supports, for all, but with an emphasis on our most vulnerable population. In a holistic effort to educate and wrap needed services around our most vulnerable, KCHD will create and provide to all mental health clients, through KCHD mental health treatment and supports, information describing the risk factors leading to socio-economic duress (also described as financial instability and economic insecurity), and more importantly, protective factors intended to secure and maintain one’s financial stability and economic security. This information will serve more than the possible needs of the direct recipients of this information. Again,
there may be a family member, friend or acquaintance of the recipients of this information, in need of socio-economic supports. This information also will be designed to be easily shared by the recipient with others.

KCHD will track and measure the number of participants around which the aforementioned services have been wrapped. Additionally, KCHD will measure the impact that these services have had on our participants’ mental health (documented in KCHD’s psychosocial assessments), and financial stability and economic security (documented in KCHD’s Single Tracking and Reporting System).

KCHD will serve our communities most vulnerable in a manner that builds trust and addresses their needs in culturally competent, dignified and holistic ways. Participants will be encouraged and enabled to collaborate with KCHD in identifying and addressing the best approaches to meeting their individual mental health and socioeconomic needs. Participants will be informed and involved in decision-making, and will have choices. They will be invested and active participants in achieving their individual needs. Combined, these strategies will serve to minimize if not prevent poor mental health and financial instability among those in need representing the community’s most vulnerable.
HEALTH PROBLEM ANALYSIS WORKSHEET

Risk Factors
- Stigma and Misinformation
  - Social Media
  - Unreliable Sources and Influencers
  - Tribalism
  - Religion
  - Racism/Discrimination
  - FINANCIAL AGENDAS
  - POLITICAL MARGINALIZATION
- Decline in Trust in Institutions
  - Cultural Traditions and Societal Norms
  - Gender/SEXUALITY Norms
  - Generational Beliefs
- Language Barriers
  - Specious Journalism
  - Asian Population on the Rise
  - Lack of Foreign Language Speaking Professionals in the Field
- Staff Shortages
  - STAFF BURN OUT
  - Not Enough Professionals in the Industry
- Transportation
  - Competitive Wages
  - Limited Public Transportation
  - Rural Residents More Isolated
- Lack of Facilities
  - Population Boom
  - Population Boom
  - No Hospital in County
- Food Insecurity
  - Can’t Afford Healthy Foods
  - Lack of Fresh Markets
- Employment Insecurity
  - Lack of Nutrition Education
  - Lack of Health Coverage
  - Unable to Afford Care
- Housing Instability
  - Lack of Living Wage Jobs
  - High Foreclosure Rate
  - Lack of Affordable Housing
- Transportation
  - High Eviction Rate
  - Limited Public Transportation
  - Rural Residents More Isolated
  - Gas Prices on the Rise

Health Problem
- Lack of Access to Care
  - Infrastructure
    - Economic Instability
      - Housing Instability
        - Transportation
          - Note NOt ENOUGH PROFESSIONALS IN THE INDUSTRY
**Health Problem:** Lack of access to care with mental health services and socio-economic well-being supports.

**Outcome Objective(s):** By 2026, outreach to 100% of community residents and partners, with whom we engage, to address the need for greater mental health awareness and support and to decrease socio-economic duress regarding our community’s most vulnerable.

**Risk Factor(s) (May be Many):**
- Stigma and misinformation
- Infrastructure
- Economic Instability

**Impact Objective(s):**
- By 2026, increase the number of outreach settings, to a minimum of three (3) underserved towns, beyond the building of the Kendall County Health Department to allow people closer access to services.
- By 2026, increase educational information access throughout the community by conducting a minimum of four (4) podcasts in both English and Spanish, a minimum of three (3) community presentations or events about services at the health department related to socio-economic and mental health services.
- By 2026, annually cultivate a minimum of one (1) new and/or strengthen a minimum of one (1) existing community partnership, dedicated to helping promote and address the need for socio-economic and/or mental health support.

**Contributing Factors (Direct/Indirect; May be Many):**
- Social media
  - Specious journalism
  - Unreliable sources and influencers
  - Tribalism
- Cultural traditions and societal norms
  - Religion
  - Gender/sexuality norms
  - Generational beliefs
- Decline in trust in institutions
  - Racism/Discrimination
  - Financial agendas
  - Political marginalization
- Language barriers
  - Hispanic population on the rise
  - Asian population on the rise
  - Lack of foreign language speaking professionals in the field
- Staff shortages
  - Staff burn out
  - Not enough professionals in the industry
  - Competitive wages
- Transportation

**Proven Intervention Strategy(ies):**
- KCHD will implement a combination of extensive community engagement, seamless care coordination, and the delivery of person-based services using the person-centered care approach.
- Three outreach settings will become available to underserved towns beyond the building of the Kendall County Health Department. These outreach settings will provide a more convenient setting for customers who may not have access to reliable transportation.
- KCHD will provide a number of presentations through various forms to community members to raise awareness of, promote, and educate access to services which address mental health, substance abuse, and financial instability. These various platforms will include podcasts, community presentations, and a summit.
- Develop partnerships with local universities to welcome interns to participate within the KCHD workforce.
- Provide person-centered care, in a manner that builds trust and addresses needs in culturally competent, dignified and holistic ways. Participants will be encouraged and enabled to collaborate with KCHD in
- Limited public transportation
- Rural residents more isolated
- Population boom
- Gas prices on the rise

- Lack of facilities
  - Population boom
  - No hospital in county
- Food insecurity
  - Can’t afford healthy foods
  - Lack of fresh markets
  - Lack of nutrition education
- Employment insecurity
  - Lack of health coverage
  - Unable to afford care
  - Lack of living wage jobs
- Housing instability
  - Lack of affordable housing
  - High foreclosure rate
  - High eviction rate

**RESOURCES AVAILABLE (GOVERNMENT & NON-GOVERNMENTAL)**

- Kendall County Health Department Mental Health and Community Action Divisions
- Senior Services Associates
- Oswego Senior Center
- Kendall Area Transit
- Local Park Districts
- Local Schools
- Kendall County Senior Providers
- Kendall and Grundy Interagency Council
- Rush Copley
- Workforce Development
- Churches
- YMCA
- Kendall and Grundy County VAC
- Kendall County youth organizations
- Local universities
- IPHA academic Committee
- Will County Center for Community Concerns
- Behavioral Health and Community Action Advisory Board members
- Kendall County Housing Authority
- Local food pantries
- Catholic Charities Diocese of Joliet Daybreak Center
- Local libraries
- Local police departments
- Kendall County States Attorney
- Mutual Ground
- Prairie State Legal Services

**BARRIERS**

- Funding
- Lack of adequate staff
- Lack of public awareness
- Transportation
- Language/ESL
- Reluctance to access services/Stigma
- Perceptions/attitudes towards service
- Lack of affordable housing

identifying and addressing the best approaches to meeting their individual mental health and socioeconomic needs.

- Identification and provision of wrap-around services
**DESCRIPTION OF HEALTH PROBLEMS, RISK FACTORS AND CONTRIBUTING FACTORS (INCLUDING HIGH RISK POPULATIONS, AND CURRENT AND PROJECTED STATISTICAL TRENDS):**

KCHD and its community partners have identified the health problem of lack of access to mental health and socio-economic supports in the population. Risk factors include stigma and misinformation, infrastructure, and economic instability. While there are many identified direct contributing factors, significant areas include social media, cultural traditions and societal norms, a decline in trust in institutions, language barriers, staff shortages, transportation, lack of facilities, food insecurity, employment insecurity, and housing instability. Person’s in the community that are considered higher risk at experiencing a lack of access to mental health and socio-economic supports are those experiencing a high exposure to poverty, transportation/language barriers, residential isolation, and may have mental/physical disabilities.

**CORRECTIVE ACTIONS TO REDUCE THE LEVEL OF THE INDIRECT CONTRIBUTING FACTORS:**

- The creation and dissemination of information describing what mental health is; how to recognize mental health issues and illness; and where to receive help.
- The creation and dissemination of information describing the risk factors leading to socio-economic duress (also described as financial instability and economic insecurity), and more importantly, protective factors intended to secure and maintain one’s financial stability and economic security.
- Provision of mental health and socio-economic supports facilitated for those considered at highest risk of experiencing a lack of access to mental health and socio-economic supports.

**CONTRIBUTING FACTORS (DIRECT/INDIRECT; MAY BE MANY)**

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<tr>
<td>Social media</td>
<td>Specious journalism</td>
</tr>
<tr>
<td>Cultural traditions and societal norms</td>
<td>Unrealiable sources and influencers</td>
</tr>
<tr>
<td>Decline in trust in institutions</td>
<td>Tribalism</td>
</tr>
<tr>
<td>Language barriers</td>
<td>Religion</td>
</tr>
<tr>
<td>Staff Shortages</td>
<td>Gender/Sexuality norms</td>
</tr>
<tr>
<td>Transportation</td>
<td>Generational beliefs</td>
</tr>
<tr>
<td>Lack of facilities</td>
<td>Racism/Discrimination</td>
</tr>
<tr>
<td>Food insecurity</td>
<td>Financial agendas</td>
</tr>
<tr>
<td>Employment insecurity</td>
<td>Political marginalization</td>
</tr>
<tr>
<td>Housing instability</td>
<td>Hispanic population on the rise</td>
</tr>
<tr>
<td></td>
<td>Asian population on the rise</td>
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<tr>
<td></td>
<td>Lack of foreign language speaking professionals</td>
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<tr>
<td></td>
<td>Staff burn out</td>
</tr>
<tr>
<td></td>
<td>Not enough professionals in the industry</td>
</tr>
<tr>
<td></td>
<td>Competitive wages</td>
</tr>
<tr>
<td></td>
<td>Limited public transportation</td>
</tr>
<tr>
<td></td>
<td>Rural residents more isolated</td>
</tr>
<tr>
<td></td>
<td>Population boom</td>
</tr>
<tr>
<td></td>
<td>No hospital in county</td>
</tr>
<tr>
<td></td>
<td>Can’t afford healthy foods</td>
</tr>
<tr>
<td></td>
<td>Lack of fresh markets</td>
</tr>
<tr>
<td></td>
<td>Lack of nutrition information</td>
</tr>
<tr>
<td></td>
<td>Lack of health coverage</td>
</tr>
<tr>
<td></td>
<td>Unable to afford care</td>
</tr>
<tr>
<td></td>
<td>Lack of living wage jobs</td>
</tr>
<tr>
<td></td>
<td>Lack of affordable housing</td>
</tr>
</tbody>
</table>
- High foreclosure rate
- High eviction rate
- Gas prices on the rise

**PROPOSED COMMUNITY ORGANIZATION(S) TO PROVIDE AND COORDINATE THE ACTIVITIES:**

<table>
<thead>
<tr>
<th>Kendall County Health Department Mental Health and Community Action Divisions</th>
<th>Kendall County youth organizations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Senior Services Associates</td>
<td>Local universities</td>
</tr>
<tr>
<td>Oswego Senior Center</td>
<td>IPHA academic Committee</td>
</tr>
<tr>
<td>Kendall Area Transit</td>
<td>Will County Center for Community Concerns</td>
</tr>
<tr>
<td>Local Park Districts</td>
<td>Behavioral Health and Community Action Advisory Board members</td>
</tr>
<tr>
<td>Local Schools</td>
<td>Kendall County Housing Authority</td>
</tr>
<tr>
<td>Kendall County Senior Providers</td>
<td>Catholic Charities Diocese of Joliet Daybreak Center</td>
</tr>
<tr>
<td>Kendall and Grundy Interagency Council</td>
<td>Local libraries</td>
</tr>
<tr>
<td>Rush Copley</td>
<td>Local food pantries</td>
</tr>
<tr>
<td>Workforce Development</td>
<td>Local police departments</td>
</tr>
<tr>
<td>Churches</td>
<td>Kendall County States Attorney</td>
</tr>
<tr>
<td>YMCA</td>
<td>Mutual Ground</td>
</tr>
<tr>
<td>Kendall and Grundy County VAC</td>
<td>Prairie State Legal Services</td>
</tr>
</tbody>
</table>

**EVALUATION PLAN TO MEASURE PROGRESS TOWARD REACHING OBJECTIVES:**

- Number of presentations made to community members at local facilities, centers, clubs and social gatherings, to raise awareness of, promote, and educate access to services which address mental health and substance abuse, social isolation, and financial instability.
- Number of outreach settings utilized
- Number of successful internship programs completed
- Increased number of mental health and socio-economic supports facilitated. This will be measured and tracked using KCHD's Footholds relational database, and Single Tracking and Reporting System (STARS) data base.


APPENDIX/APPENDICES
Purpose and Practices of Public Health

Ten Essential Services

What Public Health Does (The Purpose of Public Health)

The fundamental obligation of agencies responsible for population-based health is to:
• Prevent epidemics and the spread of disease
• Protect against environmental hazards
• Prevent injuries
• Promote and encourage healthy behaviors and mental health
• Respond to disasters and assist communities in recovery
• Assure the quality and accessibility of health services

These responsibilities describe and define the function of public health in assuring the availability of quality health services. Both distinct from and encompassing clinical services, public health’s role is to assure the conditions necessary for people to live healthy lives, through community-wide prevention and protection programs.

Core Public Health Functions

Assessment
Policy Development
Assurance

How Public Health Serves (The Practice of Public Health)

Public health serves communities and individuals within them by providing an array of essential services.
Many of these services are invisible to the public. Typically, the public only becomes aware of the need for public health services when a problem develops (e.g., an epidemic occurs). The practice of public health becomes the following ten “essential services”:

The 10 Essential Public Health Services

1. Monitor health status to identify community health problems
2. Diagnose and investigate health problems and health hazards in the community
3. Inform, educate, and empower people about health issues
4. Mobilize community partnerships to identify and solve health problems
5. Develop policies and plans that support individual and community health efforts
6. Enforce laws and regulations that protect health and ensure safety
7. Link people to needed personal health services and assure the provision of health care when otherwise unavailable
8. Assure a competent public health and personal health care workforce
9. Evaluate effectiveness, accessibility, and quality of personal and population-based health services
10. Research for new insights and innovative solutions to health problems
1. **Monitor health status to identify and solve community health problems:**
   *What's going on in our community? Do we know how healthy we are?*
   This service includes accurate and periodic assessment of the community’s health status including identification of health risks, attention to vital statistics and disparities and identification of assets and resources. Also included is the utilization of methods and technology, such as GIS, to interpret and communicate data and population health registries.

2. **Diagnose and investigate health problems and health hazards in the community:**
   *Are we ready to respond to health problems or threats? How quickly do we find out about problems? How effective is our response?*
   This service includes timely identification and investigation of health threats, availability of diagnostic services, including laboratory capacity, and response plans to address major health threats.

3. **Inform, educate, and empower people about health issues:**
   *How well do we keep all people and segments of our community informed about health issues?*
   This service includes initiatives using health education and communication sciences to build knowledge and shape attitudes, inform decision-making choice and develop skills and behaviors for health living. Also included are health education and health promotion partnerships within the community to support health living as well as media advocacy and social marketing.

4. **Mobilize community partnerships and action to identify and solve health problems:**
   *How well do we really get people and organizations engaged in health issues?*
   This service includes constituency development and identification of system partners and stakeholders, coalition development as well as formal and informal partnerships to promote health improvement.

5. **Develop policies and plans that support individual and community health efforts:**
   *What policies promote health in our community? How effective are we in planning and setting health policies?*
   This service includes policy development to protect health and guide public health practice, community and state planning and alignment of resources to assure successful planning.

6. **Enforce laws and regulations that protect health insurance and safety:**
   *When we enforce health regulations, are we up-to-date, technically competent, fair and effective?*
   This service includes review, evaluation and revision of legal authority, laws and regulation. Also included are education about laws and regulations, advocating of regulations needed to protect and promote health and support of compliance efforts and enforcement as needed.

7. **Link people to needed personal health services and assure the provision of health care when otherwise unavailable:**
   *Are people receiving the medical care they need?*
   This service includes identifying populations with barriers to care, effective entry into a coordinated system of clinical care, on-going care management, culturally appropriate and targeted information for at risk population groups as well as transportation and other enabling services.

8. **Assure a competent public and personal health care workforce:**
   *Do we have a competent public health staff? How can we be sure that our staff stays current?*
   This service includes assessment of the public health and personal health workforce, maintaining public health workforce standards including efficient processes for licensing/credentialing requirements and use of public health competencies. Also included is Quality Improvement and life-long learning, including leadership development and cultural competence.

9. **Evaluate effectiveness, accessibility, and quality of personal and population-based health services:**
   *Are we doing any good? Are we doing things right? Are we doing the right things?*
   This service includes ongoing evaluation of health programs based on analysis of health status and service utilization data to assess program effectiveness and to provide information necessary for allocation resources and re-shaping programs.

10. **Research for new insights and innovative solutions to health problems:**
    *Are we discovering and using new ways to get the job done?*
    This service includes identification and monitoring or innovative solutions and cutting-edge research to advance public health. Also included are linkages between public health practice and academic/research settings and epidemiological studies, health policy analyses and health systems research.
Employ methods of community communication that considers presence and responsiveness.
(Objectives to be formulated with Advisory Boards)
- Access to Services
- Emigration Challenges
- Individual/Family Needs
- Serving Community
- Wellbeing Issues

Continue to streamline fund diversification for the sustainability of community work.
(Objectives to be formulated by Finance Committee)
- Affordable Services
- Financial Sustainability
- Fiscal Communication
- Insurance Landscape
- Reserve Preservation

Act with leadership on all matters of stakeholder interrelatedness.
(Objectives to be formulated with Advisory Boards)
- Community Health Planning
- Partner Participation
- Private Schools
- Program Impact
- Resource Sharing

Workforce Development will be informed by performance management, a readiness for change, and an appreciative perspective on learning organization.
(Objectives to be formulated by Personnel Committee)
- Accreditation Acquisition
- Data Trends
- Electronic Health Records
- Staff Sustainability
- Surveillance

6/16 – AVET
2021 Strategic Planning Process Phases

- Why we Plan Dialogue
- What People Might be Surprised to know
- How we Communicate all we do for the Community
- Key Stakeholder Relatedness
- Mission and Vision Review
- Branding and Logo Review
- Internal Assets and Opportunities
- External Assets and Opportunities
- Distinctive Organizational Competencies
- Identification of Strategic Issues
2016-2021 Community Health Improvement Plan Update Flyer

Kendall County Health Department
A Caring Place

Itinerary

Date
September 24, 2019

Time
5:30pm to 7:00pm

Location
Kendall County Health Department
811 W. John St.
Yorkville, IL 60560

To Register
Please contact Becki Rudolph by
September 10, 2019
At (630) 553-9100

2016-2021 Community Health Improvement Plan
- A Community Update -

Please join us in celebrating progress made on the implementation of our 2016-2021 Community Health Improvement Plan

- Accessing Oral Health
- Reducing Exposure to Lyme Disease
- Addressing Senior Mental Health & Socio-economic Duress

Your participation is a valued asset to our community’s health and well-being

Light refreshments will be served
IPLAN Timeline

November 6, 2019
Planning to plan with Steering Committee members.

May 5, 2020
Community Themes and Strengths Assessment looks at quality of life, local assets and what is important to the residents of Kendall County.

June 10, 2021
Forces of Change Assessment aims to identify trends, factors or events that affect quality of life and work in Kendall County.

February 21, 2020
at Cross Lutheran Church
Local Public Health System Assessment reviews components, activities, competencies and capacity of our local public health system.

August 20, 2020
Community Health Status Assessment looks at the health of Kendall County through data trends.

Action Cycle and Ongoing Implementation
This Action Cycle involves staff developing, implementing, and evaluating action plans to achieve outcome objectives to address selected priorities.
SAVE THE DATE

IPLAN SUBCOMMITTEE MEETING
Plan to Plan

Wednesday, November 6, 2019
5PM – 6PM

Kendall County Health Department
811 W John Street, Yorkville, IL 60560

RSVP TO RAEANN VANGUNDY
rvangundy@co.kendall.il.us

Join us as we present an overview of the 2022-2026 IPLAN through MAPP. We value your input and your ongoing work to improve the health within our community.
IPLAN 2026 Subcommittee
Plan to Plan Meeting
Nov 6, 2019 5-6pm

- Welcome
- MAPP Process
- MAPP Timeline
- Your Role in MAPP Process
  - Community Health Status Assessment
    - Timeline
    - Data Sets of Interest
    - APA Format
- Closing remarks and Questions
- Next Meeting –

  Local Public Health System Assessment
  9am-3pm
  February 21, 2020
  Cross Lutheran Church, Yorkville IL 60560
# PLAN TO PLAN SIGN IN SHEET

**KENDALL COUNTY HEALTH DEPARTMENT**

811 W. John Street, Yorkville, IL 60560-9249  630/553-9100  Administration Fax 630/553-9506

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**IPLAN 2026 Subcommittee**

Plan to Plan Meeting

Nov 6, 2019 5-6pm

<table>
<thead>
<tr>
<th>Name</th>
<th>Organization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mon J. Rybiski</td>
<td>KENDALL HEALTH</td>
</tr>
<tr>
<td>Katy Williams</td>
<td>Kendall Co. Health Department</td>
</tr>
<tr>
<td>Melissa Creamer</td>
<td>KCHD</td>
</tr>
<tr>
<td>Steve Zanatt</td>
<td>Health Department</td>
</tr>
<tr>
<td>Terese Ruahe</td>
<td>Rush Copley Medical Center</td>
</tr>
<tr>
<td>Paule Van Grady</td>
<td>Kendall City Health Dept.</td>
</tr>
<tr>
<td>Beth Acheson</td>
<td>Kendall City H.D.</td>
</tr>
<tr>
<td>Dana Deppe</td>
<td>Kendall CHD</td>
</tr>
<tr>
<td>Nanci Keeland</td>
<td>BOTH / Lewis University</td>
</tr>
<tr>
<td>Becky Frieder</td>
<td>Northwestern Medicine</td>
</tr>
</tbody>
</table>

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Kendall-Grundy Community Action

A Unit of Kendall County Health Department

1802 N. Division St., Rm. 602
Morris, Illinois 60450
815/941-3262  Fax 815/942-3925
SAVE THE DATE

Kendall County
Local Public Health System Assessment
Friday, February 21st, 2020
8AM - 4PM
Cross Lutheran Church
8609 State Route 47, Yorkville, IL 60560
INVITATION TO FOLLOW.

Join us to explore how we all contribute to public health activities and where we can improve collectively. We value your input and your ongoing work within our community.
January 8th, 2020

Dear Valued Partner,

The Kendall County Health Department cordially invites you to participate in the Kendall County Public Health System Assessment Retreat, an appraisal of our local public health system. The public health system includes all public, private and voluntary entities that contribute to the public's health and well-being in the Kendall County community. This includes those individuals, organizations and agencies who focus on what we think of as traditional health issues but also those who address emergency preparedness, quality of life issues, and the social determinants of health. The meeting will be conducted as a day-long retreat on Friday, February 21st, 2020 at Cross Lutheran Church (Address: 8609 State Route 47, Yorkville, IL 60560) facilitated by the Illinois Public Health Institute. The retreat will start at 8:00 AM for registration and light breakfast and end at 4:00 PM. Lunch and snacks will also be provided.

The National Public Health Performance Standards (NPHPS) local public health system (LPHS) performance instrument, developed by the Centers for Disease Control and Prevention (CDC), will provide the basis for this assessment. This tool is used across the nation to assess community health system performance relative to national standards for the 10 Essential Public Health Services. For more information on the 10 Essential Public Health services (EPHS), please refer to the descriptions enclosed below.

This assessment will be completed in five breakout groups. Each group will be formed based on expertise and the type of work performed by individuals within the Kendall County public health system. Each breakout group will address two essential services; one in the morning, the second in the afternoon. Enclosed is a description of the breakout groups with definitions of the 10 essential services. We ask that you review the definitions and identify both the services you provide and the best person(s) to represent your organization based on the service(s) your organization provides. In order to have a broad cross section of individual experience and expertise in each group, please limit your personnel selection to one person per breakout group or less, based on the services your organization provides.

Please complete the Participation Form by Friday, January 24th, 2020 online at www.kencalhealth.org/phsarsyp/ or return the enclosed form to RaeAnn VanGundy via email at rvangundy@co.kendall.il.us. Upon receipt of your response, we will forward a confirmation letter with participant materials to begin preparation for the retreat.

We look forward to having you join us and other community partners as we endeavor to strengthen our local public health system and improve the health of Kendall County residents.

Sincerely,

[Signature]

Dr. Amaan Tokars
Executive Director, Public Health Administrator
National Public Health Performance Standards (NPHPS)

Kendall County
Local Public Health System Assessment Retreat
February 21, 2020

Dr. Amaal Tokars
Executive Director
Comments
Assessment Overview

Laurie Call
Director, Center for Community Capacity Development
Illinois Public Health Institute

MAPP Process to IPLAN Community Health Assessment and Improvement Plan

Mobilizing Action through Planning and Partnerships
4 Perspectives to Complete the Picture

- Community Health Status
  - Demographics
  - Health Status
  - Health Behaviors
  - Social Determinants

- Community Themes and Strengths
  - Perspectives on Barriers, Needs and Strengths, Assets and Resources

- Local Public Health System
  - System Strengths
  - System Needs/Gaps

- Forces of Change
  - Looking to the Future
  - Events, Trends, Threats, Opportunities

Collectively the Four Assessments...

- Provide insight on the gaps between current circumstances and vision.

- Serve as the source of information from which the strategic issues, strategies, and goals are built.
Local Public Health System Assessment Objectives

1. Complete the assessment with documented discussion and scores related to each performance measure;
2. Enhance understanding of the public health system;
3. Build relationships within the public health system; and
4. Foster an interest and awareness in performance improvement.

Retreat Agenda – February 21, 2020

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:30 AM – 9:00 AM</td>
<td>Registration</td>
</tr>
<tr>
<td></td>
<td>Continental Breakfast</td>
</tr>
<tr>
<td>9:00 AM – 9:15 AM</td>
<td>Welcome and Opening Remarks</td>
</tr>
<tr>
<td>9:15 AM – 9:30 AM</td>
<td>Orientation</td>
</tr>
<tr>
<td></td>
<td>NPHPS Assessment Preparation</td>
</tr>
<tr>
<td>9:30 AM – 9:45 AM</td>
<td>Transition to Breakout Groups</td>
</tr>
<tr>
<td>9:45 AM – 12:15 PM</td>
<td>Breakout Session I: Conducting the Assessment for Essential Services 1, 3, 5, 7 and 8</td>
</tr>
<tr>
<td>12:15 PM – 1:00 PM</td>
<td>Lunch</td>
</tr>
<tr>
<td>1:00 PM – 1:15 PM</td>
<td>Transition to Breakout Groups</td>
</tr>
<tr>
<td>1:15 PM – 3:30 PM</td>
<td>Breakout Session II: Conducting the Assessment for Essential Services 2, 4, 6, 9 and 10</td>
</tr>
<tr>
<td>3:30 PM – 4:00 PM</td>
<td>Breakout Session Recap</td>
</tr>
<tr>
<td></td>
<td>Closing Remarks and Next Steps</td>
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<tr>
<td></td>
<td>Evaluation</td>
</tr>
<tr>
<td>4:00 PM</td>
<td>Adjourn</td>
</tr>
</tbody>
</table>
# Breakout Groups

<table>
<thead>
<tr>
<th>Essential Service</th>
<th>Facilitator(s)</th>
<th>Note-taker(s)</th>
<th>Room Assignment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 and 2</td>
<td>Laurie Call and Samantha Lasky</td>
<td>Nancy Villa</td>
<td>Room A</td>
</tr>
<tr>
<td>3 and 4</td>
<td>Leslie McKnight</td>
<td>Andrea Higuera</td>
<td>Room B</td>
</tr>
<tr>
<td>5 and 6</td>
<td>Jackie Forbes</td>
<td>Jodi Wuliff</td>
<td>Room C</td>
</tr>
<tr>
<td>7 and 9</td>
<td>Scott Kaufmann</td>
<td>Carrie Werner</td>
<td>Room D</td>
</tr>
<tr>
<td>8 and 10</td>
<td>Amy Fox</td>
<td>Kerri Fuentes</td>
<td>Room E</td>
</tr>
</tbody>
</table>

## Acronyms

- **CDC** — Centers for Disease Control and Prevention
- **NACCHO** — National Association of City and County Health Officials
- **NPHPS** — National Public Health Performance Standards
- **LPHSA** — Local Public Health System Assessment
- **MAPP** — Mobilizing Action Through Planning and Partnerships
- **CHA** — Community Health Assessment
- **CHIP** — Community Health Improvement Plan
Four Concepts Applied in NPHPS

1. Based on the ten Essential Public Health Services
2. Focus on the overall public health system
3. Describe an optimal level of performance
4. Support a process of quality improvement

Core Public Health Functions and 10 Essential Public Health Services
The Essential Public Health Services

1. Monitor health status
2. Diagnose and investigate health problems
3. Inform, educate and empower people
4. Mobilize communities to address health problems
5. Develop policies and plans
6. Enforce laws and regulations
7. Link people to needed health services
8. Assure a competent workforce - public health and personal care
9. Evaluate health services
10. Conduct research for new innovations

Public Health System

All public, private, and voluntary entities that contribute to public health activities within a given area.

A broad set of public health system partners
Optimal Level of Service

The Performance Standards:
- set a benchmark for collection of entities that comprise a public health system
- describe an optimal level of performance rather than minimum expectations
- Establish a model to which public health systems can aspire

Discussion Among Partners:
- provides a better understanding of the collective performance
- identifies strengths, weaknesses and opportunities
- can facilitate informed, effective policy and resource decisions

Stimulate Quality Improvement

- Standards should result in identification of areas for improvement
- Link results to an improvement process
- NPHPS Local Instrument - used within the MAPP planning process for community health improvement
Scoring Performance Measures

Collectively, how well are we meeting this standard?

<table>
<thead>
<tr>
<th>Optimal (76-100%)</th>
<th>Greater than 75% of the activity described within the question is met.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Significant (51-75%)</td>
<td>Greater than 50%, but no more than 75% of the activity described within the question is met.</td>
</tr>
<tr>
<td>Moderate (26-50%)</td>
<td>Greater than 25%, but no more than 50% of the activity described within the question is met.</td>
</tr>
<tr>
<td>Minimal (1-25%)</td>
<td>Greater than zero, but no more than 25% of the activity described within the question is met.</td>
</tr>
<tr>
<td>No Activity (0%)</td>
<td>0% or absolutely no activity.</td>
</tr>
</tbody>
</table>

Scoring

Collectively, how well are we meeting this standard?

Awareness
Even if the work is occurring, do people know about it?

Involvement
Are public health services provided within the system in a coordinated and efficient manner?

Frequency
Is the service or activity completed routinely and according to best practice time-line standard?

Quality and Comprehensiveness
Is the service or activity provided based on evidence-based research? Are measurable process and outcome data available?
Is the service being provided in a comprehensive manner?

Utility
Is the activity in the question disseminated/dispersed statewide?
Is the activity spread among programs or does it vary widely among programs?
Are the results and information derived from public health assessment, research, evaluation and other activities used to improve public health?
LPHSA Tool — Summary Notes

Notes – Record ideas, cross-cutting issues or connections that you wish to follow-up on related to the Essential Service.

Framework for the Assessment

Your facilitator will facilitate open discussion of the essential service and model standards

- Will draw out different points of view
- Will gather ratings on system performance on each question
- Will keep the process moving!

Your role as a participant

- Be prepared to engage in discussion of collective performance of the system
- Actively listen to your colleagues
- Be prepared to come to consensus
Scoring Reminders

- Listen to your peers that are informing the collective voice.
- Your score is based on **how well the local public health system (collection of entities) meets the activities in the question.**
- Do **not** score based solely on your agency/organization's contribution or performance.
- Score based on the “collective” performance.

Essential Services Discussion Summary

**3 Minute Summary Report**

- What did you learn from the discussion about how this Essential Service is carried out in the County?

- Frame the “report out” in terms of...
  - System Strengths
  - System Weaknesses
  - Short-term Improvement Opportunities
  - Long-term Improvement Opportunities

- Were your previous opinions confirmed or were there surprises? How so?
Thank you for your participation.

The Illinois Public Health Institute provides coaching, facilitation and Technical Assistance with administering the LPHSA as well as many other assessment and planning components of the MAPP process. For TA, contact Laurie Call at the Center for Community Capacity Development at IPHI.

Contact Laurie at laurie.call@iphionline.org.

Departure Logistics

• Bathrooms are located hallway
• Lunch will be provided at 12:15pm in the Dining Room.
• Room assignments:

<table>
<thead>
<tr>
<th>Essential Service</th>
<th>Room Assignment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 and 2</td>
<td>Room A</td>
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<tr>
<td>3 and 4</td>
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<td>5 and 6</td>
<td>Room C</td>
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<td>7 and 9</td>
<td>Room D</td>
</tr>
<tr>
<td>8 and 10</td>
<td>Room E</td>
</tr>
</tbody>
</table>
Local Public Health System Report Out/ Closing

Laurie Call
Illinois Public Health Institute

Essential Services Discussion Summary

3 Minute Summary Report

• What did you learn from the discussion about how this Essential Service is carried out in the County?

• Frame the “report out” in terms of...
  • System Strengths
  • System Weaknesses
  • Short-term Improvement Opportunities
  • Long-term Improvement Opportunities

• Were your previous opinions confirmed or were there surprises? How so?
EPHS 1 - Monitor Health to Identify and Solve Community Health Problems

- Assessing, accurately and continually, the community’s health status
- Identifying threats to health
- Determining health service needs
- Paying attention to the health needs of groups that are at higher risk than the total population
- Identifying community assets and resources that support the public health system in promoting health and improving quality of life
- Using appropriate methods and technology to interpret and communicate data to diverse stakeholders
- Collaborating with other stakeholders, including private providers and health benefit plans, to manage multi sectorial integrated information systems.

What’s going on in our community?
Do we know how healthy we are?

EPHS 2 - Diagnose and Investigate Health Problems and Health Hazards in the Community

- Accessing a public health laboratory capable of conducting rapid screening and high-volume testing
- Establishing active infectious disease epidemiology programs
- Creating technical capacity for epidemiologic investigation of disease outbreaks and patterns of infectious and chronic diseases, injuries, and other adverse health behaviors and conditions.

Are we ready to respond to health problems or health hazards in our community?
How quickly do we find out about problems?
How effective is our response?
EPHS 3 - Inform, Educate, and Empower People About Health Issues

- Creating community development activities
- Establishing social marketing and targeted media public communication
- Providing accessible health information resources at community levels
- Collaborating with personal healthcare providers to reinforce health promotion messages and programs
- Working with joint health education programs with schools, churches, worksites and others

How well do we keep all segments of our community informed about health issues?

EPHS 4 - Mobilize Community Partnerships to Identify and Solve Health Problems

- Convoking and facilitating partnerships among groups and associations (including those not typically considered to be health related)
- Undertaking defined health improvement planning process and health projects, including preventive screening, rehabilitation and support programs
- Building a coalition to draw on the full range of potential human and material resources to improve community health

How well do we truly engage people in local health issues?
EPHS 5 - Develop Policies and Plans that Support Individual and Community Health Efforts

- Ensuring **leadership development** at all levels of public health
- Ensuring **systematic** community-level and state-level **planning** for **health improvement** in all jurisdictions
- Developing and tracking **measurable health objectives** from the CHIP as part of a continuous quality improvement plan
- Establishing **joint evaluation with the medical healthcare system** to define **consistent policies regarding prevention and treatment services.**
- Developing **policy and legislation** to guide the practice of public health.

What local policies in both the governments and private sector promote health in my community? How well are we setting healthy local policies?

EPHS 6 - Enforce Laws and Regulations that Protect Health and Ensure Safety

- Enforcing **sanitary codes**, especially in the food industry
- Protecting **drinking water** supplies
- Enforcing **clean air standards**
- Initiating **animal control** activities
- Following-up hazards, preventable injuries, and **exposure-related diseases** identified in occupational and community settings
- Monitoring **quality of medical services** (e.g. laboratories, nursing homes, and home healthcare providers)
- Reviewing **new drug, biologic and medical device applications**

When we enforce health regulations, are we technically competent, fair, and effective?
EPHS 7 - Link People to Needed Personal Health Services and Assure the Provision of Health Care when Otherwise Unavailable

- Ensuring effective entry for socially disadvantaged and other vulnerable persons into a coordinated system of clinical care
- Providing culturally and linguistically appropriate materials and staff to ensure linkage to service for special population groups
- Ensuring ongoing care management
- Ensuring transportation services
- Orchestrating targeted health education/promotion/disease prevention to vulnerable population groups

Are people in the community receiving the health services they need?

EPHS 9 - Evaluate Effectiveness, Accessibility, and Quality of Personal and Population-based Health Services

- Assessing program effectiveness through monitoring and evaluating implementation, outcomes, and effect
- Providing information necessary for allocating resources and reshaping programs

Are we meeting the needs of the population we serve?
Are doing things right?
Are we doing the right things?
EPHS 8 - Assure a Competent Public Health and Personal Healthcare Workforce

- Educating, training and assessing personnel (including volunteers and other lay community health workers) to meet community needs for public and personal health services
- Establishing efficient processes for professionals to acquire licensure
- Adopting continuous quality improvement and lifelong learning programs
- Establishing active partnerships with professional training programs to ensure community-relevant learning experiences for all students
- Continuing education in management and leadership development programs for those with administrative/executive roles.

Do we have a competent public health staff?
Do we have a competent healthcare staff?
How can we be sure that our staff stays current?

EPHS 10 - Research for New Insights and Innovative Solutions to Health Problems

- Establishing full continuum of innovation, ranging from practical field-based efforts to fostering change in public health practice to more academic efforts that encourage new directions in scientific research.
- Continually linking with institutions of higher learning and research
- Creating internal capacity to mount timely epidemiological analyses and conduct health services research.

Are we discovering and using new ways to get the job done?
Next Steps

RaeAnn VanGundy
Kendall County Health Department

KENDALL COUNTY
HEALTH DEPARTMENT

Next Steps in the MAPP Process

Community Planning Meeting
Engaging the community through meaningful dialogue about health and wellbeing importance to Kendall County residents

May 5, 2020
5pm-7pm

Think about...

Kendall County Health Department
811 W John St.
Yorkville IL 60560

We WANT to hear from YOU!

What are the health and wellbeing strengths/needs in your community?
Assessment Retreat Evaluation

- Please take a few minutes to complete the feedback form.

- We value your feedback and use it to improve.
Contact Information

RaeAnn VanGundy  
Operations Administrator
Kendall County Health Department
(630) 553-8064
rvangundy@co.kendall.il.us

Before you leave...

• Turn in the following items before you leave:
  1. A completed evaluation form.
  2. Your set of voting cards.
  3. Your name badge.
• Throw-away any trash.
• Help us reset breakout room(s).

thank you!
Local Public Health System Assessment (LPHSA)
Feb. 21, 2020 at Cross Lutheran Church

Salient Themes

**LPHSA Purpose:** Measures the capacity of the local public health system to conduct essential public health services.

**Strengths**

- There is **strong communication** between KCHD and other services such as; local law enforcement, municipalities, villages, and stakeholders.
- The Health Department **thoroughly understands** the law and ordinances and provides communities with education in regards to those mandates.
- There is plenty of **desire to improve** the local public health system.

**Opportunities**

- There is a **lack of collaboration** with agencies outside of Kendall County when conducting Emergency Preparedness drills.
- The Kendall County public health system **lacks a community platform** for all services/resources provided by different local organizations.
- As local health strategist, the **Board of Health needs to be more visible** to the community.
Community Planning Meeting
Engaging the community through meaningful dialogue about health and wellbeing importance to Kendall County residents

May 5, 2020
5pm-7pm

Think about...

Kendall County Health Department
811 W John St.
Yorkville IL 60560

We WANT to hear from YOU!

What are the health and wellbeing strengths/needs in your community?
Ethnographic Interviewing Guidance

Explicit Purpose.

“When an ethnographer and informant meet together for an interview, both realize that the talking is supposed to go somewhere. The informant only has a hazy idea about this purpose; the ethnographer must make it clear. Each time they meet it is necessary to remind the informant where the interview is to go. Because ethnographic interviews involve purpose and direction, they will tend to be more formal than friendly conversations. Without being authoritarian, the ethnographer gradually takes more control of the talking, directing it in those channels that lead to discovering the cultural knowledge of the informant (Ethnographic Interviews and Notes, Spradley 1979).”

Relevant Constructs
- Ethnographic
- Artifact
- Deductive
- Inductive
- Neutrality
- Qualitative
- Quantitative
- Recording
- Reflexivity
- Superstructure

Question Types
- Direct
- Example
- Experience
- Hypothetical
- Guided Tour

Interviewer Reliability

Substantive Contribution: Does this interview contribute to our understanding of health and well-being?
Aesthetic Merit: Is this purpose understood by the cultural other?
Reflexivity: Is the interviewer able to develop new questions that are relevant to the initial responses of the subject?
Impact: Does the response move me?
Expresses a Reality: Does the interview represent a credible account of a cultural, social, or individual perspective?
Kendall County Health Department
2020 Community Themes and Strengths Interview Questions

We are speaking with community members as a part of our 2020 Community Health assessment, we hope to gain understanding of community wellbeing needs and strengths through your insights:

Interviewee Age (Approximate) __________

Interviewee Gender (Observed) __________

Interviewee Race (Observed) ____________

What does socioeconomic wellbeing mean to you and what are some needs/strengths that you observe around you?

What does mental health wellness mean to you and what are some needs/strengths that you observe around you?

What does environmental health mean to you and what are some needs/strengths that you observe around you?

What does physical health mean to you and what are some needs/strengths that you observe around you?

What does resilience mean to you and what are some needs/strengths that you observe around you?

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COMMUNITY THEMES & STRENGTHS ASSESSMENT ETHNOGRAPHIC INTERVIEW EMERGENT THEMES

ETHNOGRAPHIC INTERVIEW EMERGENT THEMES

SOCIOECONOMIC:
- This means having financial resources to meet expenses, maintaining a household, needs change over time and tax relief is important.
- A couple of people mentioned the need for affordable housing as well as financial classes to increase financial stability (financial literacy) in the community. An increase in population may have an impact on this. Financial stability was mentioned as being a key component of socioeconomic well-being.
- Local transportation can be improved to help the community by providing the service to be more available and reliable.
- The community needs affordable housing or vouchers for housing to assist the homeless or families in danger of becoming homeless. There are very few living wage jobs in the community.

MENTAL:
- Having a good mental state able to deal with stress…faith, safe society, socialization and developing an understanding of others is important in this regard.
- Mental health services awareness: Multiple people spoke on making the community aware of what mental health is in order reduce stigma. As well as informing the community on what mental health services are offered.
- More mental health facilities: Multiple people spoke on the need for more mental health facilities due to hours, location and or long waiting list.
- Removing the Stigma from mental illness can be reached by providing programs for mental health issues, and more counseling resources in the community.
- There are few places for members in the community to receive professional mental health treatment that is affordable and easily accessible for adults.

ENVIRONMENTAL:
- Restaurant inspections and water testing is recognized as important, though there isn’t an indication that this is deficient at the moment. Clean air and clean open spaces is important and pollution is low.

PHYSICAL:
- Diet, exercise, living pain free are all important and we can also use a local hospital.
- Promoting physical activity & healthy eating: A number of people spoke on the need to promote physical activity and healthy eating in the community.
- Nutrition is important for physical health but there are not many places to receive nutrition education or to purchase healthy foods.
- Exercise is important for physical health and the community has parks and gyms available but the gyms could be more affordable.

RESILIENCE:
- Being able to cope with setbacks, strength, working together, but there are support systems in place (church, WIC, nature of the people, etc.)
- Also, one strength that was emergent was that overall Kendall County is a good community where people work together very well.
Community Themes and Strengths Assessment (CT&SA)
May 5, 2020
Focus Group via Zoom

Emergent and Salient Points Relevant to Community Wellness

CT&SA Purpose: Looks at quality of life, local assets and what is important to the residents of Kendall County.

Community Themes

⇒ Access to affordable housing to maintain financial stability.
⇒ Important to understand the stigma related to mental illness still exists.
⇒ Promote physical activity and healthy eating throughout the community.
⇒ Vector control and surveillance through tracking high risk areas and abatement of breeding sources is essential to contain the mosquito population and the transmission of their infectious diseases.
⇒ Targeted interventions assists parents and adolescents in a variety of settings should be implemented to reduce episodes of major depressive disorder.
⇒ Protect our environment by advocating for legislation and policies that improve the overall health of our communities in a balanced approach.
⇒ Managing stressors, affects the ability to care for one’s health, as well as, the health and wellbeing of the entire family.

Community Strengths

⇒ Kendall County is a good community where people work together very well.
⇒ Kendall County focuses interventions on promoting adolescents to modify their health behaviors and enhance their emotional and social skills.
⇒ Understanding and measuring post-traumatic growth those served.
⇒ Kendall County has strong vector control and surveillance programs in place.
⇒ Resilient County: being able to cope with setbacks, maintain personal strength, working together, all while there are support systems in place.
⇒ Kendall County understand the concepts and strengths of contact tracing as related to disease.
⇒ As education is an important protective factor, Kendall County has scholarships available.
Community Health Status Assessment Flyer

Itinerary

Date
Thursday August 20, 2020

Time
5:00 pm — 7:00 pm

Location
A Zoom video conference
You will be asked to provide an email address so that we may share with you a web-linked meeting invitation

To Register
Please contact Arissa by 8/19/20
630-553-9100, Ext. 8056

2021-2026
We present to you a Kendall County Community Health Status Assessment

Please accept this invitation to participate remotely, in the Kendall County Health Department’s 2016-2021 Community Health Plans’ Community Health Status Assessment

Thursday August 20, 2020 from 5:00 pm to 7:00 pm Via Zoom Video Conference

This presentation, given in partnership with Rush-Copley Medical Center and Northwestern Medicine, offers an opportunity to contribute to the health and well-being of your community!

Kendall County Health Department
811 W. John St.
Yorkville, IL 60560
630-553-9100

www.kendallhealth.org
2021-2026 Community Health Improvement Plan

Community Health Status Assessment

Presented to Community Partners
by the Kendall County Health Department
August 20, 2020

WELCOME

RaeAnn VanGundy, Executive Director

What Is a Community Health Improvement Plan (CHIP)?
• A long-term, systematic effort to address public health problems based on the results of community health assessment activities that include community input. Our Plan is updated five years.

Then what is a Community Health Assessment (CHA)?
• A systematic examination of the health status indicators for our community population used to identify key problems and assets in our community. The ultimate goal is to develop strategies to address the community’s health needs and identified issues.
Kendall County Health Department
2016-2020 Community Health Improvement Plan Completion Report
August 20, 2020

Complete health includes social well being, mental health, environmental health, and physical health. To this end, we aspire to educate, motivate, inspire, and empower citizens of Kendall County to make healthy choices.

Vision Statement (Kendall County Community MAPP Partners, 11/15)

Accessing Oral Health
Reducing Exposure to Lyme Disease
Addressing Senior Behavioral Health & Socio-economic Duress

Strategic Priorities (Kendall County Community MAPP Partners, 11/15)

INCREASING ACCESS TO ORAL HEALTH

96 children received fluoride treatments
450 preschoolers taught good oral health and nutrition practices
1470 new parents equipped with tips to care for baby’s teeth
307 third graders screened for and educated on oral health
Webpage promoting access to oral health care
Bilingual staff recertified to assist families access health care coverage

REDUCING EXPOSURE TO LYME DISEASE

138 blacklegged ticks collected from across the county, and 89 tested for Lyme Disease
47% of the ticks tested were found to carry this insidious disease-producing bacterium
42 visits to local physicians’ offices and veterinarians’ clinics, sharing tick surveillance data
2409 residents of all ages taught to recognize ticks and ways in which to avoid tick bites
Connecting Our Seniors to Socio-economic and Behavioral Health Supports

38 interactive presentations given to our elders at as many multi-unit housing complexes, spanning 7 towns

88% increase low-income seniors served by Community Action Services with socio-economic support and provided behavioral health resources

90 unit senior residence weatherized with cost-saving measures

Kendall County Interagency Council established

Connecting Our Seniors to Socio-economic and Behavioral Health Supports

220 served with eldercare and/or behavioral health supports, and enlightened on socio-economic health & well-being resources

11% increase in seniors served

90% of seniors receiving eldercare reported perceived increase in family support and connectedness

12 unique presentations, including: Recognizing and Addressing Senior Isolation; Preparing for End of Life Care; Dementia-Friendly Communities; Fostering Healthy Relationships; Depression Awareness; Addressing Hoarding; The Benefits of Counseling; Safe Medication Storage and Disposal

IPLAN 2021 - 2026 Timeline

November 6, 2019
Planning to plan with Steering Committee members.

May 5, 2020
Community Themes and Strengths Assessment looks at quality of life, local assets and what is important to the residents of Kendall County.

November 10, 2020
Forces of Change Assessment aims to identify trends, factors or events that effect quality of life and work in Kendall County.

February 21, 2020
Local Public Health System Assessment reviews components, activities, competencies and capacity of our local public health system.

August 20, 2020
Community Health Status Assessment looks at the health of Kendall County through data trends.

Action Cycle and Ongoing Implementation
This Action Cycle involves staff developing, implementing, and evaluating action plans to achieve outcome objectives to address selected priorities.
Rush University System for Health

Kendall County
Demographics & Utilization

Prepared for Kendall County Health Department

August 20, 2020
Claire Johnson
Manager, Planning & Business Development
Rush Copley Medical Medical Center

Demographic Highlights

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<th></th>
<th>Kendall County</th>
<th>IL</th>
<th>US</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total Population</strong></td>
<td>113,790</td>
<td>12,745,880</td>
<td>318,076,022</td>
</tr>
<tr>
<td><strong>Median Age</strong></td>
<td>37.0</td>
<td>18.6</td>
<td>37.8</td>
</tr>
<tr>
<td><strong>Median Income</strong></td>
<td>$70,711</td>
<td>$81,966</td>
<td>$67,796</td>
</tr>
<tr>
<td><strong>Unemployment Rate</strong></td>
<td>2.3%</td>
<td>3.6%</td>
<td>3.6%</td>
</tr>
</tbody>
</table>

- Approximately 114K residents live in the Kendall County area, which is projected to increase 6% in the next five years.
- Median age (35.4) is a few years younger than that of IL and the US.
- Median HHI income is $23-26K higher than the IL and US.
- Unemployment rate in Kendall County is trending lower than that of IL and the US.
- Approximately 20% of Kendall County’s population is Hispanic, which is slightly higher than the IL and US rates.

Source: American Board
### Inpatient Discharges – Leading Causes of Hospitalization

<table>
<thead>
<tr>
<th>IP Discharges by Major Disease Category</th>
<th>MAY 1</th>
<th>MAY 2</th>
<th>MAY 3</th>
<th>3-Year Change</th>
<th>5-Year Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>01 - FRESHBORN CHILDREN &amp; THE NEONATE</td>
<td>1,231</td>
<td>1,368</td>
<td>1,221</td>
<td>-15%</td>
<td>-17%</td>
</tr>
<tr>
<td>02 - INTEGUMENTARY SYSTEM &amp; JOHN FISHERS</td>
<td>378</td>
<td>418</td>
<td>345</td>
<td>+17%</td>
<td>+17%</td>
</tr>
<tr>
<td>03 - GASTROINTESTINAL SYSTEM</td>
<td>777</td>
<td>930</td>
<td>875</td>
<td>+21%</td>
<td>+16%</td>
</tr>
<tr>
<td>04 - RESPIRATORY SYSTEM</td>
<td>721</td>
<td>701</td>
<td>817</td>
<td>+11%</td>
<td>+13%</td>
</tr>
<tr>
<td>05 - MALE DISEASES &amp; EMBRYOS</td>
<td>687</td>
<td>685</td>
<td>604</td>
<td>-8%</td>
<td>-8%</td>
</tr>
<tr>
<td>06 - COMA MENTAL</td>
<td>524</td>
<td>570</td>
<td>470</td>
<td>+29%</td>
<td>+29%</td>
</tr>
<tr>
<td>10 - NERVOUS &amp; OTHER MUSC</td>
<td>565</td>
<td>522</td>
<td>541</td>
<td>-4%</td>
<td>-4%</td>
</tr>
<tr>
<td>11 - KIDNEY &amp; URINARY SYSTEM</td>
<td>599</td>
<td>529</td>
<td>564</td>
<td>-6%</td>
<td>-5%</td>
</tr>
<tr>
<td>13 - BONE &amp; JOINT DISORDERS</td>
<td>512</td>
<td>554</td>
<td>573</td>
<td>+19%</td>
<td>+12%</td>
</tr>
<tr>
<td>17 - INFECTIONAL SYSTEM &amp; INFECTIOUS</td>
<td>697</td>
<td>772</td>
<td>822</td>
<td>+7%</td>
<td>+7%</td>
</tr>
<tr>
<td>18 - NUTRITIONAL SYSTEM &amp; INFECTIOUS</td>
<td>677</td>
<td>797</td>
<td>869</td>
<td>+7%</td>
<td>+7%</td>
</tr>
<tr>
<td>19 - GASTROINTESTINAL SYSTEM</td>
<td>565</td>
<td>570</td>
<td>470</td>
<td>+29%</td>
<td>+29%</td>
</tr>
<tr>
<td>20 - RESPIRATORY SYSTEM</td>
<td>721</td>
<td>701</td>
<td>817</td>
<td>+11%</td>
<td>+13%</td>
</tr>
<tr>
<td>22 - NEONATE MENTAL &amp; OTHER MUSC</td>
<td>524</td>
<td>570</td>
<td>470</td>
<td>+29%</td>
<td>+29%</td>
</tr>
<tr>
<td>23 - INTEGUMENTARY SYSTEM &amp; JOHN FISHERS</td>
<td>378</td>
<td>418</td>
<td>345</td>
<td>+17%</td>
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<td>524</td>
<td>570</td>
<td>470</td>
<td>+29%</td>
<td>+29%</td>
</tr>
</tbody>
</table>

- **Inpatient hospitalizations have increased 2% over the last three years and last year.**

- Within the most recent year, the top diagnoses for these admissions were related to the following:
  - pregnancy & childbirth
  - joint replacement
  - heart failure
  - pneumonia
  - behavioral health
  - gastrointestinal

**Sources:** HACOM/Pease, 8/2021

**Notes:**
- Includes total IP discharges for patients originating from Harris County, excluding normal deliveries.
- **MAY** = Most Recent Year
- **OTHER** includes HCC with less than 10 discharges in HACOM.
- Data for Harris County indicates the following:
  - neonate males with largest number of the population reside in Harris County: 93,672 (Black); 93,030 (White); 93,411 (African); 95,459 (Other); 92,451 (Hispanic); 90,395 (Asian); 92,451 (Hispanic; 90,395 (Asian); 92,451 (Hispanic); 90,395 (Asian); 92,451 (Hispanic).
Environmental Health Services

2021-2026 Community Health Improvement Plan
Community Health Status Assessment
Presented by Aaron Rybski

Health Indicators

- Ticks and Tickborne Diseases
- Ground Water Depletion
- Radon Gas
- Solid Waste Issues
**Ticks and Tickborne Diseases**

- The number of counties in Illinois with an incidence of ≥10 confirmed cases of Lyme Disease per 100,000 persons increased from **324** in 2008 to **415** in 2018.
  - This is a 22% increase in 10 years.
- In 2019 there were 40 ticks collected in Kendall County:
  - 35% Dog ticks
  - 65% Deer ticks
- Underreporting as an issue
  - The CDC estimates that per 100,000 cases of reported Lyme Disease that they are off from about a factor of 100.
- Outpatient incidence of Lyme Disease was highest among:
  - Boys 5–9 years of age
  - Persons of both sexes 60–64 years of age

**Lyme Disease Cases, Humans**

*Kendall County*

(Source: IDES and Reports thru 10/3/16)

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**Ticks and Tickborne Diseases**

- 2 Lone Star ticks carrying the Heartland virus detected in Kankakee County and Williamson County:
  - First case in 2018 in Kankakee
  - Second case in 2020 in Williamson
- Emerging pathogen in Illinois that has not been detected since 1999

"And with COVID-19 on the collective mind, a tick-borne viral infection could be overlooked, especially in cases where a tick bite was missed." —Holly Tuten, vector ecologist
Ground Water Depletion

- It has been predicted that Joliet has the potential to run out of water within the next 10 years unless changes are made.
- It has been predicted that due to water being over pumped, Kendall County can expect major well failure by 2050.
- Studies suggest that aquifer withdrawals in Kendall County should be reduced by at least 40%-50% to ensure adequate water for that region long-term.
- Reported as of 2005, in Kendall County the water levels in the aquifer system have declined by as much as 600 feet.
- In the last 18 years at least 60 wells have run dry and required deepening in Kendall County.
  - 32 of those ran dry between 2005-2006 during major population growth.
  - Major drought in the summer of 2005 was another contributing factor.

Radon Gas in Homes

- 47% of results generated by tests in Kendall County were found to exceed the USEPA action level of 4.0 pCi/L.
- The EPA estimates that 21,000 lung cancer deaths per year are related to breathing radon gas.
- U.S. average radon-in-air level in single family homes is 1.3 pCi/L.
  - If exposed to 4pCi/L of radon over a lifetime and you DO smoke, out of 1,000 people, about 62 could get lung cancer.
  - If exposed to 4pCi/L of radon over a lifetime and you DO NOT smoke, out of 1,000 people, about 7 could get lung cancer.
Solid Waste Problems and impacts

- Global impacts
  - Materials are shipping all over the world with hazardous materials making it’s way to developing countries.
- Recycling contamination
  - The Kendall County Recycling rate has been between 27 and 30% from 2015-2019.
  - US is large exporter of recyclables and contamination in this waste has risen.
  - Chinese sword prohibited contaminated recyclables
- Recycling electronics
  - Lifespans of devices are short
  - Devices are not allowed in landfills
  - Consumer Electronics Recycling Act

Assets and Barriers

**Assets**

- Knowledgeable and dedicated staff
- Grants to fund water, radon, and tick surveillance programs
- Collaborations with Illinois water survey and Illinois state and county municipal solid waste association
- Well permits and well logs
- Well contractors, radon testers and mitigators, solid waste haulers and other experts
- Radon mitigators and testers
- Ability to have a means for data collection
- Selling kits to people in the community and then receiving their data
- Local haulers provide solid waste data, IEEMA is a source for radon data

**Barriers**

- Lack of time and outside support since we are leading new programs (specifically in Ticks)
- Lack of funding to run bigger projects (i.e. advertising campaign)
- Lack of funding to run large ads in order to reach and education a wider audience
- Lack of water
- Private water labs aren’t obligated to provide us with information
- Gaining permission to test private wells
- Lack of data or accurate data from radon tests done by homeowners
- Changing face of solid waste makes it hard for the public to keep up
WEST NILE VIRUS

- According to the CDC, West Nile Virus is still the leading cause of mosquito borne disease in the United States and there are no vaccines or medications to treat WNV in people.
- Also according to the CDC, 1 in 5 people infected develop fever and other symptoms while 1 in 150 develop serious, sometimes fatal illness.
- According to KCHD, in 2018, Kendall County saw 45 positive mosquito batches, 2019 saw 8 and 2020 saw 8 positive.

ILLINOIS HUMAN CASES OF WNV

ILLINOIS POSITIVE MOSQUITO BATCHES

Resources

COMMUNITY ACTION SERVICES

2016-2021 COMMUNITY HEALTH IMPROVEMENT PLAN
COMMUNITY HEALTH STATUS ASSESSMENT

Presented by: Diane Alford

HEALTH INDICATORS

- Poverty
- Homeless Population
- Housing
- Income
- Unemployment
POVERTY

- The poverty rate for Kendall County is 5.32% and for Grundy County the poverty rate 8.79%

Poverty Rate (ACS)

The following report section shows population estimates for all persons in poverty for the report area. According to the American Community Survey (ACS) 5-year estimates, an average of 6.32% of all persons lived in a state of poverty during the 2014 - 2019 period. The poverty rate for all persons living in the report area is less than the national average of 14.05%.

<table>
<thead>
<tr>
<th>Report Area</th>
<th>Total Population</th>
<th>Population in Poverty</th>
<th>Population in Poverty, Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Report Location</td>
<td>173,952</td>
<td>10,987</td>
<td>6.32%</td>
</tr>
<tr>
<td>Grundy County, IL</td>
<td>49,943</td>
<td>4,369</td>
<td>8.79%</td>
</tr>
<tr>
<td>Kendall County, IL</td>
<td>124,009</td>
<td>6,598</td>
<td>5.32%</td>
</tr>
<tr>
<td>Illinois</td>
<td>12,523,283</td>
<td>1,835,603</td>
<td>13.06%</td>
</tr>
<tr>
<td>United States</td>
<td>314,943,184</td>
<td>44,257,979</td>
<td>14.05%</td>
</tr>
</tbody>
</table>

Note: This indicator is compared to the state average.


---

POVERTY

- The Child Poverty Rate for Kendall is 5.8% and for Grundy is 10.3%
- The Seniors in Poverty Rate for Kendall is 6.3% and for Grundy is 9.8%
HOMELESS POPULATION

KENDALL COUNTY PADS
- The Kendall County PADS 2019 season served 44 guests and had a total of 1190 overnight stays
- The Kendall County PADS 2020 season served 54 guests

GRUNDY COUNTY PADS
- The Grundy County PADS 2019 season served 85 guests and had a total of 2364 overnight stays
- The Grundy County PADS 2020 season served 57 guests
- For 2020, both PADS closed in mid-March due to COVID-19

HOUSING
- The 2-bedroom Fair Market Rent for Kendall County is $1240
- The 2-bedroom Fair Market Rent for Grundy County is $1158

<table>
<thead>
<tr>
<th>MOST EXPENSIVE AREAS</th>
<th>HOUSING WAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chicago-Joliet-Naperville HMFA</td>
<td>$24.00</td>
</tr>
<tr>
<td>Kendall County</td>
<td>$23.85</td>
</tr>
<tr>
<td>Grundy County</td>
<td>$22.27</td>
</tr>
<tr>
<td>DeKalb County</td>
<td>$19.15</td>
</tr>
<tr>
<td>Kankakee County</td>
<td>$17.54</td>
</tr>
</tbody>
</table>
HOUSING - FORECLOSURE

- Kendall County foreclosure rate: 1 in every 802 houses
- Grundy County foreclosure rate: 1 in every 9308 houses

- Kendall County has the highest foreclosure rate in the state of Illinois and is number 5 in the nation

INCOME

Household Income

Median annual household incomes in the report area for 2018 are shown in the table below. Since this reports a median amount, a "Report Area" value is not able to be calculated.

<table>
<thead>
<tr>
<th>Report Area</th>
<th>Estimated Population</th>
<th>Median Household Income</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grundy County, IL</td>
<td>50,509</td>
<td>$79,348</td>
</tr>
<tr>
<td>Kendall County, IL</td>
<td>124,626</td>
<td>$93,345</td>
</tr>
<tr>
<td>Illinois</td>
<td>12,621,497</td>
<td>$68,063</td>
</tr>
<tr>
<td>United States</td>
<td>322,903,030</td>
<td>$61,937</td>
</tr>
</tbody>
</table>

UNEMPLOYMENT
Illinois Unemployment Rate by County
May 2020 – Not Seasonally Adjusted
IL Dept. of Employment Security, Economic Information & Analysis Division

For 2019, Kendall’s unemployment rate was 3.1% while Grundy’s was 4.1%

For 2020, Kendall and Grundy County have an unemployment rate of 13.8%

CLIENT COMMENTS FROM SURVEYS

- I have no problem finding a job. I have skills and education. I have problems finding a permanent full time job. I find a job and its temporary part time or temporary full time or it’s a contract job. I am good for a little while and I get laid off. Then I go back on unemployment and the cycle continues. I just want a job I can stay at but those jobs with benefits are getting hard for me to find. Unless I want to be a fork lift driver working third shift at some warehouse. There are tons of those jobs but then who can I find to watch my kids? Or a school bus driver. Lots of those jobs but then again very low paying and temporary.

- I can’t find a dentist that takes Medicaid unless I drive really far away. My teeth hurt always and I probably need dentures. I just have more important concerns right now like getting to work and childcare paying my bills and having a roof over my kids heads. I just take pain pills and try to get through it.

- I think the wages of jobs are starting to increase slowly in some places. The workforce is changing. But every job needs experience of some years, or a certificate, or a degree or really where are the entry level jobs where they trained you for the job? Instead those jobs want you all trained up at some fancy for profit school before you even start and that costs money. No one can just walk in and apply for a job anymore.

- I need to get food for me and my kids but I work and can never get to the food pantries in time. Sometimes I have my mom stand in line for me until I can get there but it sometimes doesn’t work out. I wish they would give food out on weekends or more than one day. Sometimes the food they give me really don’t know what to do with. I get three heads of lettuce and some cauliflower. What am I supposed to do with that? They give me some herbs but what the hell am I supposed to do with these herbs?

- When you are in the store, look at the fruit and chips. Your fruit is the better snack but it’s too expensive and chips will fill up my kids better and longer. Fast food is cheaper and faster. My kids like sausage sandwiches which are cheaper at McDonalds. A four pack of those sandwiches at Wal-Mart are like eight bucks.

- I can use my food stamps when I need and want things for me and my baby. I don’t have time to get to WIC appointments and sit through education stuff. It costs me money in gas to get there and their hours suck. It’s a burden.
**Assets and Barriers**

- Continuum of Care
- Interagency Council
- DCEO Funding
- One Stop Shops
- Salvation Army
- Utility Partnerships
- Advisory Boards
- Workforce Development
- Local University Partnerships

- Lack of funding for client assistance
- Lack of funding for staff
- PADS shelter future unknown
- Lack of funding for technology and informatics
- 2nd Lowest funded agency in the state of Illinois.

**Resources**

BEHAVIORAL HEALTH SERVICES
2021-2026 COMMUNITY HEALTH IMPROVEMENT PLAN
COMMUNITY HEALTH STATUS ASSESSMENT
Presented by Jason Andrade

Effectiveness 2016 – 2021 IPLAN

Goals

- By 2021, assess 100% of the seniors utilizing KCHD for their needs as related to mental health and substance abuse, social isolation, and financial stability.

- By 2021, 100% of seniors served in Behavioral Health Services to be provided with CAS services and opportunities to help improve financial stability.

- By 2021, increase the numbers of seniors accessing mental health and socio-economic services by a minimum of 10%.

Outcomes

- We have assessed 100% of the seniors served for their specific needs related to mental health and substance use, social isolation, and financial stability and connected them to care – resulting in increased access to Behavioral Health and Community Action Services.

- 100% of seniors served in Transitions Services provided with education and referral opportunity to diverse financial stability supports in Community Action.

- Behavioral Health Supports received by seniors increased by 11%.
2016 – 2021 IPLAN Summary

- 30+ educational presentations made to seniors/senior providers on diverse behavioral health and wellbeing topics – intent always to promote access to services.
- Assisted in development and provision of mental health day event at Oswego Senior Center; four KCHD staff provided education to seniors on depression, schizophrenia, the counseling process, mindfulness, and resilience.
- Senior support group developed and implemented to increase social cohesion and connectedness. A phone tree was developed to encourage checking on peers wellbeing.
- Created opportunity for seniors to collectively attend social outing – resulted in increased socialization and community access.
- Increased group opportunities for seniors around behavioral health and well being at Kendall County Senior Centers.
- Prepared and delivered community education on the importance of social connectedness and longevity/happiness in life to community members and Rush-Copley Medical Center resident physicians.
- Increased family participation in Transitions services at KCHD.
- Increased access to behavioral health and financial stability services.

Health Indicators

- Mental health awareness
- Youth anxiety
- Suicide
- Depression
- Opioids
Mental Health Awareness

Barriers to care:
- Lack of insurance/underinsured
- Mental illness stigma among minority populations
- Lack of diversity or cultural competency among mental health care providers
- Language
- Distrust in the health care system

- In 2020, 16% of adults in Illinois reported having some form of mental illness.
- In 2020, of those adults in Illinois that reported having some form of mental illness, 55.7% of them did not receive treatment.
- In 2018, Kendall County mental health providers saw an average of 1,235 patients.

Figure 39. Reported 4 or More Adverse Childhood Experiences by Race in Illinois, 2013

<table>
<thead>
<tr>
<th>Race</th>
<th>Total Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>13.7</td>
</tr>
<tr>
<td>Black</td>
<td>18.5</td>
</tr>
<tr>
<td>Others</td>
<td>7.7</td>
</tr>
</tbody>
</table>


Mental Health Awareness

<table>
<thead>
<tr>
<th>Report Area</th>
<th>Total Institutional Providers</th>
<th>Hospitals</th>
<th>Nursing Facilities</th>
<th>Federally Qualified Health Centers</th>
<th>Rural Health Clinics</th>
<th>Community Mental Health Centers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kendall</td>
<td>7</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Illinois</td>
<td>3,135</td>
<td>243</td>
<td>725</td>
<td>391</td>
<td>235</td>
<td>2</td>
</tr>
<tr>
<td>USA</td>
<td>74,721</td>
<td>7,072</td>
<td>15,491</td>
<td>9,215</td>
<td>4,455</td>
<td>125</td>
</tr>
</tbody>
</table>

Data Source: US Department of Health & Human Services, Table 7: Health and Human Services Activity, Provision of Services, December 2010.
### Suicide

- The age-adjusted suicide rate in the United States in 2017 (14.0 per 100,000 standard population) was 33% higher than the rate in 1999.
- In 2018 suicide was the 8th leading cause of death in Kendall County.
- Compared to being the 10th leading cause in 2017.
- In 2019 Kendall County had 12 suicides with 16% being females and 83% being males.

<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Kendall County, IL</td>
<td>121,386</td>
<td>32</td>
<td>15.1</td>
<td>26.48</td>
</tr>
<tr>
<td>Illinois</td>
<td>12,852,969</td>
<td>4,450</td>
<td>24.5</td>
<td>34.6</td>
</tr>
<tr>
<td>United States</td>
<td>318,879,623</td>
<td>129,605</td>
<td>28.9</td>
<td>40.67</td>
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</tbody>
</table>

**Note:** This indicator is compared to the state average.
Depression

- Between the years of 2015-2019, 18.4% of the Kendall County population was told that they had a depressive disorder
  - This is a 65% increase from the previous rate of 11.1% between the years of 2010-2014

- In 2018, 17.7% of individuals in Illinois were told that they had some form of depression
  - Of that 17.7%, 13.3% were male and 21.9% were female
  - Of that 17.7%, 21.7% were 18-24 years old and 24.1% were 35-34 years old
  - Of that 17.7%, 32.2% were multi-racial non-Hispanic and 19% were white non-Hispanic

- Nationally, in 2018, 19.6% of the population was told that they had some form of depression

Opioids

- 48% of parents or guardians of 6th graders within Kendall County in the past year did not talk about using opioids for non-medical reasons

- 560 Kendall County deaths in 2017, of which 17 Drug-Induced Deaths, 14 involved
  Opioids
  - 3% of Kendall’s deaths were drug-induced, of which 82% involved opioids

- 598 Kendall County deaths in 2018, of which 19 drug-related, 15 involved opioids
  - 3.2% of Kendall’s deaths were drug-related, of which 79% involved opioids

- 109,726 Illinois deaths in 2017, of which 2779 were drug-induced deaths, 2202 involved opioids
  - 2.5% of Illinois’ deaths were drug-induced, of which 79% involved opioids

- 110,012 Illinois deaths in 2018, of which 2,722 were drug-related, 2,167 involved opioids
  - 2.5% of Illinois’ deaths were drug-related 80% involved opioids
Assets and Barriers

Assets
- Deep community partnerships.
- Access to diverse populations.
- Bilingual interventions – English and Spanish.
- Strong presence in Kendall County Schools.
- Highly credentialed and dedicated behavioral health staff.
- Multiple office locations throughout county (KCHD, OPD, PPD, Kendall County Jail).

Barriers
- Seeming lack of awareness of services offered.
- Funding threats
- COVID-19 parameters in community
- Staff access to resources while working remotely

Resources


Community Health Services

2021-2026 COMMUNITY HEALTH IMPROVEMENT PLAN
COMMUNITY HEALTH STATUS ASSESSMENT
PRESENTED BY TERRI OLSON RN BSN

HEALTH INDICATORS

- Chronic Disease
- Sexually Transmitted Diseases
- Tuberculosis- Latent to Active
- Vaccine Hesitation
CHRONIC DISEASE

Six in ten adults in the US have a chronic disease and four in ten adults have two or more.

- Chronic diseases are defined broadly as conditions that last 1 year or more and require ongoing medical attention or limit activities of daily living or both.
- Chronic diseases such as Heart Disease, Cancer, and Diabetes are the leading causes of death and disability in the United States, and are also leading drivers of the nation’s $3.5 trillion in annual health care costs.

Heart Disease:
- More than 859,000 Americans die of heart disease, stroke, or other cardiovascular diseases every year—that’s one-third of all US deaths.
- These diseases also take an economic toll, costing $213.8 billion a year to our health care system and causing $137.4 billion in lost productivity from premature death alone.

Heart Disease Mortality
Illinois Deaths: 25,755  Death Rate: 163.9

Centers for Disease Control and Prevention, National Center for Health Statistics 2018  https://www.cdc.gov/.../heart_disease.htm
**Diabetes:**

- Is a serious chronic disease that poses a major health problem. Nearly 30.3 million people in the United States (9.4% of the population) have diabetes. About one-third of these people do not know they have diabetes.

- Each year, 1.5 million new cases of diabetes are diagnosed in people aged 20 years and older.

- In Illinois, approximately 1.3 million (12.5% of the population) adults have diabetes, but roughly 341,000 of those don't know they have diabetes. It is estimated that about 3.6 million people in Illinois have prediabetes.

- Diabetes is the seventh leading cause of death nationally and in Illinois.

- Persons with diabetes may suffer from complications such as heart disease, vision loss, and amputations.

- The burden of diabetes is highest among minority populations, such as African Americans, Hispanics/Latino Americans, American Indians or American Natives, and Asian Americans and Pacific Islanders.

**Cancer:**

Each year in the United States, more than 1.6 million people are diagnosed with cancer, and nearly 600,000 die from it, making it the second leading cause of death. The cost of cancer care continues to rise and is expected to reach almost $174 billion by 2020.

**FIVE YEAR Cancer Incident Counts and Age-adjusted Rates per 100,000 (US 2000Std) with 95% Confidence interval**

<table>
<thead>
<tr>
<th>YEAR</th>
<th>RACE</th>
<th>STATE/ COUNTY</th>
<th>SITES</th>
<th>MALE</th>
<th>MALE RATE</th>
<th>FEMALE</th>
<th>FEMALE RATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013-2017</td>
<td>All Races</td>
<td>Illinois</td>
<td>All Cancer combined</td>
<td>169,222</td>
<td>504.2</td>
<td>173,288</td>
<td>442.0</td>
</tr>
<tr>
<td>2013-2017</td>
<td>All Races</td>
<td>Kendall</td>
<td>All Cancer combined</td>
<td>1,305</td>
<td>556.4</td>
<td>1,340</td>
<td>472.7</td>
</tr>
</tbody>
</table>

STD/STI

Sexually transmitted diseases (STDs) or sexually transmitted infections (STIs) are generally acquired by sexual contact. The organisms (bacteria, viruses or parasites) that cause sexually transmitted diseases may pass from person to person in blood, semen, or vaginal and other bodily fluids.

STD DIAGNOSES AMONG KEY U.S. POPULATIONS, FIVE-YEAR TRENDS

<table>
<thead>
<tr>
<th></th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Chlamydia</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Almost young women</td>
<td>1,442,099</td>
<td>1,503,874</td>
<td>1,598,334</td>
<td>1,605,165</td>
<td>1,735,435</td>
</tr>
<tr>
<td>(aged 15-24)</td>
<td>1,442,099</td>
<td>1,503,874</td>
<td>1,598,334</td>
<td>1,605,165</td>
<td>1,735,435</td>
</tr>
<tr>
<td>Among women</td>
<td>625,375</td>
<td>685,339</td>
<td>723,027</td>
<td>771,348</td>
<td>729,367</td>
</tr>
<tr>
<td>Syphilis</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary &amp; secondary</td>
<td>315,042</td>
<td>315,216</td>
<td>468,514</td>
<td>555,608</td>
<td>583,405</td>
</tr>
<tr>
<td>Syphilis</td>
<td>62,454</td>
<td>74,707</td>
<td>88,035</td>
<td>101,584</td>
<td>115,045</td>
</tr>
<tr>
<td>Among men</td>
<td>186,943</td>
<td>221,078</td>
<td>270,503</td>
<td>322,368</td>
<td>341,480</td>
</tr>
<tr>
<td>Syphilis</td>
<td>13,226</td>
<td>14,229</td>
<td>16,149</td>
<td>17,736</td>
<td>18,760</td>
</tr>
<tr>
<td>Combined cases</td>
<td>1,855,305</td>
<td>1,996,581</td>
<td>2,154,821</td>
<td>2,365,761</td>
<td>2,857,111</td>
</tr>
</tbody>
</table>

*Primary & secondary syphilis among men who have sex with men

For more information, visit
[cdc.gov/ncbhirp/newsroom](https://cdc.gov/ncbhirp/newsroom)

Reportable Sexually Transmitted Diseases

KENDALL COUNTY

**Chlamydia**

<table>
<thead>
<tr>
<th>Year</th>
<th>USA</th>
<th>Illinois</th>
<th>Kendall County</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>1,401,906</td>
<td>63,797</td>
<td>223</td>
</tr>
<tr>
<td>2014</td>
<td>1,441,789</td>
<td>66,536</td>
<td>262</td>
</tr>
<tr>
<td>2015</td>
<td>1,526,658</td>
<td>69,610</td>
<td>294</td>
</tr>
<tr>
<td>2016</td>
<td>1,598,354</td>
<td>72,201</td>
<td>364</td>
</tr>
<tr>
<td>2017</td>
<td>1,708,569</td>
<td>75,518</td>
<td>412</td>
</tr>
<tr>
<td>2018</td>
<td>1,758,668</td>
<td>77,325</td>
<td>431</td>
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</tbody>
</table>

**Gonorrhea**

<table>
<thead>
<tr>
<th>Year</th>
<th>USA</th>
<th>Illinois</th>
<th>Kendall</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>1,401,906</td>
<td>63,797</td>
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<tr>
<td>2018</td>
<td>1,758,668</td>
<td>77,325</td>
<td>431</td>
</tr>
</tbody>
</table>

TB remains one of the top 10 causes of death worldwide.

https://www.who.int/tb/global-report-2019
KENDALL COUNTY STATS FOR 2020 to date - 8/18/20

- There are a total 23 cases of TB on file to date in Kendall County. 2 Active case and 21 Latent cases.
- 5 Direct Observational Therapy Treatment plans - 7 LTBI receiving treatment through their PCP (still follow labs up to completion of treatment), and 6 not receiving LTBI treatment (r/t other comorbidities/medications).
- 3 expired with DX of COVID 19 & LTBI HX.
- 11 female and 12 male clients
- Ages range from 15 to 75 years of age
- All require tracking of labs and treatment and were recorded in the INEDSS system.
- 14 of the 23 have traveled to other countries within the last year.

Global Facts
Vaccine Hesitancy

Vaccine hesitancy was named a top 10 global health threat by the World Health Organization this year. By this April, measles cases had risen 300%. In its decision to call vaccine hesitancy a global health threat, the WHO attributed the virus’s rise, in part, to people declining or delaying vaccines. From January 1 to September 5, 2019, 1,241 individual cases of measles have been confirmed in 31 states. This is an increase of 7 cases from the previous week. This is the greatest number of cases reported in the U.S. since 1992 and since measles was declared eliminated from the U.S. in 2000.

Measles Cases

The 31 states that have reported cases to CDC are Alaska, Arizona, California, Colorado, Connecticut, Florida, Georgia, Hawaii, Idaho, Illinois, Indiana, Iowa, Kentucky, Maine, Maryland, Massachusetts, Michigan, Missouri, New Mexico, Nevada, New Hampshire, New Jersey, New York, Ohio, Oklahoma, Oregon, Pennsylvania, Texas, Tennessee, Virginia, and Washington.
Access additional information about U.S. measles cases in 2019 on CDC’s Measles Cases and Outbreaks web page.
Vaccine Hesitancy

The World Health Organization reported this year that "vaccine hesitancy" is now among the 10 leading global health threats. "Vaccine Hesitancy" Fuels Outbreaks January 23, 2019 the list of its top ten priorities for 2019.

IN 2018, THE U.S. EXPERIENCED
- 349 confirmed measles cases
- 17 measles outbreaks

AMONG MEASLES PATIENTS:
- 1 in 4 will be hospitalized
- 1 in 1,000 will develop encephalitis
- 1 to 2 in 1,000 will die

DON'T WAIT... VACCINATE!

Cases of measles since 1950
Measles on the rise this decade

Hepatitis A Outbreak in Illinois:
2018-to-date

- The Illinois Department of Public Health (IDPH) declared a statewide community outbreak in December 2018 after observing an increase in person-to-person transmitted Hepatitis A cases.
- As of September 4, 2019, IDPH is reporting a Hepatitis A outbreak comprised of 154 confirmed cases that are not associated with international travel and are not foodborne related.
- Several of these cases are among individuals at high risk for infection—including men who have sex with men (MSM).
- The statewide community outbreak is spread through person-to-person contact.
Illinois Hepatitis A Outbreak Cases
as of September 4, 2019

<table>
<thead>
<tr>
<th>Number of Cases</th>
<th>154</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demographics</td>
<td></td>
</tr>
<tr>
<td>Age Range</td>
<td>4-96</td>
</tr>
<tr>
<td>Average Age</td>
<td>40</td>
</tr>
<tr>
<td>Median Age</td>
<td>35</td>
</tr>
</tbody>
</table>
| Male            | 99  (64.3%)
| Female          | 55  (35.7%)
| Hospitalizations| 101 (65.8%)
| Deaths          | 1   (0.7%)
| Onset Date Range| 09/04/2018 - 08/14/2019 |

ASSETS & BARRIERS

ASSETS

- Advisory Board
- Community and State Partner Support
- Educated Staff
- Grant Support
- Educational/Training support through CDC/IDPH

BARRIERS

- Access to data r/t to rural areas
- Lack of access to providers in area
- Lack of awareness and education
- Lack of funding r/t community size
- Lack of support services in local area
- Religious Beliefs
- Inadequate Transportation Systems
- Risky Behaviors
Thank you for your time and attention......

Your questions, input and feedback valued!
Kendall County Health Department

Forces of Change Assessment

The Kendall County Health Department will be hosting the Forces of Change Assessment to help drive goals and focuses for the future. During this assessment we will create a vision statement and look at Forces of Change (trends, factors, and events outside of your control) for our community.

June 10th, 2021 | 5:00 – 7:00 pm
Kendall County Health Department
811 W. John Street, Yorkville, IL 60560

Seating is limited. To RSVP, please contact Arissa Hunt at awhunt@co.kendall.il.us or 630.553.8056
Forces of Change Assessment
Visioning and Strategy Identification Dialogue
June 10, 2021

Kendall County IPLAN Overview

RaeAnn VanGundy
Kendall County Health Department
Executive Director
10 Essential Public Health Services

1. Monitor health status to identify community health problems.
2. Diagnose and investigate health problems and health hazards in the community.
3. Inform, educate and empower people about health issues.
4. Mobilize community partnerships to identify and solve health problems.
5. Develop policies and plans that support individual and community health efforts.
6. Enforce laws and regulations that protect health and ensure safety.
7. Link people to needed personal health services and assure the provision of health care when otherwise unavailable.
8. Assure a competent public health and personal health care workforce.
9. Evaluate effectiveness, accessibility, and quality of personal and population-based health services.
10. Research for new insights and innovative solutions to health problems.

Mobilizing for Action through Planning and Partnerships (MAPP) Process

A community-wide strategic planning tool for improving community health.
Community Health Improvement Plan (CHIP)

- MAPP process aids in the development of the new Community Health Improvement Plan (CHIP)
- CHIP is the community’s 5-year plan for improving community health and quality of life

Collaboration for Community Health

Cross-sector collaboration can help us:

- Implement comprehensive strategies
- Align efforts
- Avoid duplication
- Increase efficiencies
Local Public Health System Assessment

Salient Themes

Strengths
- There is strong communication between KCHD and other services such as: local law enforcement, municipalities, villages, and stakeholders.
- The Health Department thoroughly understands the law and ordinances and provides communities with education in regards to those mandates.
- There is plenty of desire to improve the local public health system.

Opportunities
- There is a lack of collaboration with agencies outside of Kendall County when conducting Emergency Preparedness drills.
- The Kendall County public health system lacks a community platform for all services/resources provided by different local organizations.
- As local health strategist, the Board of Health needs to be more visible to the community.

Community Themes and Strengths Assessment

Community Themes
- Access to affordable housing to maintain financial stability.
- It is important to understand the stigma related to mental illness still exists.
- Promote physical activity and healthy eating throughout the community.
- Vector control and surveillance through tracking high risk areas and abatement of breeding sources is essential to contain the mosquito population and the transmission of their infectious diseases.
- Targeted interventions assists parents and adolescents in a variety of settings should be implemented to reduce episodes of major depressive disorder.
- Protect our environment by advocating for legislation and policies that improve the overall health of our communities in a balanced approach.
- Managing stressors, affects the ability to care for one's health as well as, the health and well being of the entire family.

Community Strengths
- Kendall County is a good community where people work together very well.
- Kendall County focuses interventions on promoting adolescents to modify their health behaviors and enhance their emotional and social skills.
- Understanding and measuring post-traumatic growth those served.
- Kendall County has strong vector control and surveillance programs in place.
- Resilient County: being able to cope with setbacks, maintain personal strength, working together all while there are support systems in place.
- Kendall County understand the concepts and strengths of contact tracing as related to disease.
- As education is an important protective factor, Kendall County has scholarships available.
Community Health Status Assessment

Health status indicators identified and discussed with our community in August, 2020 included:

- Tick-borne Diseases
- Surround Water Reservoirs
- Radon Gas
- Solid Waste Facilities
- Poverty
- Homeless Population
- Housing
- Income
- Unemployment
- Mental Health Awareness
- Youth Anxiety
- Depression/Suicide
- Opioids
- Chronic Disease
- STDs
- Tuberculosis
- Vaccine Hesitation

Forces of Change Assessment

Factors that directly or indirectly affect health and the health of Kendall County
Forces of Change Assessment

Objectives:

- Identify trends, factors, and events that are or will be influencing the health and quality of life of the community and the local public health system.
- Identify challenges or opportunities generated by key forces.
- Bring partners together on common ground to collaboratively address changes.

Forces of Change

Social, Economical, Political, Technological, Environmental, Scientific Legal and Ethical.
### Brainstorming Worksheet Results from Small Group Discussions in September 2020

#### Community Action Advisory Board
- Closing of Dresden
- Social Isolation for All
- Shelters Shut Down
- Mental Health Issues
- Affordable Housing
- Learning Environments
- Lasting Effects from COVID
- Decreased Fundraising Efforts

#### Mental Health Advisory Board
- Mental Health Concerns due to COVID
- Decrease in Psych Hospital Rooms
- Future of Telehealth
- Child Welfare during COVID
- Stress on Stress
- Distrust of Government
- Ability for schools to Assess/Support
- Increased Trauma

#### Environmental Health Advisory Board
- Restaurants Serving Outdoors
- Re-Opening Schools
- Long-Term PH concerns of COVID
- Anti- Vaccine vs. Vaccine
- Isolation of Seniors
- Better Health due to Increased Hygiene
- Increase in Radon Exposure

#### Community Health Advisory Board
- Election Year Funding Issues
- Non-Disease Issues Related to COVID
- Mental Health Issues Related to COVID
- Impacts of Infectious Diseases on the Rise
- Delay of Medical Tx due to COVID
- Healthcare for Low-income (medication)
- Housing Crisis
- Against government due to restrictions

#### Board of Health
- Effects of Quarantine: DV, Child Abuse, Suicide, Mental Health, and Isolation
- Increase in Suicide Rates of those 18-25
- Lack of Housing
- Partnership Awareness
- Concerns for Seniors post COVID

---

<table>
<thead>
<tr>
<th>Forces (Trends, Event, Factor)</th>
<th>Threats</th>
<th>Opportunities</th>
</tr>
</thead>
<tbody>
<tr>
<td>COVID Pandemic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Affordable Housing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Distrust of Government</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Closure of Dresden</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Infectious Disease on the Rise</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water Resources</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Partnership Awareness</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Increased Trauma</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Access to Healthy Food</td>
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<td></td>
</tr>
</tbody>
</table>
Creating a Vision Statement to Drive Change

Vision statements provide focus, purpose, and direction to the process so that participants collectively achieve a shared vision for the future.

2015 MAPP Partner Vision Statement:
Complete health includes social well being, mental health, environmental health and physical health.
To this end; we aspire to educate, motivate, inspire, and empower citizens of Kendall County to make healthy choices.

2021 MAPP Partner Vision Statement Creation

Identify Strategic Issues from all Four Assessments

Strategic Issues are those fundamental policy choices or critical challenges that must be addressed in order for a community to achieve its vision.

The Community Health Status Assessment answered:
What health conditions exist in the community?

The Community Themes and Strengths Assessment answered:
Why do health conditions exist?
What assets are available in the community?
What is the quality of life in the community?

The Local Public Health System Assessment answered:
What system weaknesses must be improved?
What systems strengths can be used?

The Forces of Change Assessment answered:
What forces affect how we take action?
Identify Strategic Issues from all Four Assessments

Small Group Discussion

- Break into small groups. 7-8 at each table. Groups are based on our services by Unit.
  - Environmental Health
  - Community Health/Physical Health
  - Mental and Social Well-Being

- Directors will provide a brief overview of their Unit.

- Identify which strategic issues are related to the service provided by Unit.

- Pick a “reporter” to share the strategic issue/priority and why it was chosen.

- Group dialogue and clarification, if needed, of priorities.

Identify Strategic Issues from all Four Assessments

2015-2021 Priorities include:
Increasing community population opportunities for access to oral health.
Decreasing community population potential exposure to Lyme Disease.
Connecting seniors to assets that reduce socio-economic duress and support mental health.

1. Based on findings from all assessments and data presented, what are some of the major issues that seem to affect multiple aspects of healthy living in Kendall County?

2. What type of relationships, policies, community conditions and decisions affect people’s ability to live healthy?

3. Based on your review tonight, what is the apparent priority goal for each Unit for the next five years?

4. Use CHIP on table from surrounding hospitals and the IDPH.

5. The selected priority goal must be reasonable, relevant, and measureable.
Thank you for being a Partner!

The work begins today...

Strategy is not the consequence of planning, but the opposite: its starting point.

Henry Mintzberg
FORCES OF CHANGE ASSESSMENT DISCUSSION

Forces of Change Brainstorming

The following two-page worksheet is designed for MAPP Committee members to use in preparing for the Forces of Change brainstorming session.

What are Forces of Change?

Forces are a broad all-encompassing category that includes trends, events, and factors.
- **Trends** are patterns over time, such as migration in and out of a community or a growing disillusionment with government.
- **Factors** are discrete elements, such as a community’s large ethnic population, an urban setting, or a jurisdiction’s proximity to a major waterway.
- **Events** are one-time occurrences, such as a hospital closure, a natural disaster, or the passage of new legislation.

What Kind of Areas or Categories Are Included?

Be sure to consider any and all types of forces, including:
- social
- economic
- political
- technological
- environmental
- scientific
- legal
- ethical

How To Identify Forces of Change

Think about forces of change — outside of your control — that affect the local public health system or community.
1. What has occurred recently that may affect our local public health system or community?
2. What may occur in the future?
3. Are there any trends occurring that will have an impact? Describe the trends.
5. What characteristics of our jurisdiction or state may pose an opportunity or threat?
6. What may occur or has occurred that may pose a barrier to achieving the shared vision?

Also, consider whether or not forces identified were unearthed in previous discussions.
1. Was the MAPP process spurred by a specific event such as changes in funding or new trends in public health service delivery?
2. Did discussions during the Local Public Health System Assessment reveal changes in organizational activities that were the result of external trends?
3. Did brainstorming discussions during the Visioning or Community Themes and Strengths phases touch upon changes and trends occurring in the community?
Forces of Change Brainstorming

Using the information from the previous page, list all brainstormed forces, including factors, events, and trends. Continue onto another page if needed.

1. ___________________________________________________________________

2. ___________________________________________________________________

3. ___________________________________________________________________

4. ___________________________________________________________________

5. ___________________________________________________________________

6. ___________________________________________________________________

7. ___________________________________________________________________

8. ___________________________________________________________________

9. ___________________________________________________________________

10. ___________________________________________________________________

11. ___________________________________________________________________

12. ___________________________________________________________________
Forces of Change Brainstorming Worksheet

Threats and Opportunities Worksheet

*Mobilizing for Action through Planning and Partnerships (MAPP)*

<table>
<thead>
<tr>
<th>Forces (Trends, Events, Factors)</th>
<th>Threats Posed</th>
<th>Opportunities Created</th>
</tr>
</thead>
<tbody>
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Board of Health Acceptance – A letter from the Kendall County Health Department’s Board of Health President to the Illinois Department of Public Health endorsing the Health Department’s IPLAN, can be found on page ii.

Community Health Plan Worksheets - Community Health Plan Worksheets supporting the three health priorities can be found on pages 58, 59, 76, 77, 94, and 95.

Community Participation – Evidence of efforts made to engage participation from the Kendall County community can be found throughout the document, including pages 7, 8, 9, 10, 37, and 38.

Ethnographic Interviewing – Information on this interviewing technique, employed by Kendall County Health Department in its Community Themes and Strengths Assessment and involving culturally sensitive use of non-scripted questions and discourse in order to understand the lived experiences of others, can be found on pages 13, 145, 146, 147, and 148.

Health Problem Analysis Worksheets - Health Problem Analysis Worksheets supporting the three health priorities can be found on pages 57, 75, and 93.

Healthy People 2030 – Information describing how Kendall County Health Department’s 2021-2026 Community Health Improvement Plan priorities may serve to support one or more of the Center for Disease Control and Prevention’s Health People 2030 objectives can be found on pages 52, 53, 56, 68, 69, 80, and 89.

Illinois State Health Improvement Plan - Information describing how the State of Illinois’ Illinois State Health Improvement Plan served to inform the Kendall County Health Department’s 2021-2026 Community Health Improvement Plan can be found on pages 2, 16, 69, 80, and 89.

IQuery – Information describing how the Illinois Department of Public Health’s community health data tool, IQuery served to inform the Kendall County Health Department’s 2021-2026 Community Health Improvement Plan.

Mobilizing Action through Planning and Partnerships (MAPP) – A description of MAPP, the community-driven strategic planning process for improving community health, employed by Kendall County Health Department, can be found on pages 1, 7, 11, 14, 35, 80, 195, 196, and 197.

Selection of Priorities - Information describing how Kendall County Health Department’s 2021-2026 Community Health Improvement Plan priorities were selected by consensus can be found on pages 6, 11, 16, and 36.