

Master of Public Health
Integrative Learning Experience Report

***REDUCING CANCER DISPARITIES IN KANSAS: THE ROLE OF
POLICY, PREVENTION, AND COMMUNITY HEALTH WORKERS***

by

Olivia Waren

MPH Candidate

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Graduate Committee:

Ellyn Mulcahy, Ph.D., MPH

Charles Pickens, Ph.D.

Margaret Kincaid, Ph.D.

Public Health Agency Site:

Kansas Department of Health and Environment, Bureau of Health Promotion

12/1/2024-3/31/2025

Site Preceptor:

Jana Farmer, MBA, CPC, Section Director of Cancer Prevention and Control

Olivia Burzoni, MPA, Comprehensive Cancer Program Manager

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Abstract

The Kansas Department of Health and Environment (KDHE) is actively working to improve cancer prevention and treatment across the state, particularly in rural communities. Through initiatives like the Kansas Cancer Prevention and Control Plan, KDHE is increasing access to cancer screenings, promoting public awareness, and supporting healthcare providers. However, despite these initiatives, rural cancer disparities remain a significant challenge, as shown by the fact that patients in these areas experience higher mortality rates and poorer health outcomes compared to those in urban areas.

These disparities are caused by a multitude of factors, including geographic isolation, limited access to specialized care, and financial barriers. Many rural residents live hours away from the nearest cancer center, making it difficult to receive timely treatment or participate in clinical trials. Additionally, financial constraints, such as higher rates of uninsured individuals and the lack of Medicaid expansion in Kansas, limit access to early detection and preventive care. Healthcare workforce shortages further worsen the problem, as fewer oncologists and specialists are available in rural areas, which leads to delays in diagnosis and treatment.

Addressing these disparities requires an interdisciplinary approach. Expanding the role of Community Health Workers has shown promise in improving screening rates and connecting patients with culturally sensitive resources. Increased investment in rural cancer research can ensure rural communities benefit from advancements in precision oncology. And finally, policy changes, including the Rural Hospital Support Act and Medicaid expansion, have the potential to strengthen rural healthcare infrastructure and improve healthcare access.

Moving forward, the future of rural cancer care in Kansas will depend on investment in prevention, research, and policy reform. By addressing the disparities in rural healthcare, Kansas can work toward a future where all residents—regardless of where they live—have access to the cancer care they need.

Subject Keywords: Cancer, rural health, healthcare policy, health disparities, Community Health Workers, Kansas Department of Health and Environment

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Chapter 1 - Literature Review

The Kansas Department of Health and Environment: Cancer Initiatives

The Kansas Department of Health and Environment (KDHE) is the state agency responsible for protecting and promoting public health and environmental quality in Kansas. KDHE oversees a range of programs related to healthcare, disease prevention, environmental protection, and emergency preparedness. KDHE is divided into three main divisions: public health, environment, and health care finance [1]. Within the Public Health Division of KDHE resides the Cancer Control and Prevention Section, which works to reduce the burden of cancer in Kansas through prevention, early detection, and improved access to care. This section collaborates with healthcare providers and community organizations to develop strategies for cancer prevention and treatment. The key functions of this section include coordinating the Kansas Cancer Partnership, providing cancer data and surveillance, and promoting screening and early detection through programs such as Early Detection Works [2].

During my time at KDHE, and while working with the Cancer Control and Prevention Section, I had the opportunity to work on projects focused on cancer prevention, early detection programs, and healthcare policy. Additionally, through my full-time employment within the Community Health Worker (CHW) section, I had a unique opportunity to learn about and research health disparities and barriers to care for individuals, particularly rural Kansans. As a result of these experiences, I became intrigued by a critical question: with so many programs in place to support cancer prevention and treatment, why do significant disparities still persevere? This curiosity led me to further explore the challenges of rural healthcare access, where geographic isolation, provider shortages, and systemic barriers often prevent individuals from fully benefiting from these initiatives. In an ideal world, state-run programs would serve as a universal solution, ensuring equitable cancer care for all—but what factors are limiting their impact? Understanding these gaps is essential in improving public health efforts and ensuring that cancer control programs truly reach the populations that need them most. By examining how state agencies are working to enhance access and addressing the barriers that still exist, we can move closer to reducing cancer disparities across Kansas and beyond.

The Population Layout of Kansas

To truly understand the impact of cancer in rural Kansas, it is important to first classify the landscape of Kansas. According to KDHE, Kansas counties are classified into five categories based on population density. There are 36 frontier counties with fewer than 6 persons per square mile, making them the most sparsely populated. Rural counties have a population density between 6 and less than 20 persons per square mile, totaling 33 counties. Slightly more populated are the densely settled rural counties, which have between 20 and less than 40 persons per square mile, encompassing 20 counties. Semi-urban counties are characterized by a population density of 40 to less than 150 persons per square mile, with 10 counties fitting this designation. Finally, urban counties, with 150 or more persons per square mile, are the most densely populated, accounting for 6 counties [3]. In summary, the 105 counties that make up Kansas can be categorized into the following classifications.

- Frontier: 36 counties
- Rural: 33 counties
- Densely Settled Rural: 20 counties
- Semi-Urban: 10 counties
- Urban: 6 counties

When addressing the issue of cancer disparities in rural Kansas, it is crucial to recognize that it affects 89 out of the state's 105 counties, which includes frontier, rural, and densely settled rural areas and is home to a combined population of 1,005,780 individuals [3].

Overview of Cancer in Kansas

Cancer is the second leading cause of death in Kansas, with rural residents experiencing significantly higher mortality rates than urban residents. Beyond its impact on physical health, cancer also severely affects patients' quality of life (QOL) due to emotional distress, including fear, anxiety, and uncertainty about their prognosis and treatment options. Additionally, financial toxicity—the financial burden of treatment and lost wages—significantly limits access to adequate care. To only worsen this financial burden, cancer patients also have higher emergency department (ED) usage, with data showing that 70% of cancer-related ED visits result in hospitalization, which is nearly three times higher than non-cancer patients. These challenges are even worse for low-income, minority, and non-English-speaking patients who face additional structural barriers in accessing healthcare services [4].

These issues, which are applicable to all cancer patients, are only exacerbated among those who reside in rural areas. The mortality gap between rural and urban cancer patients in Kansas exemplifies this discrepancy. According to the KU Cancer Center Catchment Area Data (2016–2020), rural residents face significantly higher death rates for multiple cancers, as seen below [5].

- Colorectal cancer: Rural patients are 30% more likely to die than urban patients
- Melanoma: 20% higher mortality rate in rural populations
- Esophageal cancer: 10% higher mortality rate in rural areas
- Lung cancer: 10% higher mortality rate in rural areas
- Bladder cancer: 20% higher mortality rate in rural areas

The disparity is even more severe among racial and ethnic minorities in rural Kansas, who experience disproportionately high cancer mortality rates. These disparities are also highlighted below by the KU Cancer Center Catchment Area Data (2016–2020) [5].

- Prostate Cancer: Black patients are 1.7x more likely to die than white patients
- Stomach Cancer: Black patients are 1.7x more likely to die and Hispanic patients are 2.6x more likely to die than white patients
- Pancreatic Cancer: Black patients are 1.5x more likely to die than white patients
- Liver Cancer: Black patients are 1.4x more likely to die and Hispanic patients are 1.8x more likely to die than white patients

- Kidney Cancer: Hispanic patients are 1.5x more likely to die than white patients
- Non-Hodgkin's Lymphoma: Hispanic patients are 1.4x more likely to die than white patients.

These disparities highlight the urgent need for improved access to early detection, treatment, and preventive care in rural communities.

Healthcare Workforce Shortages in Kansas

One of the most significant barriers to adequate cancer care in rural Kansas is the severe shortage of healthcare providers. As noted in The Need to Study Rural Cancer Outcome Disparities, rural populations experience not only a greater incidence of preventable cancers, but also more advanced stage diagnoses due to delayed screenings and follow-ups [6]. This delay in care is largely due to transportation barriers, the financial instability of rural hospitals, and a shortage of specialists, all of which limit access to early diagnosis and treatment.

This issue extends beyond Kansas, reflecting a national trend. Currently, 64% of counties in the U.S. lack an oncologist, and only 3% of medical oncologists practice in rural areas [7,8]. To put this into perspective, a 2021 study found that nearly two-thirds of rural counties—approximately 32 million Americans—do not have access to an oncologist within their county. The situation is further complicated by the fact that 21.1% of oncologists are nearing retirement age [9].

The shortage of healthcare providers in rural areas may contribute to delays in timely treatment and follow-up care. For instance, A study conducted at the Ohio State University (OSU) Center for Population Health and Health Disparities examined follow-up care among women with abnormal Pap test results from 18 clinics in Appalachia Ohio. Researchers reviewed medical records for up to three years after the initial abnormal result to assess whether patients received the recommended testing. From the 283 women with abnormal Pap test results, 70% received some form of follow-up care and 60% adhered to the recommended guidelines, but only 47% received the appropriate treatment within the recommended timeframe for their specific condition [10]. Although this study was published in 2013, a recent study published in 2024 supported this trend. The study, published in March of 2024, found that community health centers (CHCs) reported that up-to-date cervical cancer screening was lower in rural CHCs (38.2%) compared to urban CHCs (43.0%) during 2014–2019 [11].

The healthcare workforce shortage in Kansas extends beyond oncology, affecting multiple areas of medicine and worsening overall public health. In fact, only 10% of U.S. physicians work in rural areas, despite 25% of the population living in these communities [12]. The disparity extends to physician assistants (3.4 per 10,000 in rural areas vs. 5.3 per 10,000 in urban areas), nurse practitioners (9.0 per 10,000 in rural areas vs. 11.2 per 10,000 in urban areas), and nurse anesthetists (1.3 per 10,000 in rural areas vs. 1.8 per 10,000 in urban areas). Additionally, registered nurses are notably less available in rural areas, with 64.1 per 10,000 people compared to 97.9 per 10,000 in urban regions. Dentists are also in short supply, with 4.7 per 10,000 in rural areas compared to 7.8 per 10,000 in urban communities [13]. This is part of a broader rural health crisis, which is shown by the following statistics [12].

- The suicide rate is significantly higher in rural areas, particularly among adult men and children.
- Hypertension is more prevalent in rural areas, with 128.8 cases per 1,000 individuals in rural communities compared to 101.3 per 1,000 in urban areas.
- Although only one-third of motor vehicle accidents occur in rural areas, two-thirds of the deaths attributed to these accidents happen in rural counties.
- Serious injury and fatal accidents account for 60% of rural crashes, compared to 48% in urban areas.
- More than 470 rural hospitals have closed in the last 25 years, limiting access to all forms of care, including cancer treatment.
- There are only 40.1 specialists per 100,000 people in rural areas, compared to 134.1 per 100,000 in urban areas.
- 53% of rural emergency medical services (EMS) are staffed by volunteers, compared with only 14% in urban areas.

These statistics, although alarming, point towards a broader issue that extends far past oncology. However, when patients are diagnosed with cancer in rural Kansas, they are forced to experience these statistics first-hand.

Why Do These Disparities Exist?

Discussing disparities in health care may feel like opening a can of worms—unraveling a complex web of factors that influence outcomes. These disparities exist for a multitude of reasons, particularly in public health. However, when examining cancer specifically, these factors can be broadly categorized into behavioral and cultural barriers, social determinants of health, financial barriers, lack of preventive care, and barriers to accessing treatment.

In fact, in a 2019 systemic review titled “Barriers of Colorectal Cancer Screening in Rural USA,” researchers from the University of Nebraska Medical Center College of Public Health analyzed 27 studies conducted from 1998-2017 which discussed barriers to Colorectal Cancer screening in rural U.S. populations.

Table 1.1 Demographic Trends in Barriers

Barrier	Number of Studies Reporting	Notable Findings
High cost & lack of insurance	14 out of 14	Strongest predictor of low screening rates.
Embarrassment & discomfort	15 out of 15	Higher among women & small-town residents.
Fear of diagnosis	11 out of 14	Common in rural seniors & minority populations.
Lack of knowledge	10 out of 11	Patients unaware of non-invasive screening options.

Lack of physician recommendation	12 out of 15	Rural doctors are less likely to discuss CRC screening.
Long distances & lack of specialists	Several	Patients in counties without gastroenterologists were found to be less likely to be up to date on CRC screenings.

Note: Data in the table summarized from Davis, M. M., Freeman, M. C., Shannon, J., Coronado, G. D., & Gu, Y. (2019). Barriers to colorectal cancer screening in rural USA. Rural and Remote Health, 19(3), 5181. <https://www.rrh.org.au/journal/article/5181>

Behavioral and Cultural Barriers

Behavioral and cultural factors play a significant role in lowering the cancer screening and treatment rates among rural populations. One of the most commonly reported deterrents to early detection is embarrassment and discomfort with screening procedures. A systematic review on colorectal cancer disparities found that 15 studies identified embarrassment as a major barrier to colorectal cancer screenings [14]. Many rural residents perceive cancer screenings as highly invasive, and the social stigma surrounding procedures like colonoscopies discourages participation. The social structure and lack of privacy within a rural community is significantly different than that of an urban community, which significantly affects residents' tendency to seek out treatment and screening [14].

In addition to embarrassment, fear of a cancer diagnosis itself prevents many rural residents from getting screened. Eleven studies identified fear of a positive diagnosis as a major reason why rural residents delay or entirely avoid cancer screenings [14]. This belief is often rooted in fatalism and a perception that a cancer diagnosis equates to a death sentence, leading to an "ignorance is bliss" mentality. This mentality is particularly problematic because early-stage cancers are far more treatable than late-stage cancers, meaning that delaying screenings significantly worsens survival outcomes [14]. This lack of misinformation only creates a perpetual cycle of denial and the tendency for individuals to avoid screening altogether.

Social Determinants of Health

Beyond behavioral barriers, social determinants of health (SDOH) disproportionately impact rural patients, creating additional burdens that make accessing cancer care more difficult. These factors include:

- **Dependent Care Responsibilities** – Many rural patients must care for young children or elderly family members. Without reliable childcare or elder care, traveling long distances for screenings or treatment becomes nearly impossible [15].
- **Food Insecurity** – Poor nutrition is more common in rural areas due to lower incomes and fewer grocery stores offering fresh food. Nutritional deficiencies can negatively impact cancer outcomes by reducing overall patient health [15].

- Insurance Barriers – Many rural residents rely on limited insurance plans with high premiums and high deductibles, making care financially out of reach, even for those technically "insured" [15].

These factors highlight the complexities of rural life, where limited resources already pose significant challenges. Accessing healthcare is often difficult due to the demands of daily life. For example, the rigorous schedules of rural workers, such as farmers, leave little flexibility for travel and medical appointments. [15]. The nature of rural living simply does not accommodate routine healthcare visits with ease, further exacerbating disparities in access.

Financial Barriers to Cancer Care

Financial constraints remain one of the most significant barriers preventing rural Kansans from receiving timely cancer screenings and treatment. Rural Kansans are less likely to have employer-sponsored insurance, leading to higher rates of delayed or foregone treatment [12]. Physicians working in rural communities overwhelmingly cite financial barriers as a major obstacle, with 59% of rural doctors stating that uninsurance or underinsurance is the primary reason for low colorectal cancer screening rates [14]. Even when rural residents have insurance, high deductibles and premiums can create a significant financial burden, leaving them struggling to afford healthcare despite being technically “insured” [15].

Kansas’ failure to fully expand Medicaid has further exacerbated this issue. Many rural patients fall into the Medicaid coverage gap, where they earn too much to qualify for traditional Medicaid but not enough to afford private insurance. In fact, according to a KFF article published in February 2025, it is estimated that across the ten states that have not expanded Medicaid, 1.4 million uninsured individuals remain in the coverage gap [16]. This disproportionately applies to rural residents, as two-thirds of the rural uninsured population lives in non-expanded states [17]. This lack of affordable coverage limits access to preventive screenings, leading to higher rates of late-stage cancer diagnoses and poorer survival outcomes.

The financial burden is also reflected in out-of-pocket costs, which many rural patients cannot afford. Fourteen studies identified cost as a primary barrier to cancer screenings [14]. Some patients simply cannot justify the expense of preventive screenings when facing other financial pressures. Others struggle with additional costs related to cancer care, such as travel expenses, time off work, and lodging. In fact, it was identified that doctors often hesitate to recommend colonoscopies because they know their patients cannot afford the high out-of-pocket costs [14].

Lack of Preventive Care and Low Screening Rates

Due to a combination of financial, behavioral, and logistical barriers, cancer screening rates remain lower in rural areas than in urban areas. The disparity is particularly evident in colorectal and breast cancer screenings:

- Colorectal cancer screening (ages 45+): 59.7% in metropolitan areas vs. 56.1% in rural areas [8].

- Breast cancer screening (women 45+): 63.9% in metropolitan areas vs. 61.1% in rural areas [8].

In addition to lower screening rates for colorectal and breast cancer, rural populations also experience higher rates of HPV-associated cancers due to lower vaccination rates. The Human Papillomavirus (HPV) vaccine is critical in preventing cervical, throat, and other cancers, yet vaccination rates remain significantly lower in rural areas:

- 53% of adolescents in rural areas are up to date on HPV vaccination, compared to 64% in urban areas [18].

Another major factor contributing to low screening rates in rural areas is a lack of physician recommendations. A systematic review found that 12 out of 15 studies reported rural doctors were less likely to bring up cancer screenings with their patients [14]. Even when rural patients visited their primary care providers, they were less likely to be encouraged to undergo colorectal cancer screenings than they were to be encouraged to receive other tests, such as mammograms. Some physicians in rural areas also demonstrated inconsistent knowledge of screening guidelines, further reducing the likelihood that they would recommend screenings [14].

When screenings rates are reduced, cancers are caught at a later stage, which detrimentally impacts outcomes. For instance, when colorectal screening rates are 3.6% lower in rural areas, it only makes sense that rural patients with colorectal cancer are 30% more likely to die than their urban counterparts [5].

Clinical Trial and Treatment Barriers

Even when rural patients are diagnosed with cancer, they often lack access to the latest treatments and clinical trials, further widening the gap in outcomes between rural and urban populations. Research has shown that rural patients are "under-recruited and underrepresented in treatment trials" due to the long distances between their homes and academic medical centers where trials occur [19]. In fact, 14% of Americans, primarily in rural areas, live more than three hours (180 minutes) from an NCI-designated cancer [19]. To further put this into perspective, according to the Kansas City Digital Drive, the potential for receiving care at an NCI-designated cancer center decreases by 11% for every 10 miles one has to travel [20]. This geographic barrier prevents many rural patients from participating in clinical trials, reducing their access to cutting-edge treatments that could improve survival rates.

The Solution: Improving Rural Cancer Care

Addressing the factors contributing to these disparities is essential for improving not only access to cancer care but overall rural health. There are a multitude of targeted approaches that are currently being developed and researched which aim to improve rural access to clinical research, support rural hospitals, and expand provider availability. The expansion of Community

Health Worker (CHW) programs into rural areas also proves to be a promising avenue that helps to bridge the gap between underserved populations and the healthcare system.

Expanding Community Health Worker (CHW) Programs

CHWs serve as trusted liaisons between patients and healthcare providers, while addressing financial, logistical, and cultural barriers that frequently prevent patients from receiving optimal health treatment. While CHWs work with a variety of populations, they have the ability to make a significant impact for rural cancer patients. The role of a CHW extends beyond simply providing information—they actively guide patients through the complexities of cancer care by coordinating medical appointments, assisting with transportation, and helping to navigate financial assistance programs.

One of the most significant benefits of CHWs is their ability to provide culturally relevant emotional support to patients. Fear and stigma around cancer are deeply rooted in many rural communities, leading to delayed screenings and avoidance of treatment. Because CHWs often come from the same communities as the patients they serve, they are uniquely able to break down these psychological barriers. They also help patients understand their diagnosis and treatment options, empowering them to become advocates for their own health [21].

The effectiveness of CHWs has been demonstrated in multiple studies, such as the research by Patel et al. which analyzed the impact of CHW interventions on cancer care for low-income racial and ethnic minority patients [22]. The study randomly assigned patients diagnosed with hematologic malignancies or solid tumors to either standard oncology care or a CHW-guided intervention. Those in the CHW program received weekly phone check-ins for four months, followed by monthly follow-ups for up to a year, as well as education in their preferred language, symptom assessments, and referrals to community resources. The results were significant, as patients in the CHW program reported higher quality of life, fewer emergency department visits, and lower healthcare costs compared to those receiving standard care [22].

Additional nationwide data further underscores the impact of CHW programs in reducing cancer disparities:

- A Colorado CHW initiative significantly increased breast cancer screening rates among Latina women [21].
- A Massachusetts CHW program helped 200,000 uninsured individuals enroll in healthcare programs [21].
- A Washington-based intervention increased mammography follow-up rates by 10-23% for women without health insurance [23].
- A study in West Baltimore found that CHW interventions resulted in a 40% reduction in emergency room visits and a 33% drop in hospital admissions among Medicaid patients with diabetes, saving \$2,200 per patient per year [24].
- At Boston Children's Hospital, a CHW-led initiative led to a 65% reduction in emergency visits [21].

Not only do these statistics speak to a drastic improvement in health care access and utilization, but there are overall financial benefits which should appeal to public officials. For instance, a CHW program established in Arkansas that focuses on elderly and disabled Medicaid beneficiaries has resulted in \$3.5 million in Medicaid savings by reducing hospital admissions and long-term care costs [21]. Additionally, as shown above, the West Baltimore CHW-intervention resulted in saving Medicaid \$2,200 yearly per patient enrolled [24].

Despite these promising results, CHW programs remain underutilized due to limited funding and institutional support. The field of CHWs is still growing but remains highly sensitive to fluctuations in funding and policy changes [21]. Expanding these programs on a state and federal level could significantly improve cancer outcomes in underserved communities.

Increasing Research and Innovation

Beyond CHW interventions, there is a gap in research focused on rural cancer populations. Between 2011 and 2016, only 3% of the National Cancer Institute's (NCI) research portfolio focused on rural populations [14]. This lack of research limits progress in developing targeted interventions for these communities.

One initiative aimed at closing the gap in precision oncology access for rural patients is TEAMSPORT (Multi-TEAM Systems Framework Precision Oncology Reflex Testing). This program at The University of Kansas Medical Center seeks to standardize genomic test ordering, ensuring that rural cancer patients receive access to precision oncology at the same rate as their urban counterparts [25]. The hypothesized impact of TEAMSPORT is a 25% increase in genomic testing rates, which could improve treatment effectiveness and survival outcomes for rural cancer patients [25].

Shellie Ellis, Ph.D., an associate professor of population health at the medical center, highlighted the urgency of expanding precision medicine access in rural areas: "You can have a drug that is 100% effective for anybody who takes it. But it's 0% effective if it never reaches the population for whom it's intended" [25]. Her statement exemplifies the critical gap between scientific advances and their implementation in rural healthcare systems. Currently, less than 1% of cancer genomics research focuses on how to deliver genomic medicine to patients, further emphasizing the need for expanded research and infrastructure investment [25].

Policy Advocacy and Legislative Solutions

While the issue of rural healthcare can be improved by implementing CHWs and increasing clinical research access, the true root of the problem stems from the overall layout of rural health care systems. As previously cited, more than 470 rural hospitals have closed in the last 25 years, limiting access to all forms of care, including cancer treatment. Additionally, there are only 40.1 specialists per 100,000 people in rural areas, compared to 134.1 per 100,000 in urban areas [12].

Long-term solutions require legislative action to stabilize rural hospitals and improve financial access to care. Rural hospitals serve as the backbone of healthcare in rural America, with 57 million people (17% of the U.S. population) relying on them for care. Despite this, many of these hospitals face financial strain, putting cancer care at further risk [26]. In fact, in 2023 the Center for Healthcare Quality and Payment Reform reported that of the 104 rural hospitals in Kansas, 60 were at risk of closing [27]. The potential closure of more than half of the rural hospitals in Kansas raises serious concerns about the devastating impact it could have on the health and well-being of rural residents.

One major legislative effort aimed at supporting rural hospitals is the Rural Hospital Support Act (S. 335). This bill, backed by the American Hospital Association (AHA), seeks to provide permanent financial support to small rural hospitals through three key provisions:

1. Making the Medicare-Dependent Hospital (MDH) Program Permanent – The MDH program, originally established in 1987, provides higher Medicare reimbursement rates to hospitals that treat a high percentage of Medicare patients. Currently, the program relies on temporary extensions by Congress, creating financial instability for rural hospitals. S. 335 would make the MDH program permanent, ensuring that these hospitals can better plan for the future and continue serving their communities [28].
2. Permanently Extending the Low-Volume Hospital (LVH) Adjustment – Small hospitals with low patient volumes face higher costs per patient, making it difficult to remain financially stable. The LVH adjustment provides additional Medicare funding to help these hospitals stay open. S. 335 would make this adjustment permanent, reducing the risk of rural hospital closures [28].
3. Strengthening the Sole Community Hospital (SCH) Program – The SCH program provides a special designation to hospitals that are at least 35 miles away from the nearest similar facility. S. 335 would allow these hospitals to choose an updated base year for Medicare reimbursement calculations, ensuring fairer funding and preventing closures [28].

If passed, S. 335 would provide financial stability to Kansas’s 100+ rural hospitals, many of which are at risk of closure. The American Hospital Association emphasized the urgency of this legislation, stating, rural hospitals are “economic anchors for communities and the backbone of our nation’s rural health care infrastructure.” [28].

As of March 2025, the Rural Hospital Support Act remains under consideration in Congress [29]. Passing this legislation would be a critical step in ensuring that rural hospitals can continue to provide essential cancer care for the millions of Americans who rely on them.

Looking Toward the Future of Rural Health

Legislative and Policy Reforms

The future of rural cancer care depends heavily on legislative reforms and policy interventions that address the systemic nature of rural health. One of the most critical policy

changes needed is the expansion of Medicaid in Kansas. While some states have expanded Medicaid under the Affordable Care Act (ACA), Kansas remains one of the states that has not expanded the program. Expanding Medicaid could dramatically improve access to preventive care and cancer screenings for rural residents, who often face higher rates of uninsurance [21].

Medicaid expansion has already shown positive impacts on cancer care in states that adopted it. For example, a study published in *Cancer Medicine* found that Medicaid expansion was associated with a significant 1.7 percentage point increase in colorectal cancer screening rates among qualifying adults 50–64 years of age [30]. Without expansion, many rural patients remain uninsured, which only worsens existing disparities in healthcare access. According to KFF, an independent health polling and data source, research suggests a positive association between Medicaid expansion and financial stability [31]. As shown in a 2019 article published in the *American Journal of Public Health*, for low-income childless adults, Medicaid expansion was associated with a 12.5% reduction in very low food security scores. Very low food security is defined as the reduction of food intake due to financial strain [32]. This improvement in financial stability would address the socioeconomic barrier keeping patients from utilizing preventive screenings.

However, Medicaid rollbacks threaten to undo these gains. In fact, according to an article published in February of 2025 by the *American Journal of Managed Care*, President Trump endorsed the Republican House Budget that included an \$880 billion cut to programs falling under the House Energy and Commerce Committee, which includes Medicaid. If this budget were to pass in the House, the effect would be detrimental [34]. Not only does Medicaid ensure qualifying individuals, which includes 40% of children in the United States, but 37% of Medicare spending and 32% of Medicaid spending in 2023 was for hospital care [34].

Federal efforts to reduce Medicaid funding could disproportionately affect rural patients, who rely on Medicaid more than urban populations. In rural areas, where poverty rates are higher, Medicaid has become a lifeline for families and communities by providing them with access to essential healthcare services that they might otherwise be unable to afford, as shown by the fact that 32.3% of children in rural areas relied on Medicaid in 2023 [33].

Congress Must Fix Medicare

While Medicaid expansion and support for rural hospitals are critical, Medicare reforms are equally necessary for ensuring that rural residents can access affordable care, particularly for the aging population that faces higher cancer risks. Physician pay cuts under Medicare are an especially concerning threat. A 2.8% cut in Medicare payments took effect on January 1, 2025, which further strains the financial viability of rural healthcare providers [35]. This essentially means that providers receive less money per patient or procedure. To only worsen this issue, Medicare costs are projected to rise by 3.6%, meaning the real impact of these changes could be a 6.4% pay cut for physicians, exacerbating financial challenges for those serving rural communities [36]. This ultimately results in an increased financial strain for healthcare institutions, especially those in rural areas. If the institutions are unable to supplement the cost, then the patient will be forced to pay higher out of pocket costs.

To offset this, The American Medical Association (AMA) has backed H.R. 10073, the Medicare Patient Access and Practice Stabilization Act of 2024, a bill that would have provided a 4.7% payment increase in 2025, helping to offset these cuts [36]. However, due to the beginning of the 119th congress in January 2025, this bill would need to be reintroduced into the current congress.

Medicare has an immense impact on physician access in rural areas. Some doctors are simply unable to afford to take on new Medicare patients due to low reimbursement rates [36]. This is particularly problematic in rural areas, where access to specialists is already limited. Specialist shortages are a significant barrier to cancer care, as patients often cannot get the referrals, they need for advanced oncology treatment [37].

Physician Shortages and Workforce Retention in Rural Areas

As previously cited, physician shortages in rural areas are a longstanding issue that will only worsen in the coming decades. According to Staffing Industry Analysts, the U.S. is projected to experience a shortage of up to 86,000 physicians by 2036, with 70% of the nation's primary care Health Professional Shortage Areas (HPSAs) located in rural regions [38]. Particularly in rural communities, this shortage is already being felt due to healthcare providers being stretched thin and physicians retiring at alarming rates.

In fact, one in five physicians in rural areas plans to retire or quit within the next two years, while referencing administrative burdens as the primary reason [36]. These administrative burdens, particularly the requirements for prior authorizations, add significant stress to already overburdened healthcare systems. Prior authorization, which was originally designed to control costs for expensive treatments, now applies to routine medications such as \$10 nasal sprays [36]. A survey conducted by the AMA found that physicians spend an average of 12 hours per week on prior authorizations, handling 43 requests weekly [36]. This workload has resulted in 90% of physicians reporting delays in care due to prior authorizations, with 24% of these delays leading to hospitalization, disability, or even death [36]. However, it is hard to blame providers, especially given the fact that since 2001 physicians have been paid 29% less adjusted for inflation [36].

In rural healthcare settings, patients already struggle to access care. When providers are tasked with the burden of these additional tasks, patients only continue to suffer. Action must be taken to alleviate this burden, or else the provider shortage, and therefore the inability to access health care in rural America will only worsen.

Chapter 2 - Learning Objectives and Project Description

For fulfillment of the Integrated Learning Experience, I worked with the Cancer Control and Prevention section within the Bureau of Health Promotion in The Kansas Department of Health and Environment. The Cancer Control and Prevention section manages a multitude of programs and activities; however, I interacted specifically with Early Detection Works and the Kansas Cancer Partnership.

Early Detection Works (EDW) was established in January of 1995 to reduce the burden of cancer by providing breast and cervical cancer screening services to uninsured and underinsured individuals in Kansas. Established to increase access to life-saving early detection services, EDW works closely with healthcare providers across the state to offer free or low-cost screenings. Through this program, thousands of Kansans receive the critical screenings needed to detect cancer at its earliest, most treatable stages.

The Kansas Cancer Partnership (KCP) is a collaborative network of organizations and individuals committed to reducing the cancer burden in Kansas. Formed to implement the goals outlined in the Kansas Comprehensive Cancer Control Plan, KCP fosters coordination and resource-sharing among stakeholders. The partnership includes representatives from healthcare institutions, non-profits, government agencies, and cancer survivors. Within KCP, I engaged with several workgroups, each focusing on a distinct aspect of cancer control and prevention:

- **Prevention Workgroup:** Focuses to reduce the morbidity and mortality from cancer through prevention of cancer when possible.
- **Early Detection and Diagnosis Workgroup:** Aims to detect cancer in its earliest stage through early detection and a timely, definitive diagnosis.
- **Financial Burden and Health Equity Workgroup:** Works to decrease the number of Kansans who report financial problems as a barrier to accessing cancer care. Increases health equity related to race, ethnicity, income, or population density by including at least one strategy for each state plan objective that will improve health equity.
- **Survivorship Workgroup:** Provides resources and support for individuals navigating life after a cancer diagnosis, promoting comprehensive survivorship care and assuring the highest quality of life for Kansans who have been diagnosed with cancer during and after treatment.
- **Policy Workgroup:** Updates on the latest cancer/healthcare related legislature introduced in the state of Kansas.

My experience collaborating with these programs and workgroups deepened my understanding of the complexities of cancer prevention and control. By engaging with diverse partners and contributing to ongoing initiatives, I gained valuable insights into how public health agencies work to mitigate health disparities and improve cancer outcomes across Kansas.

Learning Objectives and Activities

Develop skills in administrative tasks such as agenda creation, meeting minutes, and coordination of routine meetings as well as large public health events

- Attended KCP workgroup meetings and chair/co-chair planning sessions.
- Assisted in documenting meeting minutes to ensure accurate records.
- Created a form for potential exhibitors for the all-member KCP meeting.
- Researched other state's meeting agendas to gather insights and ideas for the upcoming all-member meeting.
- Researched and presented Evidence Based Interventions (EBIs) to the KCP Prevention Workgroup. Led discussion to pinpoint next steps and action items regarding the EBIs.
- Transferred data from the activity tracker form to an excel sheet to outline each workgroup's initiatives and progress toward their respective objectives for the 2022-2027 KCP plan.
- Joined a focus group comprised of five prevention workgroup members to formulate a pilot healthy behaviors program. Reached out to contacts within the Manhattan community and facilitated a warm handoff to the focus group's chair.

Conduct a policy scan and synthesize findings to understand the implications for public health initiatives

- Collaborated with KDHE's healthcare finance and clearinghouse personnel to gather coverage information on USPSTF screening recommendations with a grade of C or higher.
- Identified coverage gaps and presented findings to the KCP Policy Workgroup.

Enhance proficiency in gathering, analyzing, and effectively presenting information in a clear and actionable manner

- Compiled and analyzed data from credible sources, including The American Cancer Society, CDC, and KDHE, to support the development of the KDHE annual review.
- Created clear, concise summaries highlighting how KCP's cross-cutting initiatives improved access to cancer care.
- Extracted success stories to highlight various events, initiatives, and programs.
- Collaborated with a multidisciplinary team of professionals to gather comprehensive data and identify key program successes for the annual review.
- Ensured the final report accurately reflected the section's progress and effectively communicated the impact of cancer prevention and control efforts.
- Conducted targeted research using various grant search engines to identify funding opportunities. Navigated application requirements to support potential funding efforts, considering KDHE's status as a state agency.

Support and learn about EDW by developing and designing administrative materials

- Created three distinct workflows using Canva to visualize different contract scenarios within the EDW program.
- Reviewed and redesigned the EDW case management protocol, incorporating visual aids for clarity.

Develop educational materials for different audiences

- Created a breast cancer screening guide tailored for both EDW providers and patients using Canva.
- Supported the Health Equity Workgroup by assisting in the development of a "Cancer 101" course for community health workers (CHWs) on KansasTRAIN.
- Researched and designed PowerPoint materials for the course, integrating feedback from workgroup members. Ensured that the PowerPoint followed the requirements to be converted onto the KansasTRAIN platform.
- Proposed sub-modules for the Cancer 101 course, addressing key topics for further exploration.

Overall, this experience equipped me with valuable practical skills in public health project management, diverse partner collaboration, and health communication. The opportunity to contribute to cancer prevention and control initiatives reinforced my dedication to addressing health disparities and improving cancer outcomes in Kansas.

Chapter 3 - Reflection and Analysis

Breast Cancer Screening: A Patient's Guide / Provider's Guide (Appendix A/B)

Breast cancer screening is a crucial tool for early detection, yet navigating screening options can be overwhelming for many individuals. This patient-friendly guide is designed to explain the importance of regular screenings, the different screening methods available—such as mammograms, ultrasounds, and MRIs—and how to access these services. By breaking down complex medical information into clear, accessible language, the guide empowers individuals to make informed decisions about their breast health and take proactive steps toward early detection and treatment.

For healthcare providers, the guide serves as a practical resource that outlines best practices for recommending and administering breast cancer screenings. Specifically, it includes the latest screening guidelines, effective communication strategies to address patient concerns, and resources for ensuring follow-up care. Given the disparities in screening rates among different populations, the guide also provides strategies for reaching underserved communities and promoting equitable access to preventive care.

Reflection: Creating educational materials like these highlights the importance of tailoring health information to different levels of health literacy. A one-size-fits-all approach does not work when discussing complex medical topics. Ensuring that both patients and providers have clear, accurate, and actionable information fosters patient empowerment and improves health outcomes. The ability to make informed decisions about screenings is not just about knowledge—it is about accessibility, trust, and support within the healthcare system.

Healthy Behaviors as Prevention: Evidence-Based Interventions (Appendix C)

Preventing chronic diseases requires more than just awareness—it demands evidence-based strategies that support healthy behaviors. This document outlines key interventions that have been proven effective in reducing disease risk, such as promoting regular physical activity, smoking cessation programs, and improved nutrition. By highlighting successful public health initiatives and their outcomes, the resource demonstrates how lifestyle changes can significantly decrease the burden of cancer.

Reflection: While living a healthy lifestyle is often framed as a personal choice, it is also shaped by access to resources, education, and social determinants of health. Many people may not realize that their risk for cancer and other chronic diseases is not just genetic but influenced by daily behaviors. Changing perceptions about preventable diseases is challenging, especially when misinformation or cultural barriers exist. Shifting mindsets about cancer prevention requires not only education but also systemic support to make healthy choices accessible and sustainable.

USPSTF Screenings and KanCare Coverage (Appendix D)

Understanding which preventive screenings are covered by insurance, particularly Medicaid, can be confusing. This reference table compiles recommendations from the U.S. Preventive Services Task Force (USPSTF) and details the screenings available through KanCare, Kansas' Medicaid program. Developed to support the Kansas Cancer Partnership's Policy Work Group, this resource is intended to guide efforts in improving access to screenings through policy changes and outreach.

Reflection: Extracting information from KMAPS provider bulletins and manuals underscored the complexity of Medicaid coverage. There is rarely a simple answer when patients ask whether a specific screening is covered—it often depends on various factors, including eligibility and provider requirements. This complexity creates a significant barrier to preventive care, particularly for individuals with low health literacy. Ensuring that coverage information is clear, updated, and easily accessible is critical in helping people take advantage of the screenings available to them.

EDW Contract Workflows/ Case Management Report Instructions (Appendix E/F)

Case management plays a vital role in ensuring that patients receive timely and coordinated care. The monthly report used by Early Detection Works (EDW) regional nurses helps track patients in need of screening and follow-up services, ensuring that no one falls through the cracks. Similarly, the EDW contract workflow document provides a structured guide to the contracting process for providers, helping to streamline administrative tasks and ensure compliance with program requirements.

Reflection: The administrative side of public health is often overlooked in academic settings, but it is the foundation that keeps essential programs running. Working on these documents revealed how much effort goes into structuring, funding, and maintaining programs like EDW. Public health initiatives in Kansas are well-organized, yet they require ongoing collaboration, oversight, and documentation to remain effective. Behind every screening and patient interaction, there is a well-structured system ensuring that services are available and accessible to those who need them most.

Cancer 101 Modules (Appendix G)

Community Health Workers (CHWs) serve as vital links between healthcare providers and the communities they serve. The Cancer 101 module was developed to equip CHWs with essential knowledge on cancer care, including specific cancer types, the financial burden of treatment, and strategies for effective communication with interdisciplinary teams. These additional sub-topics provide in-depth guidance tailored to the challenges CHWs face when supporting patients across Kansas.

Reflection: Knowledge-sharing is essential in cancer care. CHWs play a vital role in delivering accurate information to those who need it most. Emphasizing credible sources and reliable

websites ensures that patients receive trustworthy guidance, helping to counter misinformation and improve health outcomes.

Annual Review

The annual review serves as a comprehensive summary of the Kansas Department of Health and Environment (KDHE) Cancer Section's work over the past year. The review highlights program achievements, advancements in screening and prevention, and strategic initiatives aimed at reducing the cancer burden in Kansas.

Reflection: Data is a powerful tool in public health—it not only measures success but also justifies the need for continued investment in programs. While statistics can illustrate impact, personal stories make the numbers meaningful. This report reinforced the importance of both quantitative and qualitative evidence in advocating for resources and policy changes. The KDHE Cancer Section offers numerous beneficial programs, but their impact depends on awareness and utilization. Ensuring that these resources are widely known and easily accessible is essential for their reach and effectiveness.

Chapter 4 - Discussion

The findings from my experience at the Kansas Department of Health and Environment (KDHE) reinforce the critical role that state agencies play in public health, specifically cancer prevention and control. While Kansas has a well-established variety of programs aimed at early detection and improved access to care, persistent disparities highlight the limitations of these efforts. Geographic isolation, healthcare provider shortages, and systemic barriers continue to restrict access to life-saving screenings and treatments, particularly for rural populations. Despite the availability of initiatives such as Early Detection Works and the Kansas Cancer Partnership, many individuals remain underserved due to logistical challenges, lack of awareness, or financial constraints.

One key insight gained from this experience is that having programs in place does not automatically translate to equitable healthcare access. Structural challenges—such as transportation difficulties, limited health literacy, provider shortages, and insurance complexities—continue to hinder participation in cancer prevention efforts. Addressing these barriers requires not only increasing program funding and outreach but also improving the accessibility of health information in ways that meet the needs of diverse populations.

Another significant limitation observed is the ever-evolving landscape of public health. Public health is heavily affected by emerging health challenges, and, most critically, legislative and policy decisions. Programs like those within KDHE rely heavily on stable funding, supportive policies, and the ability to adjust to changing needs to remain effective. However, frequent changes in healthcare policy—particularly around Medicaid and funding—can directly impact their ability to function. Legislative decisions influence everything from the stability of rural hospital systems to the sustainability of Community Health Worker programs, ultimately affecting how well these initiatives reach underserved populations. As policies continue to shift, public health programs must remain flexible, advocating for evidence-based approaches and ensuring that legislative changes do not create unintended barriers to care. Strengthening the connection between policy, funding, and program implementation is essential to maintaining and improving cancer prevention efforts in Kansas.

Conclusion

While KDHE and its cancer prevention programs have made substantial strides in reducing the burden of cancer, significant disparities persist, particularly in rural communities. My experience has reinforced the importance of not only providing services but also ensuring that individuals can access and navigate them effectively. Closing these gaps requires a multi-faceted approach that includes policy changes, community-based interventions, and continued investment in health equity. By refining existing strategies and addressing barriers at their core, we can work toward a healthcare system that truly meets the needs of all Kansans.

Chapter 5 - Competencies

Student Attainment of MPH Foundational Competencies

The work I completed and the products I produced during my Integrated Learning Experience allowed me to exercise and enhance several MPH Foundational Competencies. I will focus on the five that were most directly applied to my work, which include numbers 11, 15, 7, 22, and 19, as reflected in Table 5.1.

Table 5.1 Summary of MPH Foundational Competencies

Number and Competency		Description
11	Select methods to evaluate public health programs	By systematically evaluating cancer prevention initiatives, patient case management, and screening programs, this project ensured data-driven decision-making. The assessment of program outcomes, patient follow-ups, and screening policies contributed to a stronger, more effective approach to improving public health interventions.
15	Evaluate policies for their impact on public health and health equity	By assessing how policies influence screening access, preventive behaviors, and cancer care, this project helped identify gaps and promote equitable health policies. Evaluating policy effectiveness ensured that public health initiatives were aligned with best practices and addressed disparities in care.
7	Assess population needs, assets, and capacities that affect communities' health	By identifying population needs and provider resource gaps, this project contributed to a targeted approach to improving screening accessibility and provider education. Understanding these needs helped shape strategies to enhance cancer prevention efforts and reduce disparities.
22	Apply a systems thinking tool to visually represent a public health issue in a format other than a standard narrative	By analyzing case management workflows and behavioral change frameworks, this project contributed to more effective, integrated solutions that address public health challenges holistically.
19	Communicate audience-appropriate (i.e., non-academic, non-peer audience) public health content, both in writing and through oral presentation	Effective communication played a vital role in this project, helping ensure that important public health messages reached the right audiences in ways that were both clear and meaningful. This was achieved by tailoring materials for patients and providers and leading discussions within KCP workgroups.

In addressing MPH Foundational Competency #11, "select methods to evaluate public health programs," I was actively involved in evaluating cancer prevention initiatives and screening programs, in the form of the annual review. The annual review highlighted the work of Early Detection Works and The Kansas Cancer Partnership. The effectiveness of events was shown through statistics showcasing event turnout, social media campaign engagement, survey

feedback, and success stories. In addition to this, the annual review revealed the growth of these programs, specifically by graphically representing the number of patients enrolled in Early Detection Works, how many of these patients were previously rarely screened, project spending for FY 2024, and the number of enrolled patients that received services. By showing these key metrics, one can easily compare and evaluate the growth and reach of the program. This process is crucial in public health as it ensures that resources are effectively allocated, programs are meeting their intended goals, and underserved populations are being reached.

Foundational Competency #15, "evaluate policies for their impact on public health and health equity," was a focus of my work. To fulfill this competency, I evaluated Medicaid coverage policies in Kansas. As part of this process, I created and documented a comparison of the United States Preventive Services Task Force (USPSTF) screening guidelines and Medicaid coverage in Kansas, which required collaboration with the Kansas Cancer Partnership's (KCP) policy workgroup and the Division of Healthcare Finance at KDHE. Using this information, I was able to evaluate and determine exactly where coverage lacked for the recommended screenings. For instance, I determined a discrepancy in colorectal cancer screening coverage. According to the American Cancer Society, follow up colonoscopies are recommended every three years, but Kansas Medicaid only covers colonoscopies every ten years. The seven-year coverage discrepancy hinders individuals from following screening recommendations and could serve as a barrier to the effectiveness of future screening and prevention efforts. In public health, it is important to ensure that public health programs actually reach the intended audiences and have the desired effects. By identifying barriers and coverage gaps, I contributed to a broader effort to align healthcare policies with evidence-based screening guidelines, ultimately supporting more equitable and effective public health interventions.

In fulfilling Foundational Competency #7, "assess population needs, assets, and capacities that affect communities' health," I worked to identify population needs and gaps in resources that influence cancer prevention efforts. I conducted an in-depth search for state and federal grant opportunities for the Kansas Cancer Partnership Prevention Workgroup, which involved evaluating potential funding sources that could support cancer prevention initiatives. I identified 22 grants that would support initiatives ranging from community gardens to health care educational programs. This research was integral to strengthening the capacity of programs and ensuring that they could secure the resources necessary to sustain and expand cancer prevention efforts, especially for underserved populations. Additionally, I reviewed and updated workflows for the EDW program to streamline the process for providers, improving access to services for Kansas residents in need of screenings. Through this work, I helped ensure that the program's operations aligned with both the needs of the population and the available resources.

Foundational Competency #22, "apply systems thinking tools to a public health issue," was a crucial aspect of my work, particularly when analyzing the integration of evidence-based interventions (EBIs) in cancer prevention. I presented EBI research to a large group, facilitating discussions within the KCP Prevention Workgroup to guide future action steps. This involved not only presenting research but also fostering collaboration to determine the best approach to implementing these interventions across the state. After my presentation, I led a discussion in the workgroup to identify which interventions were of interest to the members. We discussed how these could be implemented, the reach of each intervention, and compared it to prior initiatives.

In subsequent small group meetings, we discussed potential partners for the project which allowed us to narrow down a region in Kansas to focus on. This approach, which mimicked the Participatory Impact Pathways Analysis method, ensured that the implementation of EBIs was coordinated, effective, and sustainable across public health initiatives.

Finally, in addressing Foundational Competency #19, "communicate audience-appropriate public health content, both in writing and through oral presentation," I developed and presented key public health materials that helped drive engagement and informed decision-making. I created materials such as the patient and provider screening guide for the EDW workgroup, ensuring that the information was both comprehensive and accessible to diverse audiences. By presenting these materials and facilitating discussions on next steps, I helped ensure that public health messages were communicated clearly and effectively. I also had the opportunity to facilitate conversations on future strategies with the Prevention Workgroup, encouraging active participation and collective decision-making on important public health priorities. Additionally, I extracted accurate information in order to create a "Cancer 101" Module on KansasTRAIN. I presented the course outline to the KCP Health Equity Workgroup, and integrated feedback to ensure that the information was audience-appropriate and effective.

In summary, my Integrated Learning Experience allowed me to apply these foundational competencies in practical, meaningful ways. Whether it was evaluating policies, researching grant opportunities, applying systems thinking, or communicating effectively, each task contributed to my growth and understanding of public health principles, particularly in the area of cancer prevention and care.

Table 5.2 MPH Foundational Competencies and Course Taught In

22 Public Health Foundational Competencies Course Mapping	MP H 701	MP H 720	MP H 754	MP H 802	MP H 818
Evidence-based Approaches to Public Health					
1. Apply epidemiological methods to the breadth of settings and situations in public health practice	x		x		
2. Select quantitative and qualitative data collection methods appropriate for a given public health context	x	x	x		
3. Analyze quantitative and qualitative data using biostatistics, informatics, computer-based programming and software, as appropriate	x	x	x		
4. Interpret results of data analysis for public health research, policy or practice	x		x		
Public Health and Health Care Systems					
5. Compare the organization, structure and function of health care, public health and regulatory systems across national and international settings		x			
6. Discuss the means by which structural bias, social inequities and racism undermine health and create challenges to achieving health equity at organizational, community and systemic levels					x
Planning and Management to Promote Health					

7. Assess population needs, assets and capacities that affect communities' health		x		x	
8. Apply awareness of cultural values and practices to the design, implementation, or critique of public health policies or programs					x
9. Design a population-based policy, program, project or intervention			x		
10. Explain basic principles and tools of budget and resource management		x	x		
11. Select methods to evaluate public health programs	x	x	x		
Policy in Public Health					
12. Discuss multiple dimensions of the policy-making process, including the roles of ethics and evidence		x	x	x	
13. Propose strategies to identify stakeholders and build coalitions and partnerships for influencing public health outcomes		x		x	x
14. Advocate for political, social or economic policies and programs that will improve health in diverse populations		x			x
15. Evaluate policies for their impact on public health and health equity		x		x	
Leadership					
16. Apply leadership and/or management principles to address a relevant issue		x			x
17. Apply negotiation and mediation skills to address organizational or community challenges		x			
Communication					
18. Select communication strategies for different audiences and sectors	DMP 815, FNDH 880 or KIN 796				
19. Communicate audience-appropriate (i.e., non-academic, non-peer audience) public health content, both in writing and through oral presentation	DMP 815, FNDH 880 or KIN 796				
20. Describe the importance of cultural competence in communicating public health content		x			x
Interprofessional and/or Intersectoral Practice					
21. Integrate perspectives from other sectors and/or professions to promote and advance population health		x			x
Systems Thinking					
22. Apply a systems thinking tool to visually represent a public health issue in a format other than a standard narrative			x	x	

Student Attainment of MPH Emphasis Area Competencies

Through my emphasis of Infectious Disease and Zoonoses in the Master of Public Health (MPH) program, I explored the interactions between infectious agents, disease surveillance, environmental influences, and host responses. I also applied and strengthened my knowledge in key competency areas, including disease transmission, vector-borne illnesses, and immunological responses to pathogens, as outlined in Table 5.3 below.

Table 5.3 Summary of MPH Emphasis Area Competencies

MPH Emphasis Area: Infectious Disease and Zoonoses		
Number and Competency		Description
1	Pathogen/pathogenic mechanisms	Evaluate modes of disease causation of infectious agents.
2	Host response to pathogens/immunology	Investigate the host immune response to infection.
3	Environmental/ecological influences	Examine the influence of environmental and ecological forces on infectious diseases.
4	Disease surveillance	Analyze disease risk factors and select appropriate surveillance.
5	Disease vectors	Investigate the role of vectors, toxic plants and other toxins in infectious diseases.

Through my emphasis in **Infectious Disease and Zoonoses**, I completed coursework that strengthened my understanding of key public health competencies. **Pathogenic Microbiology (BIOL 530)** directly aligned with **Competency 1: Pathogen/Pathogenic Mechanisms** by providing in-depth knowledge on the etiology and characteristics of major infectious diseases. This course emphasized understanding the mechanisms through which pathogens cause disease within the context of host defenses. Additionally, the lab component provided hands-on experience with microbiology techniques, allowing me to learn and practice diagnostic tests used for identifying infectious agents.

To address **Competency 2: Host Response to Pathogens/Immunology**, I completed **Immunology (BIOL 670)**, where I explored the chemical, genetic, and biological components of the immune response. The course covered topics such as acquired immunity, antibody production, and immune system regulation, providing a solid foundation for analyzing how the body combats infections.

Additionally, **Introduction to One Health (DMP 710)** covered multiple competencies, including **Competency 3: Environmental/Ecological Influences**, **Competency 4: Disease Surveillance**, and **Competency 5: Disease Vectors**. This course emphasized the interconnectedness of human, animal, and environmental health, offering case studies and real-world applications. I gained insights into how environmental factors influence human health, which culminated in my final term paper titled “A One Health Analysis of Antibiotic Residues in American Agriculture”.

Competency 4: Disease Surveillance, was also reflected by my ILE work. I analyzed the risk factors for cancer and presented evidence-based interventions that can reduce this risk. Additionally, I selected appropriate surveillance data to create a multitude of deliverables such as the USPSTF screening guideline, the annual review, and the patient and provider screening guides. The referenced courses when paired with my ILE, provided a comprehensive understanding of infectious disease dynamics and their broader public health implications.

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Disclaimer on Appendices

The deliverables presented in the appendices of this Integrated Learning Report are draft versions and have not been formally approved by the Kansas Department of Health and Environment (KDHE) for public use. These materials were developed on behalf of KDHE as part of my work but have not yet completed the full communications review process.

Unless otherwise noted, these products should be considered drafts and are included in this report solely to demonstrate my work and contributions.

Appendix A - Breast Cancer Screening: A Patient's Guide

BREAST CANCER SCREENING: A PATIENT'S GUIDE

1. UNDERSTAND YOUR RISK

- **Genetic Mutations:** Women with BRCA1 or BRCA2 mutations have a **45-72% lifetime risk** of developing breast cancer compared to about 13% in the general population.
- **Dense Breasts:** Approximately **40% of women** in the US have dense breast tissue, which can obscure tumors during mammograms. Women with dense breasts are **4-6 times more likely** to develop breast cancer compared to women with low breast density.
- **Family History:** If you have a first-degree relative (mother, sister, or daughter) with breast cancer, your risk **doubles**, and it may be even higher with multiple affected relatives or early diagnosis in the family.
- In 2021, there were 2,476 new cases of breast cancer in Kansas, making it one of the most common cancers in the state.

2. FOLLOW SCREENING GUIDELINES

Ages 40-74: Women at average risk should have a mammogram every two years, as per the United States Preventative Services Task Force (USPSTF) guidelines. Regular screening can reduce breast cancer mortality by 30-40% in this age group.

3. LEARN ABOUT SCREENING METHODS

- **Clinical Breast Exam (CBE):** A physical examination by a healthcare provider to detect lumps, pain, or other abnormalities.
Typically conducted during annual wellness visits for women starting in their 20s.
- **Mammogram:** A low-dose x-ray of the breast to detect tumors and abnormalities.
Detects approximately 87% of breast cancers in women without dense breasts.
- **Ultrasound:** Useful for characterizing abnormalities in dense breasts or in addition to a mammogram, especially in high risk patients.
- **Breast MRI:** Used for women at high risk.
MRI screening, in combination with mammograms, can detect 92.3% of cancers in high-risk women compared to mammograms alone.

4. PRACTICE BREAST SELF-AWARENESS

- **Know What's Normal for You:** Monitor for lumps, changes in size or shape, nipple discharge, or skin changes (e.g. redness, dimpling).
- **Report Changes Promptly:** Early reporting can lead to better health outcomes.
- **Be Your Own Advocate:** You know your body best - if something feels off, trust yourself and seek medical advice.

5. WHAT IF MY SCREENING SHOWS ABNORMAL RESULTS?

If an abnormality is detected during screening, additional diagnostic tools may include:

- **Ultrasound:** often used to evaluate abnormalities detected on mammograms or physical exams.
- **Biopsy:** Removes a small sample of tissue to determine if the abnormality is cancerous. Types include:
 - Fine Needle Aspiration (FNA) Biopsy
 - Core Needle Biopsy
 - Surgical Biopsy (if necessary)

6. TAKE ACTION FOR YOUR HEALTH

- **Free Screenings:** Check if you qualify for no-cost mammograms and cervical screenings through Early Detection Works.
- **Breast cancer screening saves lives.** Understanding your risk, following screening guidelines, and using available resources can help detect cancer early when treatment is most effective.
If you have concerns or symptoms, talk to your doctor today!



Appendix B - Breast Cancer Screening: A Provider's Guide

BREAST CANCER SCREENING: A PROVIDER'S GUIDE

1. ASSESS PATIENT RISK

- Women with dense breasts are 4–6 times more likely to develop breast cancer compared to women with low breast density (Boyd et al., 2010).
- Evaluate for BRCA1 or BRCA2 mutations, which increase lifetime breast cancer risk to 45–72% compared to 13% in the general population (National Cancer Institute, 2023).
- Identify first-degree relatives with breast or ovarian cancer, which doubles the patient's risk. Multiple affected relatives or early diagnoses further increase risk (CDC, 2023).
- Use validated tools (e.g., Gail Model, Tyrer-Cuzick Model) to assess lifetime breast cancer risk.
- Women with ≥20–25% lifetime risk are classified as high-risk and may require enhanced screening with MRI and mammography.

2. PROVIDE COUNSELING ON SCREENING OPTIONS

Average-Risk Patients:

- Ages 40–49: Discuss benefits and risks of starting screening early, including false positives and over diagnosis.
- Ages 50–74: Recommend biennial mammography, consistent with USPSTF and ACS guidelines. Screening in this group reduces breast cancer mortality by 30–40% (USPSTF, 2016).
- Ages 75+: Base screening decisions on health status, comorbidities, and life expectancy.

High-Risk Patients:

- Recommend annual mammography and breast MRI starting at age 30 or earlier, depending on risk factors (NCCN).
- Combine mammography with breast MRI for patients with a ≥20–25% lifetime breast cancer risk (National Cancer Institute, 2023).

3. PERFORM SCREENING

Clinical Breast Exam (CBE):

- Perform a thorough physical exam to detect lumps, skin changes, or other abnormalities.
- Typically conducted during annual wellness visits for women starting in their 20s.

Mammography:

- The gold standard for detecting breast cancer, with a sensitivity of 87% in non-dense breasts and 71–75% in dense breasts (CDC, 2023; Mandelblatt et al., 2016).

Ultrasound:

- Useful for characterizing abnormalities in dense breasts or as an adjunct to mammography, especially in high-risk patients.

Breast MRI:

- Particularly effective for detecting cancers in high-risk women, identifying 92.3% of cancers when combined with mammography (National Cancer Institute, 2023).
- Studies show breast ultrasounds can detect 2.3 additional cancers per 1,000 women with dense breasts, while MRI detects 8.2 additional cancers per 1,000 women (Berg et al., 2012).

4. ADDRESS ABNORMAL RESULTS

- Order diagnostic mammography or breast ultrasound for further evaluation.
- Perform or refer for biopsy (e.g., core needle biopsy) if imaging results are suspicious.
- Refer patients with confirmed or suspected breast cancer to oncologists, breast surgeons, or multidisciplinary teams.
- High-risk patients may also benefit from genetic counseling.

5. PROVIDE PATIENT EDUCATION AND RESOURCES

- Provide materials on breast self-awareness and signs of breast cancer.
- Discuss the importance of regular screening and adherence to follow-up.
- For uninsured or underinsured patients, connect them to programs like Early Detection Works (in Kansas) or federal screening programs.
- Be aware of disparities: Women in rural or underserved areas, like parts of Kansas, may have limited access to mammography and face higher rates of late-stage diagnosis (Kansas Cancer Partnership).

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Appendix C - Healthy Behaviors as Prevention: Evidence Based Interventions

Evidence Based Interventions for Cancer Prevention – KCP Prevention Workgroup

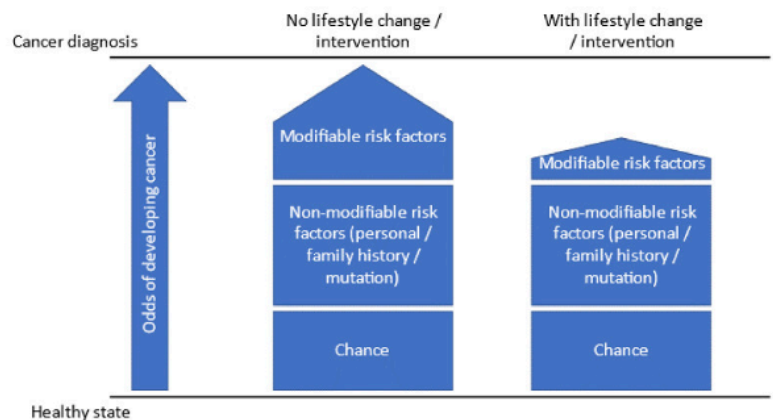
WHY IS THIS IMPORTANT?

“Risk perception influences behavior, so **the lack of awareness** of the importance of behavioral factors among both patients and healthcare professionals is concerning, undermining effective behavior change.” [1]

“Patients are often unaware or **have incorrect perceptions** about behavior and cancer risk. In a study that took place in a breast screening service, alcohol was identified as a risk factor by only 19.5% of healthy women attending the screening and by less than half of the healthcare professionals working there.” [1]

“Approximately 5%–10% of cancers are inherited, with the **majority** resulting from somatic mutations **acquired during a patient's lifetime**.” [2]

“An estimated 42% of cancer cases and 45% of cancer deaths in the US are attributed to potentially modifiable risk factors. This means that **almost half of all new cancers diagnosed are preventable** or could be detectable at an earlier stage leading to improved survival.” [2]



From: Diez de Los Rios de la Serna, C., Fernández-Ortega, P., & Lluch-Canut, T. (2022). Lifestyle Behavior Interventions for Preventing Cancer in Adults with Inherited Cancer Syndromes: Systematic Review. International journal of environmental research and public health, 19(21), 14098. <https://doi.org/10.3390/ijerph192114098>

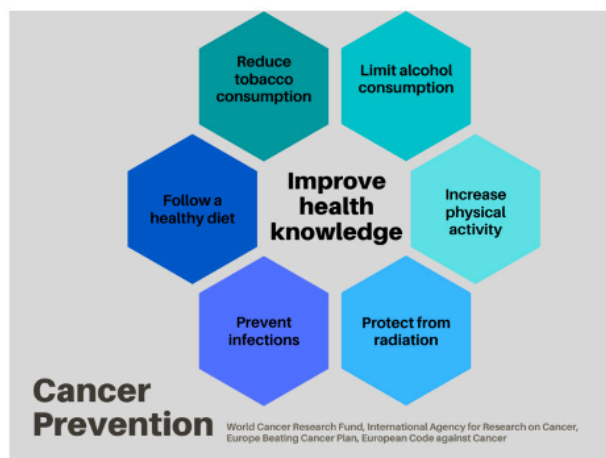
LIFESTYLE BEHAVIOR #1: PHYSICAL ACTIVITY

“Obesity is associated with an increased risk of developing several types of cancer: endometrial, esophageal, liver, stomach, kidney, multiple myeloma, pancreas, colorectal, gallbladder, ovary, postmenopausal breast and thyroid.” [2]

“It is suggested that physical activity **reduced 25-30% the risk of breast cancer**.” [3]

“Approximately 3% of cancer cases can be attributable to physical inactivity. Physical activity has been associated with a **reduced risk of colon cancer, endometrial cancer and postmenopausal breast cancer**.” [2]

“First, exercise improves the way that the body responds to the hormone insulin and may reduce levels of hormones such as estrogen. Second, physical activity has been shown to support the immune system, which is essential for immune surveillance to potentially destroy cancer cells. Aerobic exercise can decrease oxidative stress, which can damage DNA, and can also **enhance DNA repair mechanisms**.” [2]



LIFESTYLE BEHAVIOR #2: DIET

“Since cancer cells require more nutrients to support their uncontrollable proliferation, calorie restriction (CR) has been suggested to reduce the risk of cancer. CR would mean chronic reduction of energy intake by about 30% without malnutrition occurring. CR can extend lifespan and reduce age-related diseases including cancer. A systemic review reported that CR displayed a **75.5% reduction in tumor incidence** with a variety of tumor models.” [3]

“Increased consumption of non-starchy vegetables and fruits are associated with a **lower risk of mouth, laryngeal, esophageal and stomach cancers**. There is also evidence that higher vegetable intake may lower the risk of breast tumors.” [2]

“Around 4% of cancer cases can be attributed to poor diet, predominantly colon cancer. It has also been indicated that those individuals with the healthiest diets **are between 11% and 24% less likely to die from cancer** than those with unhealthy eating habits.” [2]

“Processed meat has been classified as a carcinogen based on the evidence of association with **increased colorectal cancer risk**. Although the specific mechanisms are not fully understood, substrates such as nitrates or nitrites used to process meats, and heme iron in red meat, can contribute to the formation of nitrosamines, which are implicated in carcinogenesis.” [2]

LIFESTYLE BEHAVIOR #3: ALCOHOL CONSUMPTION

"The direct link between alcohol consumption and cancer risk is well-established for at least seven types of cancer including cancers of the breast, colorectum, esophagus, liver, mouth (oral cavity), throat (pharynx), and voice box (larynx), regardless of the type of alcohol (e.g., beer, wine, and spirits) that is consumed. For breast cancer specifically, **16.4% of total breast cancer** cases are attributable to alcohol consumption." [4]

"For certain cancers, like breast, mouth, and throat cancers, evidence shows that the risk of developing cancer may start to increase around **one or fewer drinks per day**." [4]

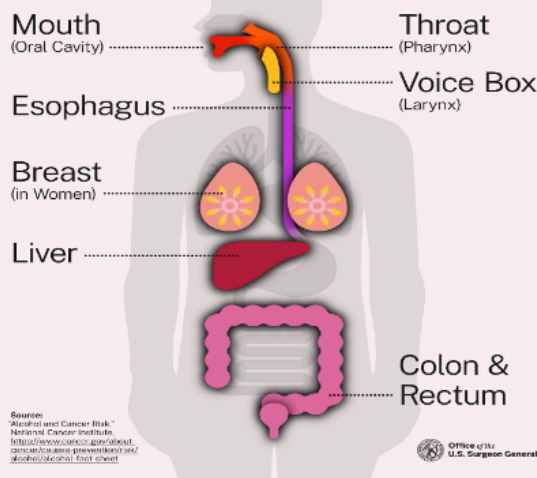
LIFESTYLE BEHAVIOR #4: SMOKING

"It has been well communicated to the general public that cigarette smoking causes lung cancer, following the first **US Surgeon General's Report on Smoking and Health in 1964**. This message does seem to be having an impact. In 1965, 42% of adults in the US were cigarette smokers, decreasing to 14% in 2017. However, the burden of smoking-related cancers remains high." [2]

"Smoking prevalence is higher in some parts of the population than others, for example those with low socioeconomic status or with a mental illness. It is estimated that around **30% of all cancer deaths** in the US are still caused by smoking." [2]

"Alcohol is a well-established, preventable cause of cancer responsible for about **100,000 cases of cancer and 20,000 cancer deaths annually in the United States** – greater than the 13,500 alcohol-associated traffic crash fatalities per year in the U.S. – yet the majority of Americans are unaware of this risk," said **U.S. Surgeon General Dr. Vivek Murthy**. [4]

Consuming alcohol increases the risk of developing at least 7 types of cancer



LIFESTYLE BEHAVIOR #5: MEDICAL INTERVENTIONS

HPV Vaccine: "More than 200 types of HPV have been identified, 20 of which have been associated with cancer." [2]

"Hepatitis B virus is the leading cause of **hepatocellular cancer** around the world. The hepatitis B vaccine has been available since 1982, it is on the infant immunization schedule in many countries including the US and the UK." [2]

Chemoprevention: Tamoxifen is approved for preventative use after the results of the Breast Cancer Prevention Trial showed a **49% reduction in invasive breast cancer** in a population of 13,000 high-risk women, for example those carrying mutations in the *BRCA1* gene." [2]

HOW CAN A CHANGE BE MADE? WHAT ARE THE ACTION STEPS?

Physical Activity

Diet

Alcohol Intake

Smoking

Medical Interventions

The Community Preventive Services Task Force (CPSTF) has identified the following as effective interventions for decreasing cancer risk:

1. Engagement with Community Health Workers
2. Patient navigation services
3. One-on-one education
4. Provider assessment and feedback

What is obtainable for the KCP Prevention Workgroup? What are the next steps?

1. Looking into funding opportunities?
2. Engaging CHWs into the initiative?
3. Deciding which risk factor to focus on first?

References:

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Appendix D - USPSTF Screenings and KanCare Coverage

Status	Topic Name	USPSTF Recommendation	Source of KanCare Recommendation	KanCare Coverage	Discrepancies?
Published 2024	Breast Cancer: Screening	Grade B: Biennial screening mammography for women aged 40 to 74	Professional manual page 8-62, 63	Link to Word Document A radiological mammogram is a covered diagnostic test under the following conditions: A patient has distinct signs and symptoms for which a mammogram is indicated; A patient has a history of breast cancer; or A patient is asymptomatic, based on the patient's history and other factors the physician considers significant, the physician's judgement is that a mammogram is appropriate.	KanCare does not specify age or how frequently screenings should take place – however the professional manual provides a blanket statement that leaves it up to a physician's judgement.
Published 2023	Skin Cancer: Screening	Grade I: Current evidence is insufficient to assess the balance of benefits and harms of visual skin examination by a clinician to screen for skin cancer in adolescents and adults	EM codes 99202-99215 and preventive med codes 99381-99397		
Published 2021	Colorectal Cancer: Screening	Grade A: Screening for colorectal cancer in all adults aged 50 to 75 Grade B: Screening for colorectal cancer in adults aged 45 to 49 years Grade C: Recommends that clinicians selectively offer screening for colorectal cancer in adults aged 76 to 85 years. Evidence indicates that the net benefit of screening all persons in this age group is small. In determining whether this service is	Bulletin 21233 Professional manual page 8-15	One of the following screening tests based upon clinical presentation: - Fecal occult blood testing (iFOBT) - Fecal immunoassay testing (FIT) - Multi-targeted stool DNA (mt-sDNA) - Sigmoidoscopy or colonoscopy for adults 45 to 75 years of age Intervals for recommended screening strategies:	USPSTF: Grade A 50-75, Grade B 45-49, Grade C 76-85 KanCare: Colonoscopy coverage only 45 to 79 (doesn't cover Grade C recommendation) According to the American Cancer Society, follow up

Status	Topic Name	USPSTF Recommendation	Source of KanCare Recommendation	KanCare Coverage	Discrepancies?
		appropriate in individual cases, patients and clinicians should consider the patient's overall health, prior screening history, and preferences.		Visual (structural) exams of the colon and rectum: - Colonoscopy every 10 years (G0105, G0120 or G0121) - Flexible sigmoidoscopy (FSIG) every 5 years (G0104 or G0106) Stool-based test: - Highly sensitive fecal immunochemical test (FIT) 82274 - Highly sensitive guaiac-based fecal occult blood test (gFOBT) 82270 - Multi-targeted stool DNA (mt-sDNA) every 3 years 81528	colonoscopies should be done every 1-3 years; however, it is only covered every 10 years.
Published 2021	Lung Cancer: Screening	Grade B: Annual screening with low-dose computed tomography (LDCT) in adults aged 50-80 years who have a 20 pack-year smoking history and currently smoke or have quit within the past 15 years. Screening should be discontinued once a person has not smoked for 15 years or develops a health problem that substantially limits life expectancy or the ability or willingness to have curative lung surgery.	Professional Manual 8-61, 62	Counseling visit to discuss need for lung cancer screening using low dose CT (LDCT) scan and Low dose CT scan for lung cancer screening is covered by Kansas Medicaid with Prior Authorization (PA) for the Fee-for-Service (FFS) population. Individuals must meet all criteria requirements, to have these services covered every 12 months. Determination of member eligibility - Age (50-77) - Asymptomatic (absence of signs or symptoms of lung cancer) - A specific calculation of cigarette smoking pack-years (tobacco smoking history of at least 20 pack-years (one pack-year = smoking one pack per day for one year; 1 pack = 20 cigarettes) - If a former smoker, the number of years since quitting	USPSTF: annual LDCT for 50-80 w/ 20 pack-year history KanCare: 50-77 years old w/ 20 pack-year history, doesn't include when screening should be discontinued (when patient hasn't smoked for 15 years or develops a health problem that limits life expectancy)

Status	Topic Name	USPSTF Recommendation	Source of KanCare Recommendation	KanCare Coverage	Discrepancies?
Published 2019	Pancreatic Cancer: Screening	Grade D: Recommends against screening for pancreatic cancer in asymptomatic adults.	Code 81162	Covered with CLIA requirements (aka – the providers must fill out specific paperwork and labs must be certified by CMS under CLIA to perform that tests that will be reimbursed)	Not included in the Fee-For-Service Provider Manual
Published 2018	Cervical Cancer: Screening	Grade A: Recommend screening for cervical cancer every 3 years with cervical cytology alone in women aged 21 to 29 years. For women aged 30 to 65 years, the USPSTF recommends screening every 3 years with cervical cytology alone, every 5 years with high-risk human papillomavirus (hrHPV) testing alone, or every 5 years with hrHPV testing in combination with cytology (cotesting). Grade D: Recommends against screening for cervical cancer in women younger than 21 years. Grade D: Recommends against screening for cervical cancer in women who have had a hysterectomy with removal of the cervix and do not have a history of a high-grade precancerous lesion (ie, cervical intraepithelial neoplasia [CIN] grade 2 or 3) or cervical cancer. Grade D: Recommends against screening for cervical cancer in women older than 65 who have had adequate prior screening and are not otherwise at high risk for cervical cancer.	Codes 87624-88365-88364 Cervical cytology codes: 88141–88143, 88147–88148, 88150, 88152–88153, 88164–88167, 88174, and 88175.	Covered with CLIA requirements (aka – the providers must fill out specific paperwork and labs must be certified by CMS under CLIA to perform that tests that will be reimbursed)	Not included in the Fee-For-Service Provider Manual
In Progress	Cervical Cancer: Screening	Grade A: Recommends screening for cervical cancer every 3 years with cervical cytology alone in women ages 21 to 29 years and then every 5 years with clinician- or patient-collected high-risk human papillomavirus (HPV) primary screening in women ages 30 to 65 years. As an alternative to HPV primary screening for women ages 30 to 65 years, the USPSTF recommends continued screening every 3 years with cervical cytology alone or screening every 5 years with high-risk HPV testing in combination with cytology (cotesting).			

Status	Topic Name	USPSTF Recommendation	Source of KanCare Recommendation	KanCare Coverage	Discrepancies?
		Grade D: Recommends against screening for cervical cancer in women younger than age 21 years. (same as previous recommendation) Grade <u>D</u>: recommends against screening for cervical cancer in women older than age 65 years who have had adequate prior screening and are not otherwise at high risk for cervical cancer. (same as previous recommendation) Grade D: Recommends against screening for cervical cancer in women who have had a hysterectomy with removal of the cervix and do not have a history of a high-grade precancerous lesion (i.e., cervical intraepithelial neoplasia [CIN] grade 2 or 3) or cervical cancer. (same as previous recommendation)			
Published 2018	Prostate Cancer: Screening	Grade C: For men aged 55 to 69 years, the decision to undergo periodic prostate-specific antigen (PSA)-based screening for prostate cancer should be an individual one. Before deciding whether to be screened, men should have an opportunity to discuss the potential benefits and harms of screening with their clinician and to incorporate their values and preferences in the decision. Screening offers a small potential benefit of reducing the chance of death from prostate cancer in some men. However, many men will experience potential harms of screening, including false-positive results that require additional testing and possible prostate biopsy; overdiagnosis and overtreatment; and treatment complications, such as incontinence and erectile dysfunction. In determining whether this service is appropriate in individual cases, patients and clinicians should consider the balance of benefits and harms <u>on the basis of</u> family history, race/ethnicity, comorbid medical conditions, patient values about the benefits and harms of screening and treatment-specific outcomes, and other health needs. Clinicians should	84153	Covered with CLIA requirements (aka – the providers must fill out specific paperwork and labs must be certified by CMS under CLIA to perform that tests that will be reimbursed)	Not included in the Fee-For-Service Provider Manual

Status	Topic Name	USPSTF Recommendation	Source of KanCare Recommendation	KanCare Coverage	Discrepancies?
		not screen men who do not express a preference for screening. Grade D: Recommends against PSA-based screening for prostate cancer in men 70 years and older.			
In Progress	Prostate Cancer: Screening	Still in research phase, draft is not available yet.			
Published 2018	Ovarian Cancer: Screening	Grade D: Recommends against screening for ovarian cancer in asymptomatic women who are not known to have a high-risk hereditary cancer syndrome.	81432, 81433, 76856, 76857	81433: not covered (used when performing a genetic test to check for mosaicism - when an individual has more than one genetically distinct population of cells in their body) using advanced sequencing techniques. 81432: subject to CLIA requirements (used for next-generation sequencing (NGS) to identify genetic mutations related to hereditary cancer syndromes, specifically BRCA1 and BRCA2 gene mutations) 76856 (transabdominal pelvic ultrasound): may require specific diagnoses and review of documentation for claim processing. 76857 (transvaginal pelvic ultrasound): may require specific diagnoses and review of documentation for claim processing. Abdominal plain films and ultrasound are considered medically necessary when the primary diagnosis clearly indicates one of the following: • Abdominal pain, nausea/vomiting • Complications associated with ulcers • Intestinal obstruction • Gallbladder disease • Injury to the abdomen or kidneys • Malignant neoplasm of the abdominal organs • An abdominal plain film may be warranted in a pregnant member when the member is in labor, fetal position is questionable, and OB ultrasound is unavailable.	The provider manual does not specify the specific diagnoses that would constitute coverage of the ultrasounds. (manual page 8-60) The provider manual does not specify coverage for ultrasounds for oncology related reasons, and instead only specifies coverage for oncology PET scans. (manual page 8-65)

Status	Topic Name	USPSTF Recommendation	Source of KanCare Recommendation	KanCare Coverage	Discrepancies?
				Supporting documentation must be attached to the claim. It may be necessary to contact the ordering physician for medical necessity information	
Published 2017	Thyroid Cancer: Screening	Grade D: Recommends against screening for thyroid cancer in asymptomatic adults.	76536, 84443, 84436, 84479, 10021	76536 thyroid ultrasound: covered (not sure of requirements for coverage) 84443 TSH test: subject to CLIA requirements 84436 T4 test: subject to CLIA requirements 84479 free T4 test: subject to CLIA requirements 10021 fine needle aspiration for a thyroid nodule: 81479 genetic testing related to thyroid cancer: not covered	The provider manual does not specify the specific diagnoses that would constitute coverage of the ultrasounds. (manual page 8-60) The provider manual does not specify coverage for ultrasounds for oncology related reasons, and instead only specifies coverage for oncology PET scans. (manual page 8-65)
Published 2011	Testicular Cancer: Screening	Grade D: Recommends against screening for testicular cancer in adolescent or adult men.	76870, 81503, 86308, 86304, 81479	76870 testicular ultrasound: covered (not sure of requirements for coverage) 81503 panel for cancer markers: not covered 86308 AFP test: subject to CLIA requirements 86304 hCG test: subject to CLIA requirements	The provider manual does not specify the specific diagnoses that would constitute coverage of the ultrasounds. (manual page 8-60) The provider manual does not specify coverage for ultrasounds for oncology related reasons, and instead only specifies coverage for oncology PET scans. (manual page 8-65)

Appendix E - EDW Contract Workflows

No EDW Contract Workflow

Process for EDW providers who communicated they no longer want to Contract with EDW or have not returned an updated EDW Contract.

Date: 02/05/2025

The process below applies to the following EDW Providers

- Providers who communicated they no longer want to Contract with EDW.
- Providers who have not returned an updated Contract after several attempts to obtain Contact form and W9.
- Providers who have submitted incomplete Provider Contact Form and/or W9 with multiple attempts to obtain corrected forms.

Suzanne Proctor will send a list to the appropriate **Regional Nurse** of providers who fall into one of the above categories including a note with which category they fall into. Please include any previous communication and/or documents with said provider. ****frequency TBD****

Regional Nurse will set up meeting with provider to :

Document reasons for no longer wanting to participate in EDW program and address if possible.

Obtain a signed Contract on sight (include W9) – received permission from **BHP Contract Specialist**.

Complete together the provider contact form and W9 to begin Contracting process.

Obtain any missing information to begin Contracting process.

Was the contract signed during the meeting?

Yes

Regional Nurse will
i. Send signed Contract and W9 to **Laura Ortiz** to obtain Secretary's signature.
ii. Send Provider Contact form and W9 to **Laura Ortiz** to begin the contracting process.

No

Regional Nurse will report detailed outcome of each onsite provider meeting (EDW issues reported, how addressed, etc.) on monthly nurse report.

Launch

New EDW Contract Workflow

Process for EDW providers who communicated they want to contract with EDW for the first time.

Date: 02/05/2025

1. **Regional Nurse** works with provider to obtain a W9 and EDW Provider Contacts Form.
2. W9 and EDW Provider Contacts Form go to **Laura Ortiz** for review of completeness.
3. **Laura Ortiz** saves the approved W9 and EDW Provider Contacts Form on the I-Drive.
File Path: Health Promotion > Contracts > EDW Self-Renewing Provider Contracts > Provider W9s/Provider Contacts Forms
4. **Laura Ortiz** enters the new provider in the Contract Tracker and pings **Alicia Padilla** in Tracker to notify her of new provider.
File Path: KDHE Cancer Team > EDW Channel > Files > Provider Contracts
5. **Alicia Padilla** checks SMART for provider information.
6. If not in SMART, **Alicia** pings **Laura Ortiz** to send an email to **Ashley McCarley** (Ashley.N.McCarley@ks.gov) for the billing address to be added.
7. **Ashley McCarley** confirms SMART info
8. **Laura Ortiz** pings **Alicia** to notify that it is ready
9. **Alicia** enters provider SMART info on Tracker and pings **Laura** once complete.
10. **Laura Ortiz** uses the Provider Numbers List to assign a Provider ID.
11. **Laura Ortiz** creates provider's Catalyst120 profile and updates contact information (leaving provider inactive in Vendor Management).
12. **Laura Ortiz** adds the provider to BHP Contract Specialist DocuSign sheet for routing.
13. **BHP Contract Specialist** routes contract for Secretary's signature.
14. On a weekly basis, **Suzanne Proctor** reviews the EDW Provider Contracts spreadsheet of executed new provider contracts, forwards a copy of contract docs to Regional Nurse.
Email: You are being notified that the contract for ##### - Provider Name was fully executed on MM/DD/YY.
Attachments: the contract PDF, the Provider Contacts Form.
15. **Suzanne Proctor** sends email to **Regional Nurse** to notify Regional Nurse of new provider in their region.
16. **Regional Nurse** schedules appointment with new provider to:
 - Review EDW program guidelines.
 - Complete the provider networking tool.
 - Review Contract deliverables.
 - Determine who will be trained to conduct EDW enrollments/billing.
17. **Regional Nurse** sends provider networking tool to **Laura Ortiz**.
18. **Laura Ortiz** enters provider network in Catalyst and activates provide profile.
19. **Regional Health Educators** sets provider up with EDW training through the Kansas Train platform.

Existing EDW Contract Workflow

Process for EDW providers who wish to re-initiate or renew a prior EDW contract.

Date: 02/05/2025



Appendix F - Case Management Report Instructions

Case Management Report Instructions

Purpose: Follow up with any patients needing diagnostic breast/cervical services.

The case management report is run by regional nurses at the beginning of each monthly. All EDW patients requiring diagnostic breast and/or cervical services are identified and follow up with using this report. The report must be completed in its entirety every month.

Last updated 11/26/2024

GENERATING THE CASE MANAGEMENT REPORT

1. Set Date Parameters

- Run case management report going back 2 years from today for the start date and subtract 60 days from today's date for the end date.

Example:

- Today's date = 5/1/23
- Case management start date = 5/1/21
- Case management end date = 3/1/23

2. Run the Report

- Click Run Report

A screenshot of a web application window titled "Case Management Report". Inside, there is a "Criteria" dialog box with a close button (X) in the top right corner. The dialog box has a "Date:" label followed by two date input fields. The first field contains "5/1/2021" and the second field contains "3/1/2023", with a "to" label between them. Below the date fields are two buttons: "Close" and "Run Report".

3. Filter for Region

- Choose the region you're working on (NE, SE, NC, SC, W).
 - Always include N/A and Blank

A screenshot of a web application window titled "Case Management Report" with a subtitle "From: 4/1/2024 To: 4/30/2024". Below the title is a table with the following columns: "Participant ID", "Case Type", "First Name", "Last Name", "Birth Date", "County Of Residence", "Region", and "Uninsured Provider". Each column has a dropdown arrow below it. The table is currently empty.

- Click the **filter button** and choose “**Contains**” to exclude unnecessary services while including your chosen region, N/A, and blanks.

Case Management Report
From: 4/1/2024 To: 4/30/2024

Participant ID	Case Type	First Name	Last Name	Birth Date	County Of Residence	Region	Enrollment Provider	Encounter Provider	Cycle
106008	Missing Encounter	Inebi	Vasquez Diaz	08/10/1998	Lyon	SL - Southeast		N/A	1
1023786	Short Term Follow Up	Roxanne	Combar	06/03/1983	Lyon	SE - Southeast		Cotton Oral Clinic - Topoke	2
1053172	Short Term Follow Up	Josephine	Pugh	09/01/1986	Lyon	SL - Southeast		Radiology & Nuclear Medicine LLC	2
1051506	Short Term Follow Up	Adriana	Miranda	03/06/1960	Lyon	SE - Southeast		Caro/Vic, Inc.	1
1066823	Short Term Follow Up	Misty	Graeme	02/02/1971	Chase	SL - Southeast		Radiology & Nuclear Medicine LLC	1
1038399	Short Term Follow Up	Cynthia	Weston	04/19/1968	Cherokee	SE - Southeast		Community Health Center of SE KS	3
1058952	Short Term Follow Up	Maria	Ochoa	04/05/1973	Barton	W - West		Hays Medical Center	1
986101	Short Term	Danessa	Dancer	04/08/1980	Cross	W - West	First Care Clinic Inc	Hays Medical Center	2

EXPORTING AND PREPARING THE REPORT IN EXCEL

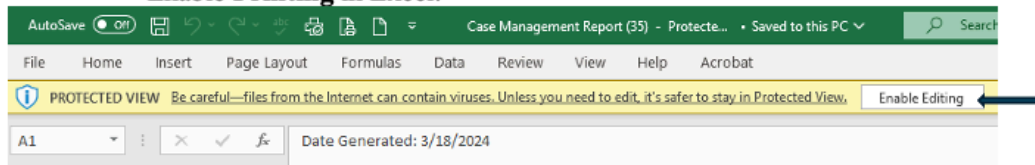
1. Export Data

- Click **Export to Excel** to transfer the data to a spreadsheet.

Case Management Report
From: 5/1/2021 To: 2/1/2023

Participant ID	Case Type	First Name	Last Name	Birth Date	County Of Residence	Region	Enrollment Provider
113921	Recent Abnormal	Mary	Rangel	07/09/1965	Johnson	NE - Northeast	Health Partnership Clinic of Johnson Co
115713	Recent Abnormal	Leticia	Tinajero-Rayes	07/25/1971	Johnson	NE - Northeast	Health Partnership Clinic of Johnson Co
196065	Recent Abnormal	Edna	Ferreira	10/14/1969	Johnson	NE - Northeast	Health Partnership Clinic of Johnson Co
882651	Recent Abnormal	Maria	Fernandez	05/02/1976	Wyandotte	NE - Northeast	Turner House Clinic Inc

- Enable **Printing** in Excel.

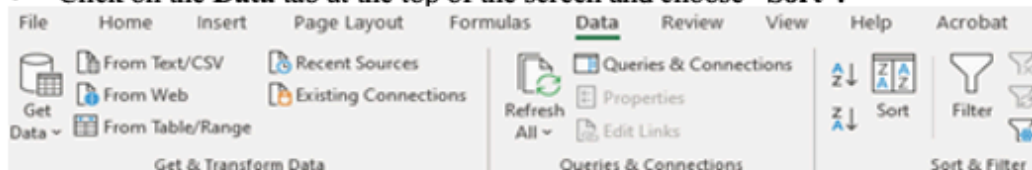


2. Clean Up the Spreadsheet

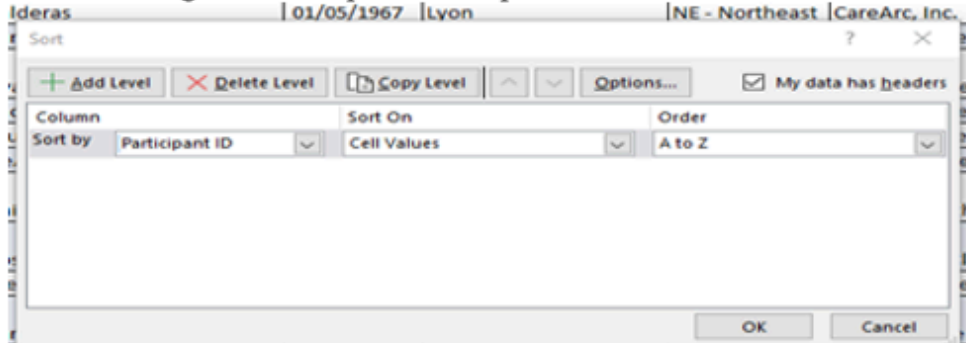
- Delete any **blank rows at the top** before applying filters. This must be done for the filtering to work.

	A	B	C	D	E	F	G	H
1								
2								
3								
4								
5								
6	Participant ID	Case Type	First Name	Last Name	Birth Date	County Of Residence	Region	Enrollment Provider
7	31542	Recent Abnormal	Marilyn	Garrett	01/29/1964	Johnson	NE - Northeast	Unified Government Public Health Department

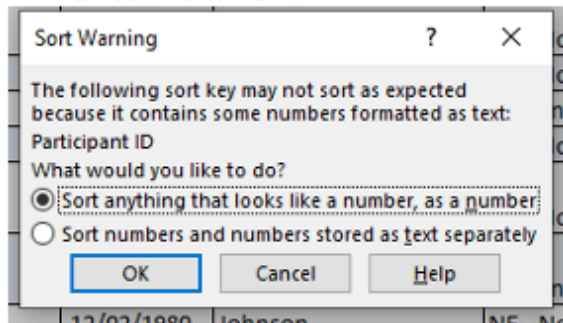
- Click on the **Data** tab at the top of the screen and choose **"Sort"**.



- Sort the data by **PID** to group patients together. This will place all patients in order by PID so you're not looking at the same patient multiple times.

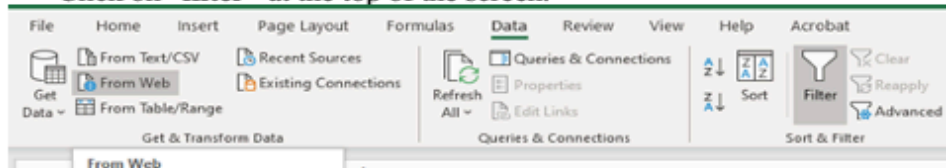


- After sorting by PID, this warning will appear. Select **"Sort anything that looks like a number, as a number."** Click OK.



3. Apply Filters

- Click on **"filter"** at the top of the screen.

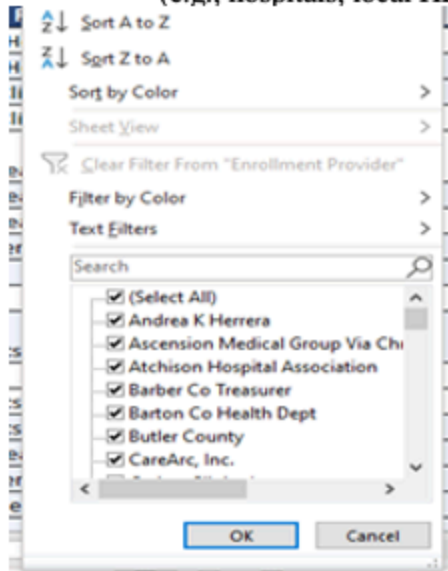


- This will place a “carrot” at the top of each column, this is your filter button.

Case Type	First Name	Last Name	Birth Date	County Of Residence	Region	Enrollment Provider
-----------	------------	-----------	------------	---------------------	--------	---------------------

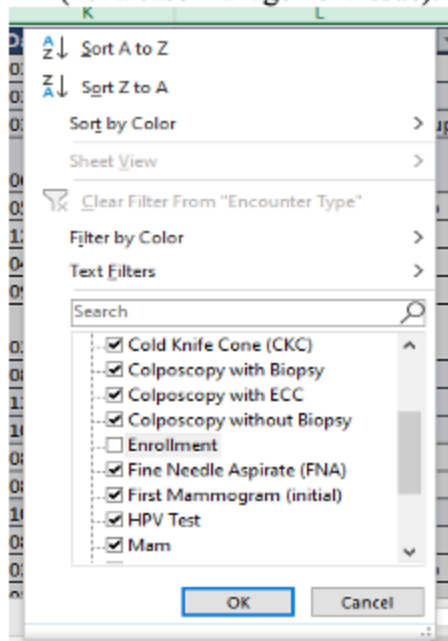
Filter for all ENROLLMENT providers in your region (COLUMN H)

1. Click on the **filter** button
2. Click “**Select All**” to remove all checkmarks
3. Manually select all providers in your region, including **N/A, Blank, and generic providers** (e.g., hospitals, local HDs).



Filter the Encounter Type

- Uncheck **Enrollment** to remove patients needing follow-up due to missing enrollment in the cycle (not a case management issue).



Filter Recommended Follow Up

- Remove patients with **Short-Term Follow-up** or **Pap in 1 Year** to focus on relevant case management issues.

Sort A to Z
Sort Z to A
Sort by Color
Sheet View
Clear Filter From "Recommended Follow-up..."
Filter by Color
Text Filters
Search
☒ Gynecologic consultation
☒ LEEP
☒ MRI
☒ N/A
☒ Pap in 1 year
☒ Pap in 3 years
☐ Short-term follow up
☐ Short-term FU
☒ Ultrasound
OK Cancel

Filter Breast Diagnosis Status

- Exclude patients marked as **Lost to Follow-up** and **Irreconcilable**

Sort A to Z
Sort Z to A
Sort by Color
Sheet View
Clear Filter From "Breast Diagnosis ..."
Filter by Color
Text Filters
Search
☒ (Select All)
☒ Lost to Follow-up
☐ Work-up Complete
☐ (Blanks)
OK Cancel

Filter Cervical Diagnosis Status

- Exclude patients marked as **Lost to Follow-up** and **Irreconcilable**

Sort A to Z
Sort Z to A
Sort by Color
Sheet View
Clear Filter From "Cervical Diagnosis ..."
Filter by Color
Text Filters
Search
☒ (Select All)
☒ Lost to Follow-up
☐ Work-up Complete
☐ (Blanks)
OK Cancel

FINAL STEPS & REVIEW

- The remaining report contains the **patients requiring follow-up**.
- Review **N/A's and Blanks** to determine which region is responsible.
- If in doubt, **the enrollment provider determines the responsible region** for processing EDW claims.

CHECKLIST BEFORE SUBMISSION

- ✓ Date parameters correctly set
- ✓ Data exported and cleaned (blank rows removed)
- ✓ Filters applied correctly (Regions, Encounter Type, Follow-Up, Diagnosis Status)
- ✓ N/A's and Blanks reviewed for regional responsibility
- ✓ Report reviewed and ready for case management follow-up

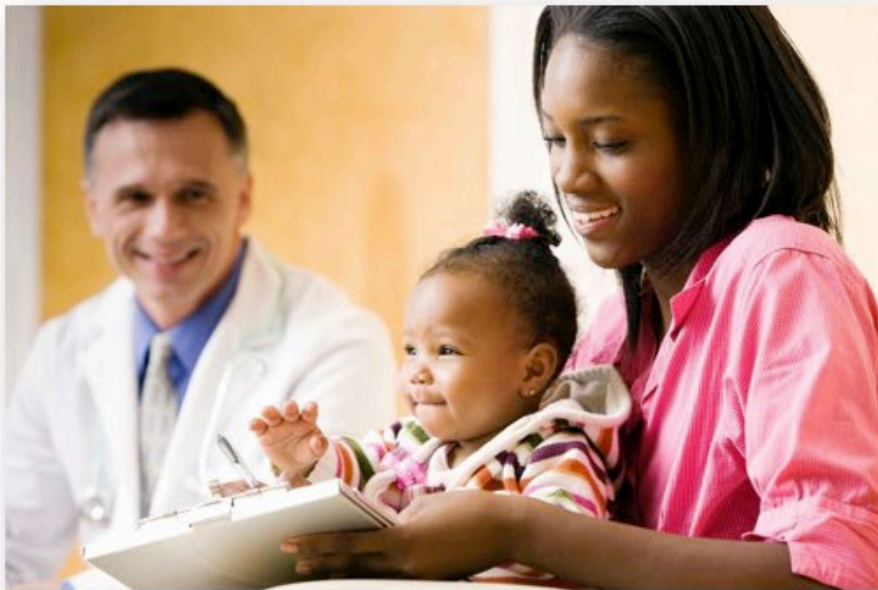
Note: Providers cross regions, so always verify with the enrollment provider if unsure.

Appendix G - Cancer 101 KansasTRAIN Module



Cancer 101: Understanding Cancer Prevention, Screening, and Disparities

Course Objectives



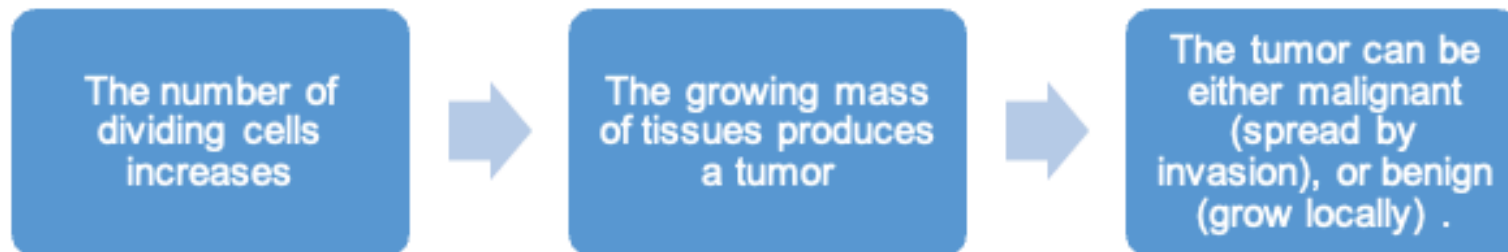
- Understand cancer prevention, screening, treatment, and disparities.
- Highlight the role of Community Health Workers (CHWs) in cancer education and advocacy.
- Equip participants with tools to address barriers to cancer care.
- Empower CHWs to advocate for patients and navigate healthcare systems.

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Overview of Cancer

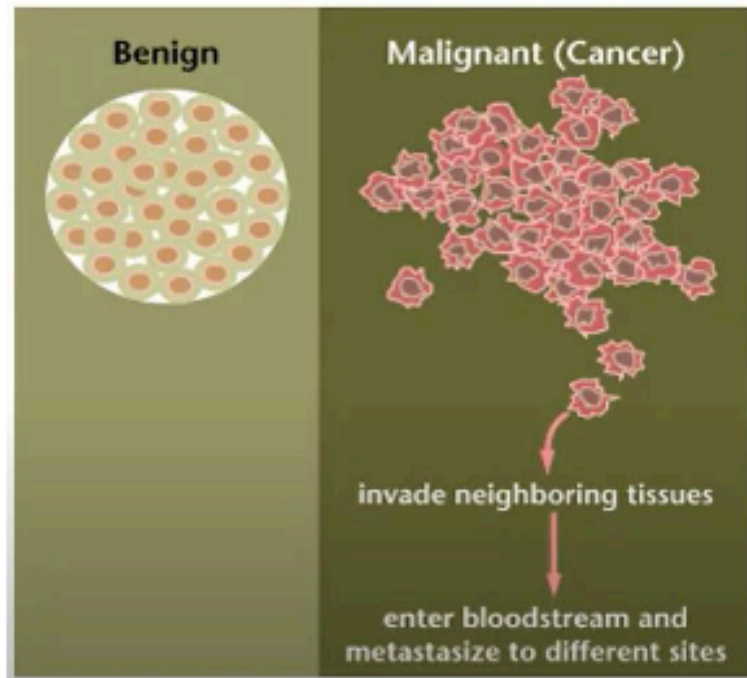
- Cancer is a disease in which abnormal cells grow uncontrollably and can spread to other parts of the body.
- There are over 100 types of cancer, affecting different body tissues.
- A tumor can be benign (non-cancerous) or malignant (cancerous).

Cancer is essentially uncontrollable growth of cells:



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Malignant vs Benign Tumors



- **Benign tumors** do not spread to other parts of the body. They grow slowly and remain in one place. They are not cancerous but can still cause problems if they press on nearby organs or tissues.
- **Malignant tumors** are cancerous. They grow uncontrollably, invade surrounding tissues, and can spread (metastasize) to other parts of the body through the blood or lymphatic system.

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Common Types of Cancer

Cancers are categorized based on the tissue or cell type from which it originates.

Carcinomas: start in the cells that cover external and internal organs or glands

Common carcinomas in the US: lung, breast, prostate, and colorectal cancers

Sarcomas: start in cells of the supporting tissues of the body

Bone, cartilage, fat, connective tissue, and muscle

Lymphomas: start in the lymph nodes and tissues of the body's immune system

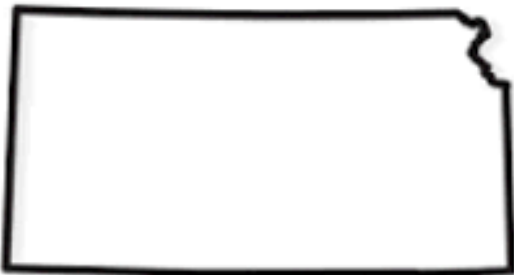
Leukemias: start in the immature blood cells that grow in the bone marrow

Cancer in Kansas

Cancer is the **second** leading cause of death in Kansas.

Rural populations have higher mortality rates for several cancers due to limited access to healthcare.

- Colorectal cancer: Rural patients are 30% more likely to die than urban patients
- Melanoma: 20% higher mortality rate in rural populations
- Esophageal cancer: 10% higher mortality rate in rural areas
- Lung cancer: 10% higher mortality rate in rural areas
- Bladder cancer: 20% higher mortality rate in rural areas
- Prostate Cancer: Black patients are 1.7x more likely to die than white patients



Black and Hispanic patients face higher cancer mortality rates compared to White populations due to disparities in screening and treatment.

- Stomach Cancer: Black patients are 1.7x more likely to die and Hispanic patients are 2.6x more likely to die than white patients
- Pancreatic Cancer: Black patients are 1.5x more likely to die than white patients
- Liver Cancer: Black patients are 1.4x more likely to die and Hispanic patients are 1.8x more likely to die than white patients
- Kidney Cancer: Hispanic patients are 1.5x more likely to die than white patients
- Non-Hodgkin's Lymphoma: Hispanic patients are 1.4x more likely to die than white patients.

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Cancer Risk Factors

In the United States 4 out of 10 cancer cases and almost half of all deaths from cancer are associated with preventable risk factors



Lifestyle Factors



Diet



Environmental Factors



Genetics

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Risk Reduction Activities

- Eat a **healthy diet** rich in fruits, vegetables, and whole grains.
- Engage in **regular physical activity** (at least 30 minutes daily).
- Avoid **tobacco and excessive alcohol consumption**.
- Get **HPV and Hepatitis B** vaccinations.
- Protect yourself from **excessive sun exposure** and test homes for **radon**.



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HPV and Cancer



- **What is HPV?** Human papillomavirus (HPV) is the most common sexually transmitted infection (STI). It is linked to cervical, throat, and anal cancers.
- **Annual HPV-related cancer cases:** Approximately 36,500 in the U.S.
- **HPV vaccination schedule:**
 - 2 doses (ages 9-14).
 - 3 doses (ages 15-45 or immunocompromised individuals).

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USPSTF Cancer Screening Guidelines: Breast Cancer

- **Screening:** Mammogram every 2 years starting at age 40 (individual decision) and biennially for ages 50-74 (USPSTF).
- **Diagnostic:** Ultrasound, MRI, biopsy if abnormalities are detected.
- Women should discuss individual risks with their doctor.
- Family history should be assessed; genetic counseling or high-risk clinics may be considered.



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USPSTF Cancer Screening Guidelines: Cervical Cancer



- Pap tests detect abnormal cells.
- **Ages 21-29:** Pap test every 3 years.
- **Ages 30-65:** Pap test every 3 years or Pap + HPV co-testing every 5 years.
- Pap testing has **reduced cervical cancer deaths by 70%** since its discovery in 1930.

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USPSTF Cancer Screening Guidelines: Colorectal Cancer

- Screening starts at age 45 based on average risk.
- **Outpatient:**
 - Colonoscopy: Every 10 years.
 - CT colonoscopy (virtual): Every 5 years.
 - Sigmoidoscopy: Every 5 years.
- **At-home tests:**
 - Fecal immunochemical test (FIT): Annually (detects blood in stool).
 - Stool DNA test (e.g., Cologuard): Every 3 years.
- Abnormal results from at-home tests may require follow-up colonoscopy.



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USPSTF Cancer Screening Guidelines: Lung Cancer



- **Low Dose CT scans** detect cancers that are not visible on X-rays and before symptoms appear.
- Annual screening recommended for:
 - **Ages 50-80** with a history of smoking (**20+ pack-years**).
 - Current smokers or those who quit within the last 15 years.
- **Pack-year calculation:** Years smoked × packs per day.
- Example: 2 packs/day for 10 years = 20 pack-years (eligible for screening).

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USPSTF Cancer Screening Guidelines: Prostate Cancer

- All men are at risk, but Black men are twice as likely to develop prostate cancer.
- Age is the most common risk factor.
- **PSA Test:** Measures prostate-specific antigen levels in the blood.
- **Digital Rectal Exam (DRE):** Doctor examines prostate for abnormalities.
- **Screening Guidelines (USPSTF):**
 - Ages 40-54: Baseline screening for high-risk individuals (Black men, those with a first-degree relative with prostate cancer).
 - Ages 55-69: Shared decision-making with provider.
 - Screening frequency: PSA and DRE annually.
 - Screening is **not** recommended for men aged 70+.



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Barriers to Screening and Early Detection



**Cultural
Myths and
Beliefs**



**Language and
Communication
Barriers**



**Financial and
Transportation
Challenges**



**Lack of
Awareness**

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Common Myths About Cancer

“Cancer is contagious.”
(False)

“Surgery spreads cancer.” (False)

“Only people with a family history get cancer.” (False)

“Screening prevents cancer.”
(False, but early detection saves lives.)

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The Role of CHWs in Cancer Prevention and Care

- Patient navigation, connecting individuals to screening programs (e.g., Early Detection Works).
- Addressing language and cultural barriers.
- Providing emotional support and education.
- Examples of Previous CHW Successes:
 - A Colorado CHW initiative significantly increased breast cancer screening rates among Latina women.¹
 - A Massachusetts CHW program helped 200,000 uninsured individuals enroll in healthcare programs.¹
 - A Washington-based intervention increased mammography follow-up rates by 10-23% for women without health insurance.²



1. National Rural Health Association. (2017). Community health workers: NRHA policy paper. https://www.ruralhealth.us/getmedia/46181600-f90e-433c-8d18-9b4f6e8ed3ec/Community-Health-Workers_Feb-2017_NRHA-Policy-Paper.pdf
2. Andersen, M. R., Yasui, Y., Meischke, H., Kuniyuki, A., Etzioni, R., & Urban, N. (2000). The effectiveness of mammography promotion by volunteers in rural communities. *American journal of preventive medicine*, 18(3), 199–207. [https://doi.org/10.1016/s0749-3797\(99\)00161-0](https://doi.org/10.1016/s0749-3797(99)00161-0)

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Call to Action: Promoting Health Equity in Cancer Care



- Collaboration among healthcare providers, CHWs, and communities.
- Expanding culturally competent care.
- Resources for patients and CHWs:
 - Early Detection Works (free screening program in Kansas).
 - Masonic Cancer Alliance – Tobacco Cessation.
 - Kansas Tobacco Quitline (1-800-QUIT-NOW).
 - National Cancer Institute, American Cancer Society.

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A Closer Look at Resources in Kansas

Early Detection Works

The State of Kansas free breast and cervical cancer screening program for qualifying women.
Call 1-877-277-1368 #1 English or #2 Spanish

KanQuit: Kansas Tobacco Quitline
1-800-QUIT-NOW
Ksquit.org

Mason Cancer Alliance Tobacco Cessation Program
www.hit.ly/MCATobaccoCessation

Trustworthy Resources and Websites:

- National Cancer Institute
- American Cancer Society
- Center for Disease Control and Prevention
- U.S. Preventative Services Task Force

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References

This course was made possible through the generous permission of the Masonic Cancer Alliance whose material was integral to the development of this content.

We gratefully acknowledge their contributions. See below for more information regarding this organization.



The MCA is the outreach network of The University of Kansas Cancer Center. It is a membership-based organization that brings cancer research, care, and support professionals together to advance the quality and reach of cancer prevention, early detection, treatment, and survivorship in the Heartland.