Medicine Strategic Clinical Network™

Transformational Roadmap 2021-2026

Alberta Health Services
Inspiring solutions. Together.
Medicine Strategic Clinical Network™

September 29, 2022

https://www.albertahealthservices.ca/medicinescn

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Table of Contents

A word from our Leadership

The Medicine Strategic Clinical Network™ (SCN™), formed in April of 2020, represents the next step toward inspiring solutions in health care. By reorganizing Kidney Health and Respiratory Health networks into sections, adding a new Hospital Medicine section, and folding these under the new Medicine SCN, we look to build on success while expanding our impact.

Empowering patients, enhancing integration, and addressing gaps in care, serve as the Strategic Directions that guide our activities. They are a synthesis of stakeholder input and align well with Alberta Health Services (AHS) priorities.

The creation of the Medicine SCN with a broad mandate that spans hospital medicine, kidney, and respiratory patient populations, provides an opportunity to advance the common goals and interests that are reflected in our Strategic Directions, and to foster collaboration to address complex multidisciplinary and cross-sectoral challenges.

While much of our efforts will be focused at the section level, we will accomplish even more when the whole Medicine SCN community works together, sharing ownership of the health system challenges and directing our energy and resources towards solutions.

Expertise and enthusiasm are evident among our membership. Patient and family engagement will continue to be highly valued. We are excited to partner with you to achieve the goals set out in this Transformational Roadmap. Thank you for your interest in the Medicine SCN.

Sincerely,

Dr. Anna Purdy
Senior Medical Director
Medicine Strategic Clinical Network
Alberta Health Services

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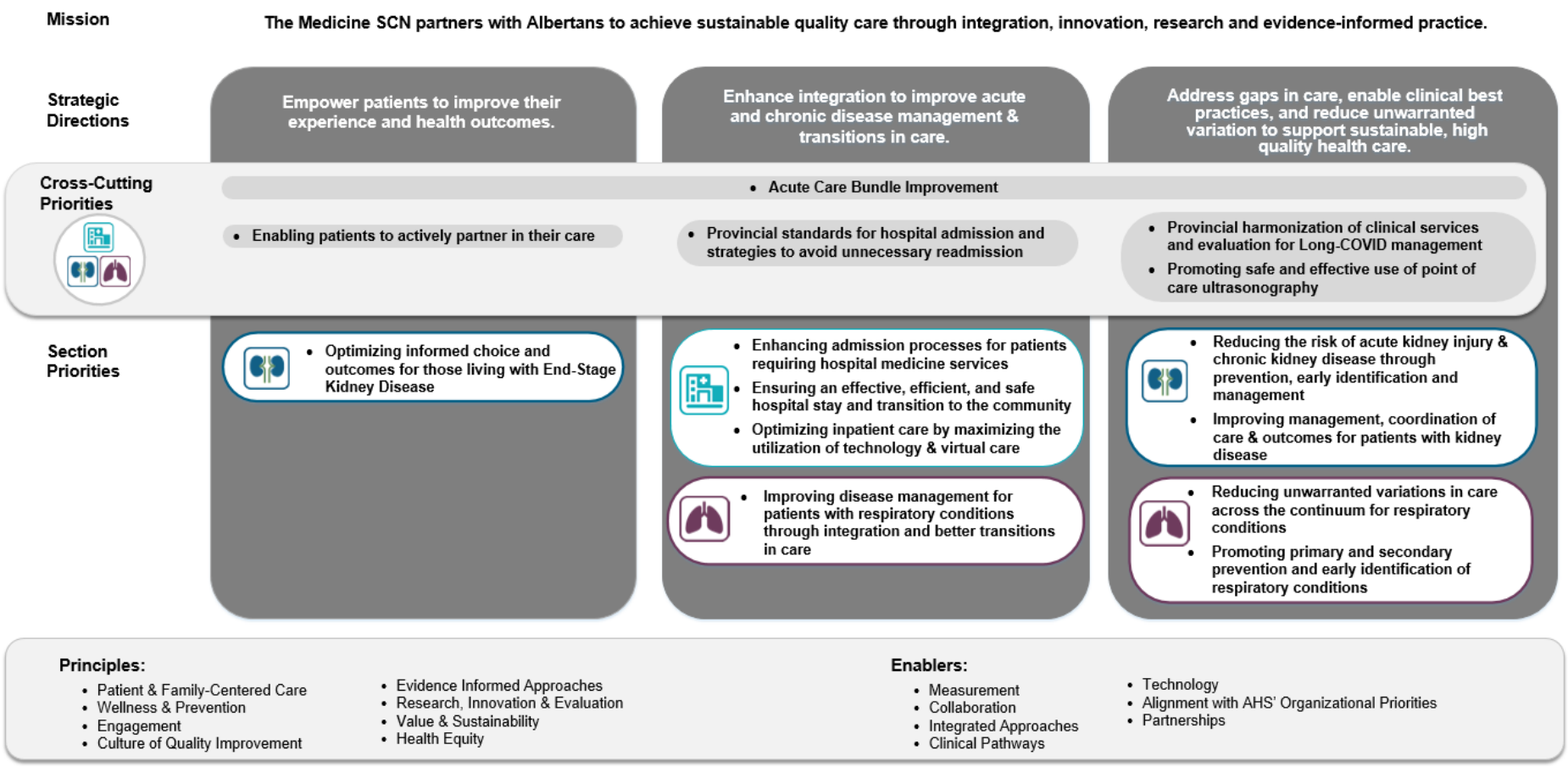
Medicine SCN™
Transformational Roadmap 2021-2026

Medicine SCN's Transformational Roadmap At a Glance (2021 – 2026)



About the Medicine Strategic Clinical Network

The Medicine Strategic Clinical Network™ (SCN™) brings together the expertise of clinicians, researchers, patient advisors, operational leaders, community partners, and others to ensure integrated, high-quality care, and patient- and family-centered solutions in kidney health, respiratory health, and hospital medicine.

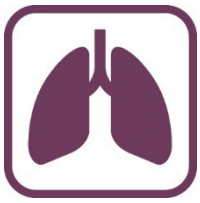
Alberta Health Services (AHS) underwent a performance review in 2019, resulting in recommendations that included a review of the existing structure, number, and mandate of our SCNs. After consultation with many AHS leaders to identify potential opportunities to create stronger, unified teams supporting and driving clinical excellence and to address gaps in the scope of the SCNs, a decision was made to create a new Medicine SCN through the amalgamation of the Respiratory Health and Kidney Health SCNs into sections underneath the new network coupled with the addition of a newly created Hospital Medicine section.

The network was launched in April of 2020 and builds on past achievements in kidney and respiratory health, while extending its scope and relationships to hospital medicine to capitalize on opportunities to advance common priorities, tackle complex, multidisciplinary challenges, and accelerate innovation and health system improvements on a provincial scale.

The Medicine SCN includes three Sections (*presented in alphabetical order throughout this document*):

Hospital Medicine

Kidney Health



Respiratory Health

Each Section has a specific area of focus and is united by a shared Medicine SCN mission to partner with Albertans to achieve sustainable quality care through integration, innovation, research, and evidence-informed practice. Bringing them together under one umbrella enables cross-cutting projects and initiatives with a broader reach to improve continuity of care, outcomes and safety, and patient experience. In doing so, enables a learning health system working towards the advancement of the quadruple aim.

A Medicine SCN Core Committee, with diverse geographic and disciplinary representation from each of the three Sections, provides broad oversight and direction across all patient populations and identifies opportunities for far-reaching and cross-

cutting health-system improvements. The Hospital Medicine, Kidney Health, and Respiratory Health Section Committees identify gaps, issues, strategies, priorities, and performance indicators for the specific populations they serve (Figure 1).

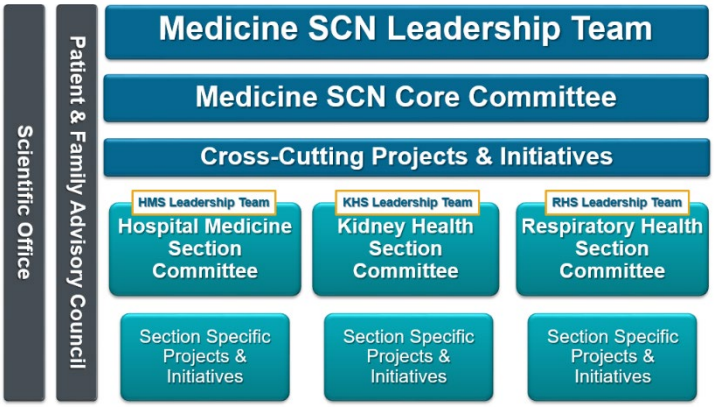


Figure 1: Medicine SCN Organizational Structures

The Scientific Office of the Medicine SCN champions and facilitates a wide-ranging research agenda addressing the health needs of the hospital medicine, kidney, and respiratory populations, and focuses on improving the evidence base, methodological rigor, and sustainability of Alberta's health system. The overall goal of the Scientific Office is to achieve excellence in sustainable quality care and outcomes for Albertans through innovation and the application of the best evidence. The Scientific Office also works towards using practice-based evidence to drive research and innovation in areas where knowledge gaps exist.

The Medicine SCN collaborates with patients and families in the planning and delivery of safe, quality healthcare services for all Albertans. The Medicine SCN Patient and Family Advisory Council (PFAC) is a group of volunteer patient and family partners providing a platform for meaningful patient engagement and participation in identifying and supporting SCN priorities and initiatives that are important to the patient populations we serve.

The Medicine SCN strives for a balance between optimizing the advantages of an expanded mandate across multiple populations, while at the same time retaining a specific focus on improving the quality of care and outcomes for the hospital medicine, kidney, and respiratory patient populations. This is achieved through collaboration across the three sections at the Committee, Working Group, PFAC, Scientific Office, and leadership levels to identify and implement both intersecting priorities and population-specific improvement initiatives and projects. (Figure 2)

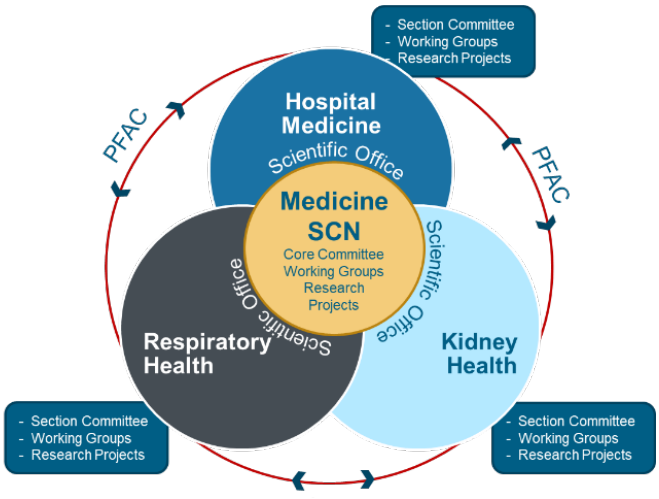


Figure 2: Medicine SCN: How We Work Together

Introduction

This Transformational Roadmap (TRM) is an integrated plan that includes shared and section-specific priorities, under a common set of strategic directions, and will guide our work for the next six years. It is aligned with the AHS Health and Business Plan[1] and its 10-year vision and the pan-SCN Roadmap[2]. The TRM represents the outcome of significant work that has been undertaken to understand the current landscape of services, determine health needs and required infrastructure, identify best and promising practices, and outline key goals and priorities to improve care and outcomes over the next six years.

Development of the Transformational Roadmap

This transformational roadmap was developed through the collaborative effort of a wide network of Medicine stakeholders with an interest in improving care and patient outcomes across Alberta.

Due to the 2020-2022 global pandemic, virtual and technology-enabled approaches were utilized to engage all stakeholders, and timelines were expanded to accommodate pandemic response priorities. Working differently has been a necessity; however, the quality and frequency of input from our communities have not been sacrificed. Figure 3 outlines our process.

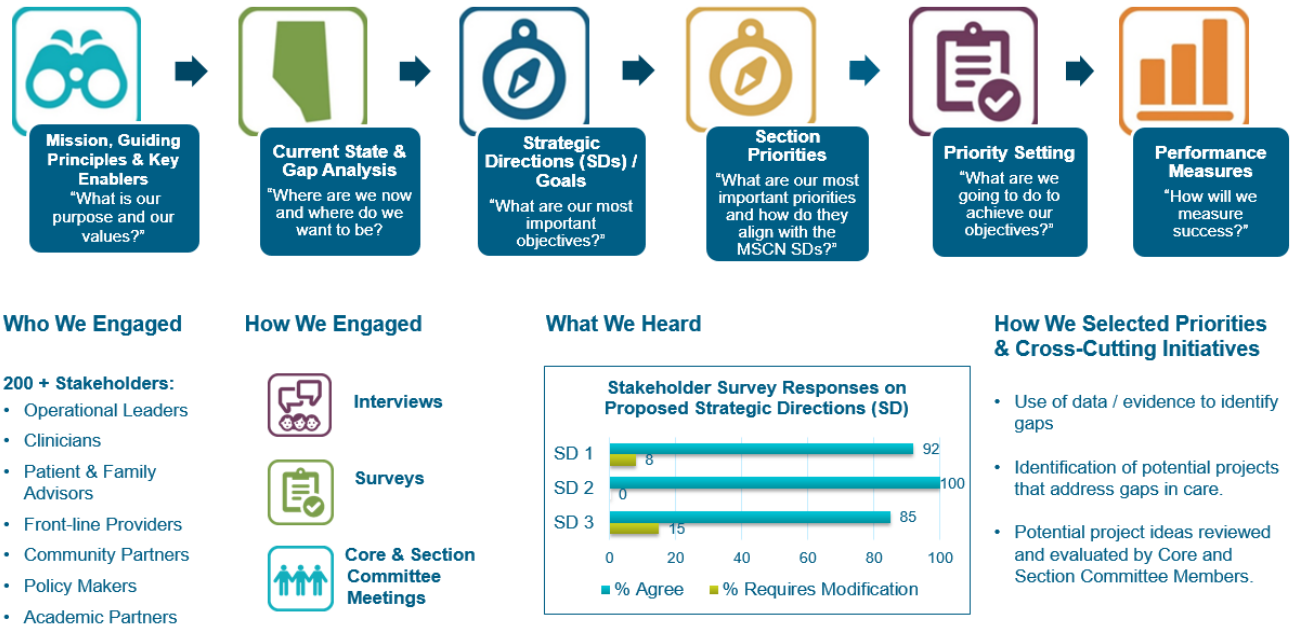


Figure 3: TRM Development Process

The Hospital Medicine, Kidney Health, and Respiratory Health Sections have each developed a plan in alignment with the Medicine SCN strategic directions and meeting the identified needs of their respective patient populations. As the Medicine SCN matures, we will lead the integration of improvement opportunities across medicine specialty areas to maximize impact, create the greatest value for the health system, and improve care and outcomes for a broad range of patient populations. We will foster cross-sectional collaboration for both existing and future work and align our resources accordingly.

Our Strategic Directions & Cross-Cutting Priorities

The Medicine SCN has established three strategic directions, which are described below. To support us in achieving our strategic directions, cross-cutting priorities have been identified that span two or more Sections of the Medicine SCN; in addition, each Section has specific priorities that apply to their clinical area and populations of interest. The cross-cutting priorities are described below, and the Section-specific priorities are outlined within the individual Section plans.

Strategic Direction 1:

Empower patients to improve their experience and health outcomes.

Patient-centered care serves to empower and engage patients in ways that promote shared decision-making among patients, caregivers, and the healthcare team. To shift patients and families from simply being "recipients" in their care, they need the knowledge, skills, and opportunity to participate in shared decision-making.

Did you know?

39.4% of patients feel there is room for improvement for them to be involved in decisions about care & treatment during their hospital stay.

AHS C-HCAHPS Data for Medicine Patients, 2019-2020.

Strategic Direction 2:

Enhance integration to improve acute and chronic disease management and transitions between the community and the hospital.

Enhancing integration across medicine specialty areas and the continuum of care will improve the quality of care and outcomes for many patients.

Did you know?

Adoption of the COPD clinical pathway has:

- Reduced the risk of seven-day readmission by 83%

  (Atwood CE, et al. Chest 2022)

- Average resource cost reduction of $4,077/patient

  (COPD Clinical Pathway Executive Summary, 2017-20, CvHS SCN)

We know that medicine admissions (excluding mental health) represent the greatest opportunity for improving the efficiency of how beds are utilized in our hospitals. Longer hospital stays are associated with an increased risk of falling, sleep deprivation, hospital-acquired infections, and mental and physical deconditioning. Integrating care and improving patient flow will provide patients with a better care experience, improve patient outcomes, and facilitate discharge from the hospital without unnecessary delay; allowing patients to be partners in their care closer to home.

Strategic Direction 3:

Identify opportunities and address gaps in care, enable clinical best practices, and reduce unwarranted variation to support sustainable quality health care.

There are several opportunities to optimize best practices and implement provincially standardized approaches to care across the areas of interest to the Medicine SCN. By minimizing unwarranted variation (defined as variation that cannot be explained by type or severity of illness, or by patient preferences), we can promote evidence-informed care for all Albertans, while still considering local context and the needs and preferences of patients and families.

In support of these strategic directions, over the next 5 years, the Medicine SCN will work on a variety of cross-cutting initiatives (outlined below) and Section-specific priorities (detailed in the Section plans).

Did you know?

In Alberta, a standard hospital stay per person in 2019-20 was estimated to average around $7,992, compared to the national average at $6,349.

Cost of a Standard Hospital Stay · CIHI

Cross-Cutting Priorities

MSCN Strategic Direction 1 - Empower patients to improve their experience and health outcomes

Enabling patients to actively partner in their care.

Why is this Important?	What will we do?	How will we know we are successful?
Empowers and engages patients; supports patients and families in becoming active participants in shared decision-making; allowing for better patient and family-centered approaches Patients who are empowered to make decisions about their health that better reflect their personal preferences have more favorable experiences and health outcomes[3].	Develop and support a PFAC. Develop and implement tools and strategies to support a reciprocal relationship of respect, trust, dialogue, and shared decision-making.	Improved patient outcomes and patient and provider experiences.

Acute Care Bundle Improvement
(note: priority spans all 3 Strategic Directions and is therefore only noted once)

Why is this Important?	What will we do?	How will we know we are successful?
Optimizing acute care utilization improves hospital throughput and patient flow. Reductions in LOS will reduce the risk of hospital-acquired infections, falls, complications, and in-hospital functional decline. From 2010-2021, while ALOS:ELOS declined over time, none of AHS' 12 largest sites achieved the target ALOS:ELOS of 0.90[4]. Medicine admissions represent the greatest opportunity for reducing ALOS:ELOS, excluding mental health admissions[5].	In partnership with provincial programs and other SCNs, support the development and implementation of a foundational care bundle and condition- and procedure-specific clinical pathways to improve patient outcomes and acute care utilization.	Improved quality of care and outcomes. Improved patient and provider experiences. Reduction in ALOS:ELOS and readmission rates.

MSCN Strategic Direction 2 – Enhance integration to improve acute and chronic disease management and transitions between community and the hospital

Provincial standards for hospital admission and strategies for avoiding unnecessary readmission

Why is this Important?	What will we do?	How will we know we are successful?
There are a number of procedures associated with a short-stay admission (<3 days), where inpatient admission is potentially avoidable. This includes paracentesis, thoracentesis, dialysis catheter insertion, and biopsies (e.g. kidney, liver, and lymph node[6]). Standardized[7] criteria for hospital admission improve clinical outcomes and resource utilization and may lead to a shorter length of stay and admission rates.	Develop, implement, and evaluate strategies to reduce avoidable admissions that have a significant impact on acute care utilization.	Reduction in the number of avoidable admissions.

MSCN Strategic Direction 3 – Identify opportunities and address gaps in care, enable clinical best practices and reduce unwarranted variation to support quality health care.

Provincial harmonization of clinical services and evaluation for long COVID management

Why is this Important?	What will we do?	How will we know we are successful?
An estimated 10-20% of Albertans who contract COVID-19 will be faced with the debilitating sequelae and disabilities from long COVID that impact their quality of life and capacity to work[8]. A complete care model for this population includes specialized clinics for medical assessment. The impact and optimal utilization of these specialized services are currently not understood.	Building on the work of the AHS Post-COVID Task Force, support the management of patients with long COVID by developing strategies and tools to harmonize the provincial approach to clinical specialty services and prospective evaluation and determine who most benefits from these services.	Standardized assessments across Alberta's specialty clinics Key performance indicators are reported regularly, and clinic services are evaluated for impact on patient outcomes and the patient experience

Promoting safe and effective use of point of care ultrasonography

Why is this Important?	What will we do?	How will we know we are successful?
The use of point-of-care ultrasonography (POCUS) has increased due in part to its increased availability and user-friendliness. Physicians trained to use POCUS can do it in real-time at the patient's bedside to improve diagnostic performance compared with standard clinical examinations and facilitate timely and appropriate care.	Develop a provincial approach to the safe and effective use of POCUS for consultation and or performance of a bedside procedure for adult patients admitted under general internal medicine & respiratory and to help guide the use of POCUS across other AHS areas.	Using POCUS consistently on patients will help lower complication rates and improve patient outcomes, resulting in decreased costs and shorter hospital stays

Hospital Medicine Section Plan

While many patients that require hospitalization might be admitted to a specific disease-focused specialty for treatment (such as Nephrology and Respiratory), there are a large number of acutely ill patients in hospital whose needs do not fall into a single disease. These acutely ill patients may have increased complexity due to age, comorbidities, treatment characteristics, contextual factors, or socio-economic factors[9].

Purpose Statement

We use a patient-centered approach to improve outcomes across the care continuum of hospitalization from pre-admission to post-discharge.

Hospital Medicine can be defined as the practice of supporting these acutely ill and complex patients through a whole-systems approach to treatment that is built around the entire clinical and social needs of the hospitalized patient. This includes:

- The development and coordination of care plans to ensure the needs of patients with complex illnesses are being met.
- Coordinating resources around the clinical and social needs of the patient.
- Organizing specialist consults (where required).
- Working with primary care providers to ensure a smooth and successful transition to the patient's medical home following hospitalization and specialist encounters.

The Hospital Medicine Section was launched in October of 2020 to improve the care and outcomes of hospitalized adult patients who were not being supported by other specialty-focused SCNs.

The Hospital Medicine Section works with members of the Hospital Medicine care team who bring wide-ranging expertise in medical conditions to ensure treatment is anchored to meet all of the patient's complex needs. This care team includes General Internists, Hospitalists, and other healthcare providers.

Setting the Stage: The Landscape of Hospital Medicine in Alberta[10]

122,135
Albertans are discharged from Hospital Medicine services annually (2019)

$1.84B per year
Estimated spend on caring for Hospital Medicine patients (2019)

23.1
Percent of patients in 2019 who were being cared for at a higher-level care setting than necessary

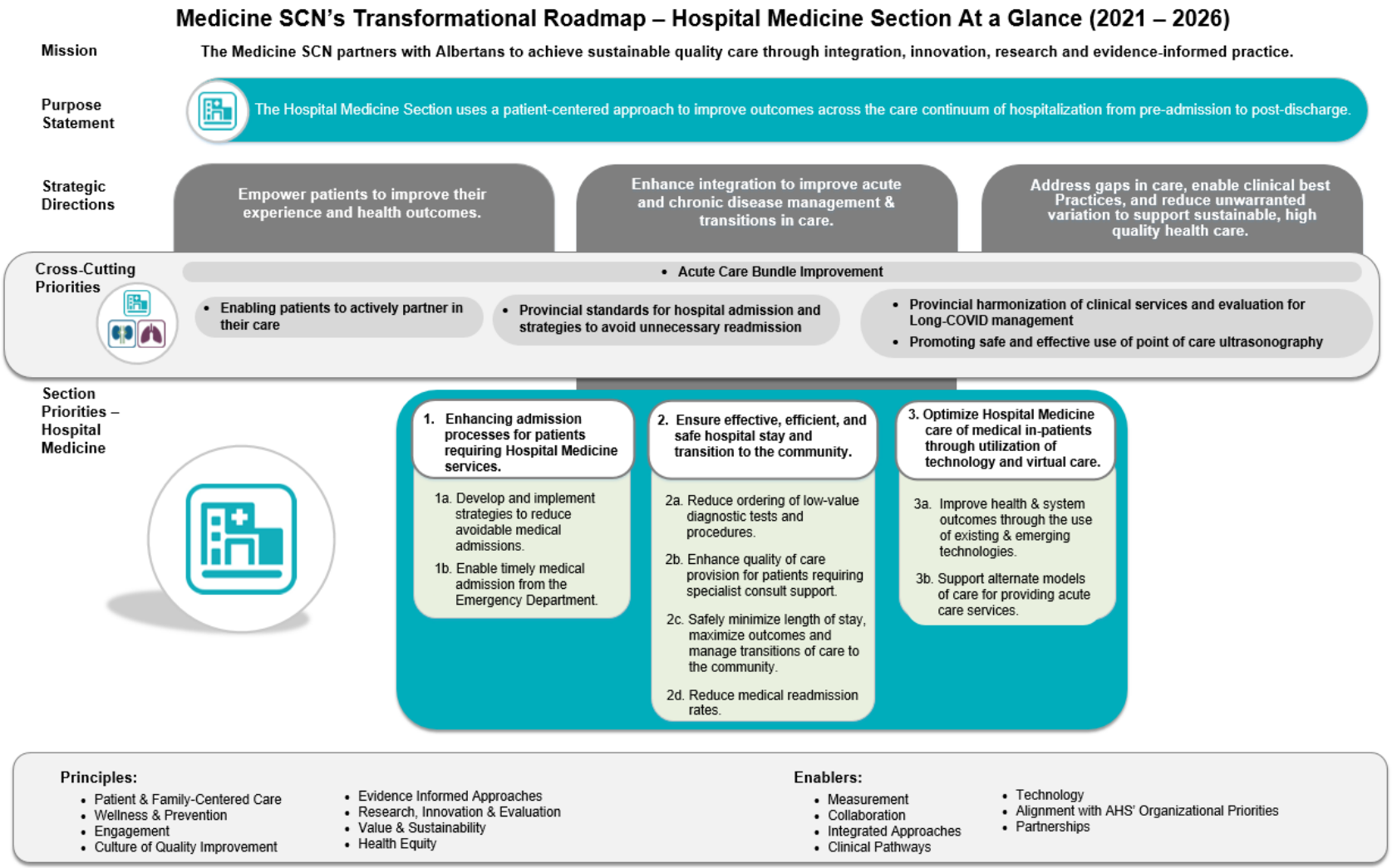
15.4
Percent of Hospital Medicine patients in 2019 who required readmission within 30 days

In support of the Medicine SCN's three Strategic Directions, over the next five years, the Hospital Medicine Section will focus on three priorities which will:

1. Enhance admission processes for patients requiring hospital medicine services
2. Ensure an effective, efficient, and safe hospital stay and transition to the community
3. Optimize Hospital Medicine care of medical in-patients through maximizing the utilization of technology & virtual care

Specific details on the priorities and areas of focus are outlined below.

How the Hospital Medicine Section will support the Medicine SCN Strategic Directions



Medicine SCN Strategic Direction 2 - Enhance integration to improve acute and chronic disease management and transitions between community and the hospital.

Section Priority 1: Enhance admission processes for patients requiring Hospital Medicine services

1a. Develop and implement strategies to reduce avoidable medical admissions.

Why is this important?	What will we do?	How will we know we are successful?
While the rate of hospitalization for Ambulatory Care Sensitive Conditions (ACSC) has been reduced, Alberta still admits 318 patients for ACSC per 100,000 people. This compares to 304 in Ontario, 300 in Quebec, and 269 in British Columbia[11].	In conjunction with other SCNs, explore options for alternative treatment models for Ambulatory Care Sensitive Conditions (e.g. Virtual Hospital). Create options to support rural acute care settings in managing patients within their community.	Reduction in admission to hospital for Ambulatory Care Sensitive Conditions. 1b. Enable timely medical admission from the Emergency Department.

1b. Enable timely medical admission from the Emergency Department.

Why is this important?	What will we do?	How will we know we are successful?
Maintaining timely flow of admissions from the Emergency Department into inpatient beds ensures the right patient is cared for by the right specialist team as soon as possible.	Support timely decision-making in the Emergency Department for Hospital Medicine patients, for example, through the use of Admissions protocols. Improve time taken from initial consult request to decision to admit for all Emergency inpatients awaiting hospital admission.	Reduction in time taken from initial consult request to Hospital Medicine through to the decision to admit.

Section Priority 2: Ensure effective, efficient, and safe medical hospital stay and transition to the

2a. Reduce ordering of low-value diagnostic tests and procedures.

Why is this important?	What will we do?	How will we know we are successful?
Choosing Wisely Canada and Alberta Health Services have prioritized the reduction in low-value laboratory testing as a priority in improving the value of care. The average Canadian receives between 14 - 20 laboratory tests per year[12] – with estimates ranging from 16 - 56% of these tests providing no clinical value[12]. In 2018, the cost to Alberta for inappropriate repeats of two common tests (complete blood count and electrolytes) was estimated at $2.5 million per year[13].	Implement a bundle to reduce low-value laboratory testing for Hospital Medicine patients.	Number of routine laboratory tests used per patient day. Reduced expenditure on routine laboratory tests per patient day. Number of test-free patient days.

2b. Enhance quality of care provision for patients requiring specialist consult support.

Why is this important?	What will we do?	How will we know we are successful?
Formal consultation of Infectious Disease specialists for Staphylococcus Aureus Bacteremia infections only occurs in 56% - 78% of all positive cases in urban Alberta settings[14] - and even less in rural settings. An Alberta-based study has shown that an Infectious Disease consult was associated with reduced 30-day all-cause mortality (11.6% vs 34.6%)[14].	Optimize management of Staphylococcus Aureus Bacteremia. Implement processes for providing consultative support for patients diagnosed with *Staphylococcus Aureus* Bacteremia in the hospital.	Increase in Infectious Disease specialists consults for *Staphylococcus Aureus* Bacteremia cases. Reduction in mortality rates associated with Staphylococcus Aureus Bacteremia in the hospital.

2c. Safely minimize length of stay, maximize outcomes, and manage transitions of care to the community.		
Why is this important?	**What will we do?**	**How will we know we are successful?**
In 2019, Acute Length of Stay: Expected Length of Stay – (ALOS:ELOS) ratio for medical admissions was 1.06[10] – compared to our provincial target of 0.9. This means Medicine patients spent 16% longer in the hospital than we have targeted. In 2019, the percentage of days a hospital bed was occupied by a patient who no longer needed acute care services while they waited to be discharged to a more appropriate setting (called Alternate Level of Care or ALC days), ranged from a monthly average of 19.9% in the South Zone to 37.5% in the Calgary Zone for Hospital Medicine patients[15] there.	Provide patient flow information to physicians for them to understand their data and make improvements to care.	Reduction in Acute Length of Stay to Estimated Length of Stay (ALOS: ELOS) ratio for Hospital Medicine patients. Reduction in Alternate Levels of Care (ALC) days spent in hospital.

2d. Reduce medical readmission rates.		
Why is this important?	**What will we do?**	**How will we know we are successful?**
5.4% of Hospital Medicine patients required readmission to the hospital within seven days of discharge, and 15.4% required readmission within 30 days.	Utilize validated predictive tools to identify patients at an increased risk of readmissions. Integrate strategies to manage transition to the community.	Reduction in seven- and 30-day readmission rates

Section Priority 3: Optimize Hospital Medicine care of medical in-patients through utilization of technology & virtual care

3a. Improve health & system outcomes through the use of existing and emerging technologies.

Why is this important?	What will we do?	How will we know we are successful?
Technology has enabled the provision of care provided outside of the hospital, through remote monitoring and community-based supports. The phased implementation of Connect Care - an electronic clinical information system – provides an opportunity to enable consistency of processes and care delivery across the province.	Leveraging existing technologies (e.g. electronic medical records and remote patient monitoring) to improve care provision to Albertans closer to home.	Improved Patient Reported Outcomes (PREMS, PROMS) Increased provider uptake of technologies. Optimized inpatient length of stay. Appropriate health resource use.

3b. Support alternate models of care for providing acute care services.

Why is this important?	What will we do?	How will we know we are successful?
Emerging programs - such as the Virtual Hospital Program in Edmonton and the Complex Care Hub in Calgary - care for patients at home using monitoring technology, under the support of Mobile Integrated Health teams. When integrated and optimized into inpatient clinical workflow, these programs prevent admission to the hospital and facilitate early transition from a medical admission to the community.	Support the development of a Provincial approach to virtual hospital care to reduce avoidable admission and readmission to hospital settings and to minimize in-patient length of stay.	Reduction of LOS and readmission rates for patients receiving acute care in the home. Increased patient satisfaction. Appropriate health care resource use. Improved patient outcomes, such as avoidance of Deep Vein Thrombosis and Clostridium difficile (C. diff) Reduction in avoidable admission rate for Ambulatory Care Sensitive Conditions.

Kidney Health Section Plan

The original Kidney Health SCN launched in 2016 and in 2020, became a Section of the Medicine SCN, forging new partnerships to advance health and care and support patients and families across Alberta. Their existing priorities have been incorporated into this Plan.

Purpose Statement

We strive to optimize prevention, early identification and appropriate management across all ages and stages of kidney health.

The delivery of kidney care in Alberta is coordinated through a unified body, Alberta Kidney Care (AKC). AKC is comprised of the two operational renal programs in the Northern and Southern parts of the province. In addition, kidney transplant services are provided in Calgary and Edmonton. Stakeholders from both AKC and the transplant programs are involved in setting the priorities of the Kidney Health (KH) Section through their representation on the KH Section Committee; in the co-design, implementation, and evaluation of initiatives through participation in working groups and project steering committees; and integrating operational practice changes. The success of the KH Section requires continued collaboration and alignment with AKC, and as such, the two groups work closely together to achieve goals and priorities for the benefit of Albertans with kidney disease. This Section Plan is aligned with the AKC's priorities.

The KH Section and AKC, together with many partners and stakeholders, comprise the collective kidney community. Over the next five years, the KH Section is committed to continuing to work with the kidney community to improve the quality of care and outcomes for patients and their families.

Setting the Stage: The Landscape of Kidney Care in Alberta

450,000 Albertans have Chronic Kidney Disease[16]

20% Increased demand for dialysis over the past 5 years[17]

1 in 12 survivors of Acute Kidney Injury needs to start chronic dialysis after hospital discharge[18]

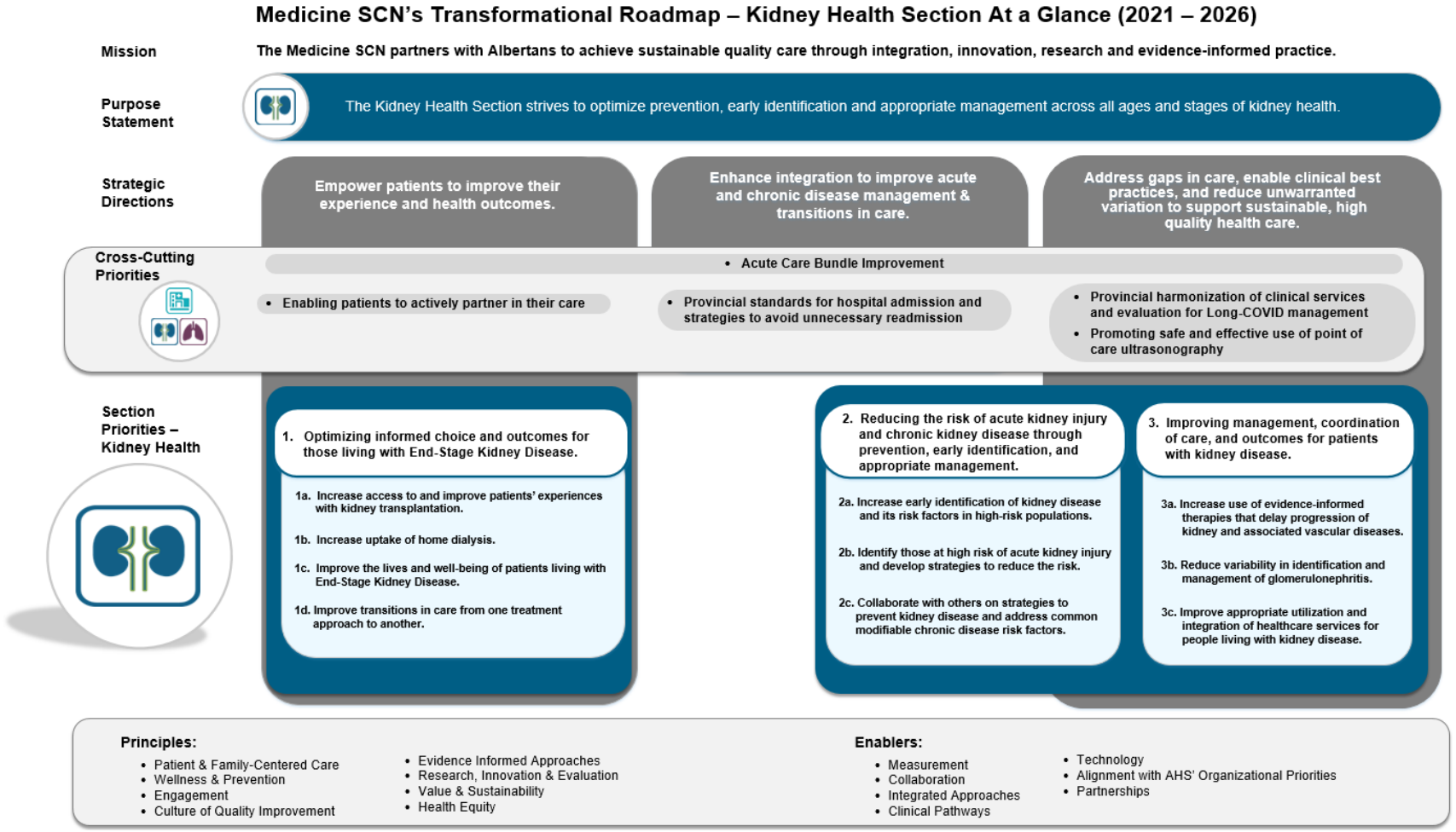
$1,400 - $2,500 per year
Out-of-pocket costs (treatment, transportation, and medication expenses) for patients starting dialysis[19]

In support of the Medicine SCN's three Strategic Directions, over the next five years, the Kidney Health Section will continue to focus on their three existing priorities to:

1. Optimize informed choice and outcomes for those living with End-Stage Kidney Disease
2. Reduce the risk of acute kidney injury and Chronic Kidney Disease (CKD) through prevention, early identification, and management
3. Improve the management, coordination of care, and outcomes for patients with kidney disease

Specific details on the priorities and areas of focus are outlined below.

How the Kidney Health Section will support the Medicine SCN Strategic Directions



Medicine SCN Strategic Direction 1 - Empower patients to improve their experience and health outcomes.

Section Priority 1: Optimizing informed choice and outcomes for those living with End-Stage Kidney Disease

1a. Increase access to and improve patients' experiences with kidney transplantation.

Why is this important?	What will we do?	How will we know we are successful?
Kidney transplant is considered the best treatment option for people with End-Stage Kidney Disease because it improves survival, quality of life and it is less costly. The demand for organs far exceeds the supply, leading to long wait lists. At the end of 2020[20], 325 patients in Alberta were on the wait list for a kidney transplant. Eight people on the wait list died in 2020. Living kidney donation is a significant untapped potential for increasing kidney transplantation rates[21].	Continue to work on increasing living kidney donation rates by focusing on enhancing educational resources, improving the living donor workup process, and tracking and reporting on quality metrics. Enhance educational resources and optimize social networks to improve living kidney donation rates. In partnership with other SCNs, develop strategies to identify and implement best practices for optimizing deceased donation to increase rates of kidney transplants in Alberta.	Increased rate of living donor kidney transplants. Increased rate of deceased donor kidney transplants.

1b. Increase uptake of home dialysis.		
Why is this important?	**What will we do?**	**How will we know we are successful?**
Home dialysis offers more flexibility and a better quality of life for patients. Most patients with kidney failure are treated with hemodialysis (HD), even though peritoneal dialysis (PD) is an equivalent therapy with respect to important clinical outcomes and is much less expensive to provide[22,23]. Home HD is an underused dialysis modality, making up 6.60% of all patients receiving dialysis in AKC[24]. Increasing the uptake of home dialysis therapies for eligible patients is a sustainability strategy in the face of rising dialysis needs.	Develop, implement, and evaluate strategies to increase the use of home therapies.	Increased percentage of patients on home dialysis.

1c. Improve the lives and well-being of patients living with End-Stage Kidney Disease.		
Why is this important?	**What will we do?**	**How will we know we are successful?**
Almost 1 in 3 hemodialysis patients in Alberta screen positive for depressive symptoms; and 1 in 5 have symptoms of anxiety[25]. When compared to people without kidney disease, patients at every stage of CKD have greater levels of physical function impairment[26]. Some patients have poor survival and low quality of life on dialysis. Conservative, or non-dialysis care, individualizes care through shared decision-making. Its goals are to manage symptoms and offer psychological and social support for patients.	Utilize patient-reported experiences (PREMs) and outcome measures (PROMs) to identify opportunities to improve the lives and well-being of patients with End-Stage Kidney Disease. Support the development, implementation, and evaluation of strategies to improve access to mental health supports. Support the spread and scale of conservative care approaches for CKD and other end-stage chronic diseases where appropriate	Improved or maintained quality of life and functional status Care aligned with patient preferences and values.

1d. Improve transitions in care from one treatment approach to another.		
Why is this important?	**What will we do?**	**How will we know we are successful?**
Children who are transitioning from pediatric renal programs to adult care are often faced with many challenges (e.g. medical, psychological and social issues) that can impact their care and outcomes[27]. Patients with End-Stage Kidney Disease transitioning from one treatment approach to another often face numerous challenges (e.g. inadequate education, support for physical and emotional stressors, poor coordination of care)[28].	Develop and implement strategies to improve the continuity of care and transitions in care as patients start renal replacement therapy, change from one treatment approach to another, or move from the pediatric program to the adult program	Improved patient and family experience. Increase in proportion of patients with a transition care plan. Reduction in readmissions and emergency department visits post–discharge for recently transitioned patients.

Medicine SCN Strategic Direction 3 - Identify opportunities and address gaps in care, enable clinical best practices and reduce unwarranted variation to support sustainable quality health care.

Section Priority 2: Reducing the risk of acute kidney injury (AKI) and chronic kidney disease (CKD) through prevention, early identification, and appropriate management

2a. Increase early identification of kidney disease and its risk factors in high-risk populations.

Why is this important?	What will we do?	How will we know we are successful?
With earlier detection of CKD and appropriate risk stratification, patients at high risk can initiate effective therapy sooner to improve outcomes and slow the progression of the disease[29]. Health outcomes in patients with diabetes who are at high risk of CKD are improved by screening for kidney disease, including testing urine albumin-to-creatinine ratio. Estimates show that only 42.6% of adult Albertans with diabetes had at least one Albumin-to-Creatinine Ratio (ACR) test[17]. Less than 50% of people with diabetes are appropriately screened for kidney disease even though they are at higher risk of developing kidney disease related to their diabetes[30,31].	Target high-risk populations to identify those who are at risk of developing kidney disease, and appropriately manage this risk. Work with partners to support improved screening, management, and referral of patients in Indigenous Communities.	Increased measurement of albuminuria in those at high risk of CKD.

2b. Identify those at high risk of acute kidney injury (AKI) and develop strategies to reduce the risk.		
Why is this important?	**What will we do?**	**How will we know we are successful?**
AKI complicates up to 7% of all hospitalizations[18,32] and the incidence has been rising in recent years, it is associated with prolonged admissions, poor outcomes, high costs[33,34,35], and increased mortality that averages 30% during initial hospitalization[36]. One in twelve AKI survivors requires chronic dialysis after hospital discharge, a rate 200% higher than the risk in the general population[37]. While identifying individuals at risk has the potential to reduce the length of hospital stay and improve outcomes[38]; the translation of this knowledge into action has been limited[32].	Support development, implementation, and evaluation of pathways and decision support tools for the early recognition and management of AKI.	Improved initiation of evidence-based therapies for AKI. Reduced readmissions in patients whose hospitalization was complicated by AKI.

2c. Collaborate with others on strategies to prevent kidney disease and address common modifiable chronic disease risk factors.		
Why is this important?	**What will we do?**	**How will we know we are successful?**
Chronic diseases, share modifiable risk factors including unhealthy diet, physical inactivity, and tobacco use. Intermediate risk factors, such as high blood pressure, diabetes, and obesity, are shared across many chronic diseases. By working together, we can develop strategies to address the risk of CKD and other chronic diseases.	Partner with other SCNs and key stakeholders to address common chronic disease risk factors Explore opportunities to evaluate and/or implement new therapies to prevent and slow the progression of the disease.	Decreased proportion of people progressing to End-Stage Kidney Disease.

Section Priority 3: Improving management, coordination of care, and outcomes for patients with kidney disease

3a. Increase the use of evidence-informed therapies that delay the progression of kidney and associated vascular diseases

Why is this Important?	What will we do?	How will we know we are successful?
Angiotensin-converting enzyme inhibitors (ACEi) and angiotensin receptor blockers (ARBs), sodium glucose luminal transport inhibitors (SGLT2is) have been shown to delay progression to End-Stage Kidney Disease in people with protein in their urine and reduce mortality in people with CKD and diabetes[39]. There is an underutilization of ACEi and ARBs despite the strong evidence supporting their effectiveness[17]. It is estimated that SGLT2is are under-prescribed in Alberta. Recent estimates suggest that only 6% to 9% of eligible patients are being prescribed an SGLT2i in Alberta[40].	Improve CKD care in the community using primary care supports such as the CKD Pathway (www.ckdpathway.ca), Nephrology eAdvice Request, and enhanced Comprehensive Annual Care Plan. Optimize the use of guideline-recommended treatment (e.g. ACEi/ARBs, SGLT2is, and statins) in patients with CKD.	Increased use of evidence-informed preventive therapies (i.e. ACEi/ARBs, SGLT2is, and statins) in Primary Care and Nephrology.

3b. Reduce variability in identification and management of glomerulonephritis.		
Why is this important?	**What will we do?**	**How will we know we are successful?**
Glomerulonephritis is the second most common cause of kidney failure. Use of evidence-informed care pathways and multidisciplinary care for glomerulonephritis is variable across Alberta.	Create and implement glomerulonephritis evidence-informed care pathways with accompanying provider decision support tools and patient education resources	Decreased variability in glomerulonephritis diagnosis and optimized management.

3c. Improve appropriate utilization and integration of healthcare services for people living with kidney disease.		
Why is this important?	**What will we do?**	**How will we know we are successful?**
Patients with End-Stage Kidney Disease are highly complex – on average having over 4 co-morbid conditions[9]. Managing these conditions requires a high degree of care coordination that is frequently not achieved. CKD patients on dialysis are frequent users of emergency departments. On average, there are approximately two emergency room visits per year for patients on dialysis in Alberta[41]. Up to $54 million dollars per year in direct health costs could potentially be avoided with better management of comorbidities in CKD patients [42].	Develop and implement integrated care approaches to meet the primary care needs of complex patients with End-Stage Kidney Disease. Support development and implementation of emergency department and hospitalization avoidance strategies for patients with CKD	Reduced emergency department use and hospitalizations in patients with CKD.

Respiratory Health Section Plan

Building on a rich history of collaboration within the respiratory community, the original Respiratory Clinical Network was launched in March of 2010, focusing on legacy work in the areas of sleep apnea, COPD, and asthma. The network re-launched in January 2014 as a Strategic Clinical Network, expanding its focus to include safer practices related to acute oxygen therapy and knowledge translation about the use of smoking and vaping. In 2020, the Respiratory Health SCN became part of the Medicine SCN as its Respiratory Health Section. The Section is dedicated to continuing to foster a culture of stewardship and quality improvement within the respiratory community.

Purpose Statement

We facilitate optimal respiratory health through implementation and evaluation of innovative, patient-centered, evidence-informed, and coordinated services.

Setting the Stage: The Landscape of Respiratory Health in Alberta

1 in 11
or 683,786 Albertans are living with COPD or Asthma as of 2019-2020[43]

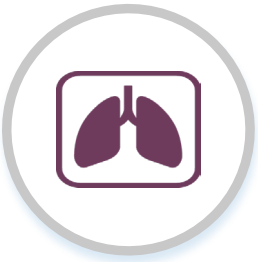
25,486
Hospitalizations in 2021 for diseases or disorders of the respiratory system[10]

2nd most common
Respiratory conditions were the second most common reason for hospitalizations from 2017-2021[43]

$254 million
Alberta's annual healthcare expenditures for COPD alone in 2013-2014[10]

Through innovation and the application of best evidence, and in collaboration with our patients, clinical, operational, regulatory, community, and academic partners, the Respiratory Health Section of the Medicine SCN seeks to reduce the impact of respiratory disease on individuals and the healthcare system.

In support of the Medicine SCN's three Strategic Directions, and in alignment with respiratory/sleep research priorities recently developed by our community[44] over the next five years the Respiratory Health Section will focus on these three priorities:

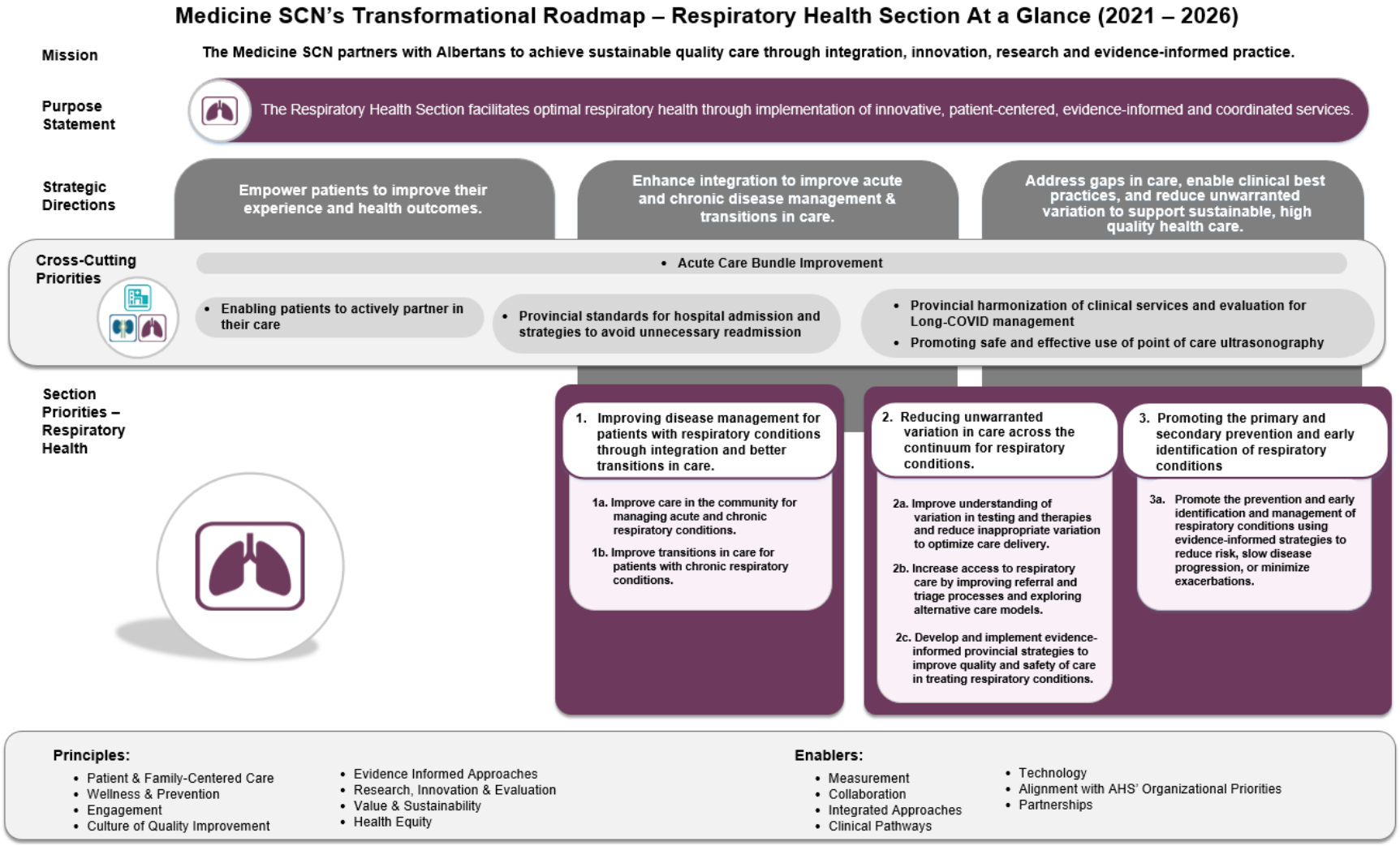


1. Improving disease management for patients with respiratory conditions through integration and better transitions in care.
2. Reducing unwarranted* variation in care across the continuum for respiratory conditions.
3. Promoting the primary and secondary prevention and early identification of respiratory conditions.

**See Strategic Direction #3 for a definition of 'unwarranted'.*

Specific details on these priorities and their areas of focus are outlined below.

How the Respiratory Health Section will support the Medicine SCN Strategic Directions



Medicine SCN Strategic Direction 2 - Enhance integration to improve acute and chronic disease management and transitions between community and the hospital.

Section Priority 1: Improving disease management for patients with respiratory conditions through integration and better transitions in care.

1a. Improve care in the community for managing acute and chronic respiratory conditions.

Why is this important?	What will we do?	How will we know we are successful?
The diagnosis and treatment of respiratory conditions is a team effort occurring at multiple levels throughout the community; bringing this multidisciplinary team together in a coordinated fashion and providing necessary tools and resources is essential. For example, input from patients and clinicians has the potential to build better care for people suffering from obstructive sleep apnea[45].	Build, implement and evaluate tools and develop evidence-informed strategies that are readily available to providers within the community. Support diagnostic reporting in Netcare.	Increased appropriate referrals to specialty care. Improved health-related quality of life scores for respiratory patients. Decreased acute care admissions and ED visits.

1b. Improve transitions in care for patients with chronic respiratory conditions.

Why is this important?	What will we do?	How will we know we are successful?
Transitions in care include: hospital to community; pediatric to adult; primary to specialty to primary; initiation of end-of-life care; etc. Optimization of transitions in care will maintain or enhance a patient's health status and reduce readmissions. For example, interventions to improve transitions in care for patients with COPD reduced the risk of 7-day readmissions by 83% and 30-day readmissions by 26%[46].	Gain a better understanding of current gaps related to transitions within respiratory care and implement strategies to improve transitions in care across the continuum. Empower patients with chronic respiratory conditions by linking them and their providers with the strategies that allow them to be active partners in their care.	Decreased acute care readmissions and ED revisits. Increased patient satisfaction and partnership in their care.

Medicine SCN Strategic Direction 3 - Identify opportunities and address gaps in care, enable clinical best practices and reduce unwarranted variation to support sustainable quality health care.

Section Priority 2: Reducing unwarranted variation in care across the continuum for respiratory conditions.

2a. Improve understanding of variation in testing and therapies and reduce inappropriate variation to optimize care delivery.

Why is this important?	What will we do?	How will we know we are successful?
Variability in the use of respiratory testing and therapies continues to exist across the province; however, data is lacking to define the scope of the problem. Choosing Wisely Canada and the Canadian Thoracic Society recommend not initiating long-term maintenance inhalers in stable patients with suspected COPD if they have not had confirmation of post-bronchodilator airflow obstruction with spirometry. Certain novel therapies (e.g. biologics) are costly, and their most useful application is not well understood.	Develop and implement provincial recommendations and strategies to guide the use of various types of pulmonary function testing, sleep diagnostic testing, and/or certain novel therapies. Leverage data to quantify, map, and understand variations in respiratory care practices and/or respiratory patient outcomes across the province.	Understanding of variations in care, from a treatment, population, and equity lens. Increased number of patients getting the right test or therapy at the right time.

2b. Increase access to respiratory care by improving referral and triage processes and exploring alternative care models.		
Why is this important?	**What will we do?**	**How will we know we are successful?**
Timely access to respiratory services is limited, especially in rural and remote areas. For example, allergy assessment, pulmonary consults, methacholine challenge tests, and supervised in-facility sleep testing are limited to a few urban centres and have wait times that are upwards of 6-12 months. The COVID pandemic has increased the demand for respiratory services. WHO estimates that approximately 10-20% of COVID cases will have post-COVID conditions, including respiratory symptoms.	Identify provincial targets for wait times. Develop, implement, and evaluate new referral, triage, and alternative care models. Gain an understanding of indications for respiratory services for those with post-COVID conditions.	Increased capacity and decreased wait times for ambulatory respiratory services. Greater appropriateness of referrals.

2c. Develop and implement evidence-informed provincial strategies to improve the quality and safety of care in treating respiratory conditions.		
Why is this important?	**What will we do?**	**How will we know we are successful?**
Evidence-informed practices lead to better care and patient outcomes. For example, compared to usual care, the Alberta COPD Transition Bundle reduced 7-day readmission rates from 5.5% to 1.0% and 30-day readmission rates from 18.2% to 15.1%; and increased primary care follow-up within 14 days post-discharge from 31.1% to 47.7%.	Develop and implement provincial clinical guidance and evaluate strategies to best address quality issues, including evidence-informed chronic disease interventions as well as most current best practices for non-invasive ventilation and oxygen therapies.	Decreased number of safety events for acute respiratory therapies. Uptake of evidence-informed pathways.

Section Priority 3: Promoting the primary and secondary prevention and early identification of respiratory conditions.

3a. Promote the prevention and early identification and management of respiratory conditions using evidence-informed strategies to reduce risk, slow disease progression or minimize exacerbations.

Why is this important?	What will we do?	How will we know we are successful?
Modifiable risk factors can be identified for many acute and chronic respiratory conditions (tobacco use, exposure to harmful substances or environments, unhealthy diet, and physical inactivity). Reducing exposure to these risk factors has the potential to dramatically decrease the burden of respiratory conditions. Cessation of smoking and vaping slows the progression of COPD, reduces the risk of respiratory infections, and speeds recovery after surgery. Early diagnosis, improved mobility, reduced obesity, vaccination, etc. reduce the impact of respiratory conditions on both patients and the health system.	Partner with other SCNs, Population and Public Health, and prevention-focused stakeholders to address common chronic disease risk factors. Support patients in understanding health risks and reducing their exposures to things that trigger exacerbations or cause respiratory disease. Explore opportunities to evaluate and/or implement therapies to prevent and slow the progression of the disease.	Increased number of unique views of respiratory diagnostic reports in Netcare. Increased identification of people with COPD before age 55.

Research and Innovation

The Medicine SCN strives to ensure our research initiatives are evidence-based, coordinated, implemented, and evaluated. The Scientific Office plays a vital role in enhancing the quantity and scientific quality of research activities and projects that align with the priorities of the TRM. Key aspects of this include: (a) developing research priorities in collaboration with patients/caregivers and clinicians (b) the creation of measurement frameworks that allow for the evaluation and monitoring of established quality indicators across the identified priorities; (c) facilitating access to relevant data and analytic resources; and (d) supporting collaborations for cross-cutting Medicine SCN projects for research funding opportunities, such as the Partnerships for Research and Innovation in the Health System (PRIHS) grants.

To support research within the Medicine SCN over the next five years, the Scientific Office will leverage the lesson learned from previous experiences across the Sections to align its work strategically with the identified priorities outlined in this TRM. Examples of Scientific Office priorities include leading research and evaluation within cross-cutting initiatives (e.g., the Acute Care Bundle Improvement program, POCUS, and patient-centered observational studies in acute and long-COVID populations), establishing best practices for the evaluation of unwarranted variations in care (e.g., examining equity of access through an intersectional lens), creating shared data and analytic resources and tools (e.g., epidemiological and healthcare resource use dashboards), and establishing strategic funding opportunities to promote innovation and build research capacity relevant to all Sections (e.g., AI-solutions to optimize system-wide patient flow).

Conclusion

The strategies identified in this five-year Transformational Roadmap will advance Alberta to a leadership position within Canada in the care and outcomes for Medicine patients. By focusing on the strategic directions, priorities, and areas of focus described throughout this document, we are confident we will be delivering care that is integrated, high-quality, clinically appropriate, and ultimately improving patient outcomes.

The Medicine SCN has laid out a plan that will enable the SCN and our stakeholders to achieve our goals. Together with our operational partners, we will implement the various strategies laid out in this plan, at a pace and scope that will be both feasible and impactful.

The Medicine SCN is pleased to be collaborating and aligning with our partners to implement transformational solutions in hospital medicine, kidney and respiratory care in Alberta. The strategies identified in this roadmap will drive quality, innovation, and value across our system over the next five years.

Appendix 1 - Guiding Principles

The Medicine SCN has identified eight Guiding Principles that would provide a foundation for the Network and will serve as the basis for establishing and successfully implementing our strategic directions. These principles include:

- Patient and family-centered care
- Wellness and Prevention
- Engagement
- Culture of Quality Improvement
- Evidence-Informed Approaches
- Research, Innovation and Evaluation
- Value and Sustainability
- Health Equity

Patient and Family-Centered Care

We put the needs and perspectives of patients, families and their support systems (non-medical care providers and support networks) front and center in our work. By accessing information from patient-reported outcome measures (PROMS) and patient-reported experience measures (PREMS) we will identify gaps in care and opportunities for improvements. We will engage patients and their support systems in the design and evaluation of improvement strategies that address identified gaps in care.

Wellness and Prevention

We believe in the importance of supporting strategies that promote, protect and maintain a person's health and well-being.

Engagement

We engage, seek input from and actively involve stakeholders from across the continuum of care, in the development of initiatives from planning to implementation to sustainability. This includes, but is not limited to involvement from providers, patients and families, administrators, policy makers, researchers and community partners.

Culture of Quality Improvement

We foster a culture of quality improvement, based on the six dimensions of quality (as defined by the Health Quality Council of Alberta), to achieve safe, effective, patient-centered, timely, efficient and equitable care.

Evidence-Informed Approaches

We endeavor to minimize unwarranted variation in care and outcomes by identifying and implementing processes to reduce variation, such as guidelines and pathways, and measuring and reporting in comparison to best evidence standards. This includes taking into account the local context and the needs and preferences of patients and families.

Research, Innovation, and Evaluation

We foster and support research and innovation to improve outcomes, where innovation is any new evidence-informed, value-added device, technology, system, or service. We evaluate our initiatives for impact on our patients and the health system.

Value and Sustainability

We are committed to optimal use of limited healthcare resources to drive a sustainable system of care based on quality and value for investment.

Health Equity

Every Albertan must have equal access to health care, based primarily on medical needs, no matter who they are, what they do, or where they live.

The Medicine SCN will strive to support initiatives that ensure all Albertans have access to quality health care, understanding that different populations may require different levels of support.

Appendix 2 - Key Enablers

The Medicine SCN has identified seven Key Enablers as foundational elements that are essential to the success of our network. These include:

- Measurement
- Collaboration
- Integrated Approaches
- Clinical Pathways
- Technology
- Alignment with AHS' Organizational Priorities
- Partnerships

Measurement

Measurement is required to inform decisions made regarding priorities for care, the evaluation of initiatives, and the sustainability of positive outcomes. The Medicine SCN is committed to performance measurement and the transparent reporting of these measures to stakeholders. We are committed to integrating performance measurement into all projects undertaken by the Medicine SCN, ensuring that metrics are identified and monitored to assess if we are meeting our objectives.

Collaboration

Collaboration across the Sections of the Medicine SCN, between healthcare providers, and between patients and providers is essential to optimize outcomes, ensure continuity of care and improve the delivery of healthcare services.

Integrated Approaches

The Medicine SCN will promote and enhance team-based, integrated approaches across the continuum of care that improve chronic disease management and care transitions from primary, to community care, through to hospitalization and post-hospital care. We will also strive for integration between projects and initiatives.

Clinical Pathways

The Medicine SCN will utilize and promote the use of clinical pathways, consisting of evidence-informed, patient-centered interdisciplinary care to help providers identify, and manage patients and achieve optimal health outcomes.

Technology

The implementation of virtual care strategies and Connect Care, Alberta's common provincial clinical information system, will enable consistent practices across Alberta and will improve the care we provide for patients and their families. The whole healthcare team, including patients, will now have the best possible information throughout the care journey, improving healthcare for both patients and healthcare providers. The Medicine SCN will promote the use of virtual care models and support utilizing Connect Care to enable quality improvement and health systems research. We are also committed to exploring options for automated reporting, implementing innovative care models, and leveraging Health Technology Assessments to evaluate emerging technologies.

Alignment with AHS Organizational Priorities

The Medicine SCN is committed to working with AHS' Zone Executive Leadership, Executive Directors and other operational partners to identify, plan and implement priorities and initiatives that achieve AHS' mission.

Partnerships

The Medicine SCN will partner and coordinate with a broad range of stakeholders including clinicians, health system leaders, policy makers, primary care, and other groups and organizations to improve the continuity of care and outcomes for patients and their families.

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