Rapid Synthesis

Creating Rapid-learning Health Systems in Canada

Appendix B13: Northwest Territories

10 December 2018





Rapid Synthesis: Creating Rapid-learning Health Systems in Canada Appendix B13: Northwest Territories 90-day response

Lavis JN, Gauvin F-P, Mattison CA, Moat KA, Waddell K, Wilson MG, Reid R. Appendix B13: Northwest Territories. In Rapid synthesis: Creating rapid-learning health systems in Canada. Hamilton, Canada: McMaster Health Forum, 10 December 2018.

Table 1: Assets and gaps at the level of the Northwest Territories' health system

Characteristic	Examples	Health-system receptors and supports	Decearch existen supports
Engaged patients:	1) Set and regularly adjust patient-relevant	Department of Health and Social Services: 1) regularly	Research-system supports Northwest Territories SPOR SUPPORT Unit
Systems are anchored on patient needs, perspectives and aspirations (at all levels) and focused on improving their care experiences and health at manageable per capita costs and with positive provider experiences	targets for rapid learning and improvement (e.g., improvements to a particular type of patient experience or in a particular health outcome) 2) Engage patients, families and citizens in: a) their own health (e.g., goal setting; self- management and living well with conditions; access to personal health information, including test results) b) their own care (e.g., shared decision- making; use of patient decision aids) c) the organizations that deliver care (e.g., patient-experience surveys; co-design of programs and services; membership of quality-improvement committees and advisory councils) d) the organizations that oversee the professionals and other organizations in the system (e.g., professional regulatory bodies; quality-improvement bodies; ombudsman; and complaint processes) e) policymaking (e.g., committees making decisions about which services and drugs are covered; government advisory councils that set direction for (parts of) the system; patient storytelling to kick off key meetings; citizen panels to elicit citizen values) f) research (e.g., engaging patients as research partners; eliciting patients' input on research priorities) 3) Build patient/citizen capacity to engage in all of the above	 Department of Freatth and Social Services: 1) regularly conducts the Patient Experience Questionnaire to inform health-system improvement efforts; 2) provides citizens with access to their own health information through an online application system; 3) provides information to citizens and patients about managing their own health (e.g., information about preventing sexually-transmitted infections) as well as about the range of health and social services available to them (e.g., applying for extended benefits for eligible conditions), which can be browsed by topic area Health and Social Services System Navigator established to support patients with information about how to provide feedback, file complaints about the system with complaints officers and registrars Patient representatives established at the level of each Health and Social Services Authority to respond to and resolve patient complaints Department of Health and Social Services Public Consultations and Engagement initiatives engage citizens to inform policy decision-making on priority topics (e.g., regulating naturopathic practitioners, developing a mental health framework for the territory) Regional Wellness Councils established to engage communities in setting priorities for regional program development and tailoring, with chairs from each council serving on regional boards to help guide decision-making Indigenous Advisory Body established by the ministry which collaborates to provide advice on behalf of Indigenous governments (staff-to-staff means without having to go through intergovernmental arrangements) about improving its responsiveness to Indigenous health issues Mental Health Quality Assurance Committee established within the mental health and addictions strategic plan to engage patients in the oversight and planning of services 	 Northwest Temtones SPOR SUPPORT Unit (Hotii ts'eeda) supports patient and community engagement and ensures Inuvialuit and Metis knowledge is integrated into all aspects of the research process, as well as build capacity for such engagement Aurora Research Institute ensures patients and citizens are engaged in research, and will not issue licences/ethics approval to researchers unless they have engaged with communities and have a plan for communicating the findings Gaps may include the fact that many patient-engagement initiatives in the health research space are still undergoing developments as a result of shifting dynamics between Indigenous communities, researchers and governments

Characteristic	Examples	Health-system receptors and supports	Research-system supports
Digital capture, linkage and timely sharing of relevant data: Systems capture, link and share (with individuals at all levels) data (from real-life, not ideal conditions) about patient experiences (with services, transitions and longitudinally) and provider engagement alongside data about other process indicators (e.g., clinical encounters and costs) and outcome indicators (e.g., health status)	 Data infrastructure (e.g., interoperable electronic health records; immunization or condition-specific registries; privacy policies that enable data sharing) Capacity to capture patient-reported experiences (for both services and transitions), clinical encounters, outcomes and costs Capacity to capture longitudinal data across time and settings Capacity to link data about health, healthcare, social care, and the social determinants of health Capacity to analyze data (e.g., staff and resources) Capacity to share 'local' data (alone and against relevant comparators) – in both patient- and provider-friendly formats and in a timely way – at the point of care, for providers and practices (e.g., audit and feedback), and through a centralized platform (to support patient decision-making and provider, organization and system-wide rapid learning and improvement) 	 Choosing Wisely Northwest Territories actively seeks to engage patients as advisors Registered Nurses Association of the Northwest Territories and Nunavut has a mandate to include patient/public representatives on their board of directors and public representation on the Registered Nurses Association Gaps may include less programmatic attention to engaging patients in decision-making about their own health, particularly living well with their conditions (with most emphasis placed on providing information about conditions), in their own care, in organizational and policy decision-making These areas are also under-developed in the context of engaging Indigenous communities, which require nuanced approaches that are not yet fully formed NWT HealthNet supports an interoperable electronic health record that enables capture, linkage and sharing of patient and clinical data, and now covers 90% of the population Patient Experience Questionnaire occasionally administered by the Department of Health and Social Services to capture patient-experience data with aggregate results publicly disseminated Health Information Act introduced in 2015 to ensure privacy and security of patient information collected by providers and organizations (although in some cases may act as a barrier to timely data sharing) NWT Health and Social Services Performance Measurement Framework requires that the Department of Health and Social Services regularly collects and reports on key health-system performance outcomes (which is disseminated through an annual report), and also increasingly develops and disseminates infographics on a resources page to share data about the health of the population in Northwest Territories with the public, healthcare providers and system decision-makers Some hospitals (like Stanton Territorial as part of its renewal project) are in the planning phases of establishing a Territorial Clinical (hospital) I	Aurora Research Institute provides infrastructure and training to support data collection and management, through: three research centres that provide researchers with facilities and a number of logistical supports the Research Support Fund that promotes the development of capacity for conducting research in the territory The Institute for Circumpolar Health Research collaborates with a number of agencies to build data collection and management capacity in the region, including the Canadian High Arctic Research Station, Statistics Canada, SPOR support unit, Department of Health and Social Services, the regional health authorities, Canadian Primary Care Sentinel Surveillance Network and Queen's University Gaps may include less progress in prioritizing data capture, linkage and sharing that supports health- and social-systems research

Characteristic	Examples	Health-system receptors and supports	Research-system supports
Timely production of research evidence: Systems produce, synthesize, curate and share (with individuals at all levels) research about problems, improvement options and implementation considerations	 Distributed capacity to produce and share research (including evaluations) in a timely way Distributed research ethics infrastructure that can support rapid-cycle evaluations Capacity to synthesize research evidence in a timely way One-stop shops for local evaluations and pre-appraised syntheses Capacity to access, adapt and apply research evidence Incentives and requirements for research groups to collaborate with one another, with patients, and with decision-makers 	information in hospital setting, and to facilitate a better infrastructure for administrative data collection (e.g., for billing and quality indicators) and for disease surveillance and reporting Connections to national assets (e.g., Canadian Institute for Health Information, Canadian Partnership Against Cancer, Public Health Agency of Canada), and some other jurisdictions (such as Alberta) available to provide additional support for capturing, analyzing, linking and sharing data relevant to priority health issues Gaps may include less progress in establishing capacity for collecting longitudinal data about the full range of health, healthcare, social care and social determinants that matter for decision-making (particularly data that reflects the realities of Indigenous communities), linking, analyzing and sharing these data across the system Government of Northwest Territories Health and Social Services Research Agenda launched in order to identify and address known knowledge gaps and promote health and social services research priorities Health and Social Services Performance Measurement Framework creates an imperative for the Department of Health and Social Services to continuously evaluate and report on system-level performance and progress towards stated objectives Research coordination unit in the Department of Health and Social Services helps to facilitate research production in the territory by providing access to health data and information, and through direct support to researchers (letters, in-kind, knowledge-translation partnerships and access to data) Aurora College Research Ethics Committee provides ethics oversight for all health and social services required by the government to consider requests for information and data Connections to national assets (e.g., Canadian Agency for Drugs and Technologies in Health) provide opportunities to leverage capacity for synthesizing evidence when needed	Northwest Territories SPOR SUPPORT Unit (Hotii ts'eeda) has established a one-stop shop to disseminate all locally produced research funded or facilitated by SPOR, or that relate to community priorities, and has a mandate to provide financial support for capacity building and training for patient-oriented research in the territory Eletschdee Gathering facilitates the translation of local knowledge and research evidence that emerges from the SPOR initiative and about insights that relate to health research in the Northwest Territories more generally Northwest Territories Indigenous Governments increasingly playing more prominent role in setting research priorities and commissioning research to address local needs Aurora Research Institute and Aurora College Research Ethics Committee have a wellestablished ethics and licensing infrastructure (which they will not issue unless project proposals are explicitly engaging communities, and have a plan to disseminate results to them) Medical Registry Committee established to review and approve Medical Research

Characteristic	Examples	Health-system receptors and supports	Research-system supports
		Gaps may include less progress in establishing capacity to synthesize research evidence in a timely way (although Institute for Circumpolar Health Research indicates research synthesis and engaging a full range of health system stakeholders is within their mandate), for conducting rapid-cycle evaluations (although some program evaluations can be conducted without a licence), and for providing timely access to a one-stop shop of local evaluations and pre-appraised syntheses (although there have been conversations about establishing a clearinghouse for local data and evidence)	Permits for physicians licensed to practise in the Northwest Territories • Aurora Research Institute Library, resource clearinghouse and regional logistics support established to support researchers with required infrastructure and facilities to conduct research in the territory • NWT Research Database established to provide a one-stop shop for all projects licensed in the territory since 1974, including key project outputs when available • Institute for Circumpolar Health Research has a mandate, as outlined in their strategic plan, to produce, synthesize and disseminate health research for use in decision-making in Northwest Territories, including creating networks and partnerships for collaboration with universities, Indigenous governments and territorial decision-makers • Gaps may include limited attention given to incentivizing and developing capacity for synthesizing research evidence in a timely way, and for establishing capacity for supporting the use of research evidence in decision-making processes
Appropriate decision supports: Systems support informed decision-making at all levels with appropriate data, evidence, and decision-making frameworks	1) Decision supports at all levels – self-management, clinical encounter, program, organization, regional health authority and government – such as a) patient-targeted evidence-based resources b) patient decision aids c) patient goal-setting supports d) clinical practice guidelines e) clinical decision support systems (including those embedded in electronic health records) f) quality standards g) care pathways h) health technology assessments i) descriptions of how the health system works	Health and Social Services System Navigator established to help patients with questions or concerns, and provide guidance to support access to services provided by the Northwest Territories health and social services system (e.g., providing information about the system, connecting patients with service providers and helping patients find commonly used forms) Electronic Medical Record aims to support a stable and consistent platform for sharing practice standards to inform clinical care System Transformation Implementation project (and the move towards an integrated Northwest Territories Health and Social Services Authority), has emphasized the collaborative and integrated development of clinical practice standards – which is also reflected in each annual report Legislative Assembly maintains a public clearinghouse of policy documents (including those relevant to the	Aurora Research Institute research clearinghouse provides access to local research outputs for potential knowledge users Gaps may include limited progress in same areas identified in adjacent column

Characteristic	Examples	Health-system receptors and supports	Research-system supports
Aligned governance, financial	Centralized coordination of efforts to	Department of Health and Social Services) to aid those involved in the monitoring and oversight of system progress towards achieving stated objectives • Gaps may include limited progress in establishing patient-targeted decision supports for selfmanagement and clinical encounters, and the establishment of a centre of gravity for the production and/or dissemination of decision supports for health-system policymakers and stakeholders (e.g., clinical practice guidelines, quality standards, care pathways, health technology assessments and health-system descriptions) • Hospital Insurance and Health and Social Services	Gaps may include limited progress in same areas
Aligned governance, financial and delivery arrangements: Systems adjust who can make what decisions (e.g., about joint learning priorities), how money flows and how the systems are organized and aligned to support rapid learning and improvement at all levels	adapt a rapid-learning health system approach, incrementally join up assets and fill gaps, and periodically update the status of assets and gaps 2) Mandates for preparing, sharing and reporting on quality-improvement plans 3) Mandates for accreditation 4) Funding and remuneration models that have the potential to incentivize rapid learning and improvement (e.g., focused on patient-reported outcome measures, some bundled-care funding models) 5) Value-based innovation-procurement model 6) Funding and active support to spread effective practices across sites 7) Standards for provincial expert groups to involve patients, a methodologist, use existing data and evidence to inform and justify their recommendations 8) Mechanisms to jointly set rapid-learning and improvement priorities 9) Mechanisms to identify and share the 'reproducible building blocks' of a rapid-learning health system	Hospital Insurance and Health and Social Services Act (HIHSSA) restructured health and social services to a 'One-System Approach' in which six regional Health and Social Services Authorities were consolidated into the Northwest Territories Health and Social Services Authority (NTHSSA) and along with Hay River HSS Authority and TlichQ Community Services Agency now function under a single governance model, which has led to a streamlining of the accreditation process across communities and regions, and increased sharing of expertise and resources (eventually this may lead to increased data sharing across multiple service-delivery partners to enhance services to clients, improve client outcomes and monitor system outcomes) NWT Health and Social Services Performance Measurement Framework established to ensure accountability of government for achieving stated health-system goals Northwest Territories Indigenous Governments specifically, and increasing move towards Indigenous self-governance more generally, may enhance support for localized decision-making in ways that reflect Indigenous values and ways of knowing, and can help to inform the development of rapid learning and improvement Majority of health workers, including physicians, remunerated by salary which provides opportunities for them to be engaged in system initiatives, research and other strategic system-strengthening efforts (including rapid learning)	Gaps may include limited progress in same areas identified in adjacent column

Characteristic	Examples	Health-system receptors and supports	Research-system supports
Culture of rapid learning and improvement: Systems are stewarded at all levels by leaders committed to a culture of teamwork, collaboration and adaptability	Explicit mechanisms to develop a culture of teamwork, collaboration and adaptability in all operations, to develop and maintain trusted relationships with the full range of partners needed to support rapid learning and improvement,	Gaps may include limited emphasis on leveraging existing governance, financial and delivery arrangements to support efforts conducive to a rapid-learning health system The NTHSSA has established clinical leads in a number of priority domains (e.g., mental health and addictions, primary care) who are working as champions for continuous quality improvement and collaboration through clinical networks Department of Health and Social Services has	Building a Path for Northern Science was established by the government as the territory's research agenda, and signals its commitment to using evidence in policymaking through the identification of priority areas which will guide funding for future research and science
	and to acknowledge, learn from and move on from 'failure'	established the Division of Planning, Reporting and Evaluation, which shows dedication and allocated resources for conducting research, doing evaluation and reporting to inform decision-making Gaps may include limited progress in sustained and targeted efforts to evaluate innovations to support rapid learning and drive system improvement	integration, pointing researchers to those areas that will yield information relevant and valuable to residents and decision-makers • Gaps may include limited commitment by government to establish mechanisms that ensure researchers and decision-makers at all levels are aligned in their efforts to support the use of data and research evidence for rapid learning and improvement
Competencies for rapid learning and improvement: Systems are rapidly improved by teams at all levels who have the competencies needed to identify and characterize problems, design data- and evidence-informed approaches (and learn from other comparable programs, organizations, regions, and sub-regional communities about proven approaches), implement these approaches, monitor their implementation, evaluate their impact, make further adjustments as needed, sustain proven approaches locally, and support their spread widely	1) Public reporting on rapid learning and improvement 2) Distributed competencies for rapid learning and improvement (e.g., data and research literacy, co-design, scaling up, leadership) 3) In-house capacity for supporting rapid learning and improvement 4) Centralized specialized expertise in supporting rapid learning and improvement 5) Rapid-learning infrastructure (e.g., learning collaboratives)	Some evaluations of priority initiatives (e.g., Building Stronger Families Action Plan) are conducted to assess and report on progress made, which feeds in to cycles of learning and efforts to adjust for sustained health- and social-system improvements Gaps may include limited attention paid to many competencies that can be established to support rapid learning (e.g., occasional rather than frequent efforts to publicly report on rapid learning and improvement, few distributed competencies for rapid learning and improvement, little in-house capacity or centralized expertise and little infrastructure) which is compounded by high staff turnover which makes it a challenge to establish and sustain capacities if they do exist	Aurora Research Institute Outreach promotes awareness of and capacity for research through youth programming and community outreach across the territory Institute for Circumpolar Health Research has a mandate to support research education and training in the Northwest Territories (as well as among other partners involved in research in the north) Northern Scientific Training Program provides federal funding for students conducting research in the north to support the development of capacity for research – including in the health sciences

Table 2: Assets and gaps in the <u>primary-care sector</u> in the Northwest Territories

Characteristic	Examples	Health-system receptors and supports	Research-system supports
Engaged patients:	1) Set and regularly adjust patient-relevant	NWT Chronic Disease Management Strategy has	None identified
Systems are anchored on patient	targets for rapid learning and improvement	established some support through targeted pilot	
needs, perspectives and	(e.g., improvements to a particular type of	projects to build capacity among primary-care teams	
aspirations (at all levels) and	patient experience or in a particular health	for supporting patient self-management	
focused on improving their care	outcome)		
experiences and health at	2) Engage patients, families and citizens in:		
manageable per capita costs and	a) their own health (e.g., goal setting; self-		
with positive provider	management and living well with		
experiences	conditions; access to personal health		
-	information, including test results)		
	b) their own care (e.g., shared decision-		
	making; use of patient decision aids)		
	c) the organizations that deliver care (e.g.,		
	patient-experience surveys; co-design		
	of programs and services; membership		
	of quality-improvement committees		
	and advisory councils)		
	d) the organizations that oversee the		
	professionals and other organizations		
	in the system (e.g., professional		
	regulatory bodies; quality-improvement		
	bodies; ombudsman; and complaint		
	processes)		
	e) policymaking (e.g., committees making		
	decisions about which services and		
	drugs are covered; government		
	advisory councils that set direction for		
	(parts of) the system; patient		
	storytelling to kick off key meetings;		
	citizen panels to elicit citizen values)		
	f) research (e.g., engaging patients as		
	research partners; eliciting patients'		
	input on research priorities)		
	3) Build patient/citizen capacity to engage in		
	all of the above		
Digital capture, linkage and	1) Data infrastructure (e.g., interoperable	None identified	None identified
timely sharing of relevant	electronic health records; immunization or		
data: Systems capture, link and	condition-specific registries; privacy		
share (with individuals at all	policies that enable data sharing)		
levels) data (from real-life, not	2) Capacity to capture patient-reported		
ideal conditions) about patient	experiences (for both services and		
experiences (with services,			

Characteristic	Examples	Health-system receptors and supports	Research-system supports
transitions and longitudinally) and provider engagement alongside data about other process indicators (e.g., clinical encounters and costs) and outcome indicators (e.g., health status) Timely production of research evidence: Systems produce, synthesize, curate and share (with individuals at all levels) research about problems, improvement options and implementation considerations	transitions), clinical encounters, outcomes and costs 3) Capacity to capture longitudinal data across time and settings 4) Capacity to link data about health, healthcare, social care, and the social determinants of health 5) Capacity to analyze data (e.g., staff and resources) 6) Capacity to share 'local' data (alone and against relevant comparators) – in both patient- and provider-friendly formats and in a timely way – at the point of care, for providers and practices (e.g., audit and feedback), and through a centralized platform (to support patient decision-making and provider, organization and system-wide rapid learning and improvement) 1) Distributed capacity to produce and share research (including evaluations) in a timely way 2) Distributed research ethics infrastructure that can support rapid-cycle evaluations 3) Capacity to synthesize research evidence in a timely way 4) One-stop shops for local evaluations and pre-appraised syntheses 5) Capacity to access, adapt and apply research evidence 6) Incentives and requirements for research groups to collaborate with one another, with patients, and with decision-makers	• None identified	• None identified
Appropriate decision supports: Systems support informed decision-making at all levels with appropriate data, evidence, and decision-making frameworks	Decision supports at all levels – self-management, clinical encounter, program, organization, regional health authority and government – such as a) patient-targeted evidence-based resources b) patient decision aids c) patient goal-setting supports d) clinical practice guidelines	Algorithm for primary-care decision support of early- stage renal-disease detection and management one of very few isolated examples in the sector	None identified

Characteristic	Examples	Health-system receptors and supports	Research-system supports
Aligned governance, financial	e) clinical decision support systems (including those embedded in electronic health records) f) quality standards g) care pathways h) health technology assessments i) descriptions of how the health system works 1) Centralized coordination of efforts to	None identified	None identified
and delivery arrangements: Systems adjust who can make what decisions (e.g., about joint learning priorities), how money flows and how the systems are	adapt a rapid-learning health system approach, incrementally join up assets and fill gaps, and periodically update the status of assets and gaps 2) Mandates for preparing, sharing and		
organized and aligned to support rapid learning and improvement at all levels	reporting on quality-improvement plans 3) Mandates for accreditation 4) Funding and remuneration models that have the potential to incentivize rapid learning and improvement (e.g., focused on patient-reported outcome measures,		
	some bundled-care funding models) 5) Value-based innovation-procurement model 6) Funding and active support to spread effective practices across sites		
	7) Standards for provincial expert groups to involve patients, a methodologist, use existing data and evidence to inform and justify their recommendations 8) Mechanisms to jointly set rapid-learning		
	and improvement priorities 9) Mechanisms to identify and share the 'reproducible building blocks' of a rapid- learning health system		
Culture of rapid learning and improvement: Systems are stewarded at all levels by leaders committed to a culture of teamwork, collaboration and adaptability	1) Explicit mechanisms to develop a culture of teamwork, collaboration and adaptability in all operations, to develop and maintain trusted relationships with the full range of partners needed to support rapid learning and improvement, and to acknowledge, learn from and move on from 'failure'	None identified	None identified
Competencies for rapid learning and improvement:	Public reporting on rapid learning and improvement	None identified	None identified

Characteristic	Examples	Health-system receptors and supports	Research-system supports
Systems are rapidly improved by	2) Distributed competencies for rapid		
teams at all levels who have the	learning and improvement (e.g., data and		
competencies needed to identify	research literacy, co-design, scaling up,		
and characterize problems,	leadership)		
design data- and evidence-	3) In-house capacity for supporting rapid		
informed approaches (and learn	learning and improvement		
from other comparable	4) Centralized specialized expertise in		
programs, organizations, regions,	supporting rapid learning and		
and sub-regional communities	improvement		
about proven approaches),	5) Rapid-learning infrastructure (e.g.,		
implement these approaches,	learning collaboratives)		
monitor their implementation,	,		
evaluate their impact, make			
further adjustments as needed,			
sustain proven approaches			
locally, and support their spread			
widely			

Table 3: Assets and gaps in the area of <u>aging</u> (or for the elderly population or a relevant 'problem focus,' such as frailty) in the Northwest Territories

Characteristic	Examples	Health-system receptors and supports	Research-system supports
Engaged patients:	1) Set and regularly adjust patient-relevant	None identified	None identified
Systems are anchored on patient	targets for rapid learning and improvement		
needs, perspectives and	(e.g., improvements to a particular type of		
aspirations (at all levels) and	patient experience or in a particular health		
focused on improving their care	outcome)		
experiences and health at	2) Engage patients, families and citizens in:		
manageable per capita costs and	a) their own health (e.g., goal setting; self-		
with positive provider	management and living well with		
experiences	conditions; access to personal health		
	information, including test results)		
	b) their own care (e.g., shared decision-		
	making; use of patient decision aids)		
	c) the organizations that deliver care (e.g.,		
	patient-experience surveys; co-design		
	of programs and services; membership		
	of quality-improvement committees		
	and advisory councils)		
	d) the organizations that oversee the		
	professionals and other organizations		
	in the system (e.g., professional		
	regulatory bodies; quality-improvement		
	bodies; ombudsman; and complaint		
	processes)		
	e) policymaking (e.g., committees making		
	decisions about which services and		
	drugs are covered; government		
	advisory councils that set direction for		
	(parts of) the system; patient		
	storytelling to kick off key meetings;		
	citizen panels to elicit citizen values)		
	f) research (e.g., engaging patients as		
	research partners; eliciting patients'		
	input on research priorities)		
	3) Build patient/citizen capacity to engage in		
1	all of the above		

Characteristic	Examples	Health-system receptors and supports	Research-system supports
Digital capture, linkage and timely sharing of relevant data: Systems capture, link and share (with individuals at all levels) data (from real-life, not ideal conditions) about patient experiences (with services, transitions and longitudinally) and provider engagement alongside data about other process indicators (e.g., clinical encounters and costs) and outcome indicators (e.g., health status)	 Data infrastructure (e.g., interoperable electronic health records; immunization or condition-specific registries; privacy policies that enable data sharing) Capacity to capture patient-reported experiences (for both services and transitions), clinical encounters, outcomes and costs Capacity to capture longitudinal data across time and settings Capacity to link data about health, healthcare, social care, and the social determinants of health Capacity to analyze data (e.g., staff and resources) Capacity to share 'local' data (alone and against relevant comparators) – in both patient- and provider-friendly formats and in a timely way – at the point of care, for providers and practices (e.g., audit and feedback), and through a centralized platform (to support patient decision-making and provider, organization and system-wide rapid learning and improvement) 	InterRAI tool now being rolled out across the territory to capture data related to older adults in long-term care	None identified
Timely production of research evidence: Systems produce, synthesize, curate and share (with individuals at all levels) research about problems, improvement options and implementation considerations	1) Distributed capacity to produce and share research (including evaluations) in a timely way 2) Distributed research ethics infrastructure that can support rapid-cycle evaluations 3) Capacity to synthesize research evidence in a timely way 4) One-stop shops for local evaluations and pre-appraised syntheses 5) Capacity to access, adapt and apply research evidence 6) Incentives and requirements for research groups to collaborate with one another, with patients, and with decision-makers	The Northwest Territories 'Continuing Care Review' and more recent review of long-term care illustrates capacity for producing and sharing evaluations related to aging	None identified

Characteristic	Examples	Health-system receptors and supports	Research-system supports
Appropriate decision	1) Decision supports at all levels – self-	None identified	None identified
supports: Systems support	management, clinical encounter, program,		
informed decision-making at all	organization, regional health authority and		
levels with appropriate data,	government – such as		
evidence, and decision-making	a) patient-targeted evidence-based		
frameworks	resources		
	b) patient decision aids		
	c) patient goal-setting supports		
	d) clinical practice guidelines		
	e) clinical decision support systems		
	(including those embedded in		
	electronic health records)		
	f) quality standards		
	g) care pathways		
	h) health technology assessments		
	i) descriptions of how the health system		
	works		
Aligned governance, financial	Centralized coordination of efforts to	None identified	None identified
and delivery arrangements:	adapt a rapid-learning health system		
Systems adjust who can make	approach, incrementally join up assets and		
what decisions (e.g., about joint	fill gaps, and periodically update the status		
learning priorities), how money	of assets and gaps		
flows and how the systems are	2) Mandates for preparing, sharing and		
organized and aligned to support	reporting on quality-improvement plans		
rapid learning and improvement	3) Mandates for accreditation		
at all levels	4) Funding and remuneration models that		
	have the potential to incentivize rapid		
	learning and improvement (e.g., focused		
	on patient-reported outcome measures,		
	some bundled-care funding models)		
	5) Value-based innovation-procurement		
	model		
	Funding and active support to spread		
	effective practices across sites		
	7) Standards for provincial expert groups to		
	involve patients, a methodologist, use		
	existing data and evidence to inform and		
	justify their recommendations		
	8) Mechanisms to jointly set rapid-learning		
	and improvement priorities		
	9) Mechanisms to identify and share the		
	'reproducible building blocks' of a rapid-		
	learning health system		

Characteristic	Examples	Health-system receptors and supports	Research-system supports
Culture of rapid learning and improvement: Systems are stewarded at all levels by leaders committed to a culture of teamwork, collaboration and adaptability	1) Explicit mechanisms to develop a culture of teamwork, collaboration and adaptability in all operations, to develop and maintain trusted relationships with the full range of partners needed to support rapid learning and improvement, and to acknowledge, learn from and move on from 'failure'	None identified	None identified
Competencies for rapid learning and improvement: Systems are rapidly improved by teams at all levels who have the competencies needed to identify and characterize problems, design data- and evidence-informed approaches (and learn from other comparable programs, organizations, regions, and sub-regional communities about proven approaches), implement these approaches, monitor their implementation, evaluate their impact, make further adjustments as needed, sustain proven approaches locally, and support their spread widely	1) Public reporting on rapid learning and improvement 2) Distributed competencies for rapid learning and improvement (e.g., data and research literacy, co-design, scaling up, leadership) 3) In-house capacity for supporting rapid learning and improvement 4) Centralized specialized expertise in supporting rapid learning and improvement 5) Rapid-learning infrastructure (e.g., learning collaboratives)	The Northwest Territories 'Continuing Care Review' and review of long-term care illustrates competencies and emphasis placed on reporting related to rapid learning and improvement in the territory	None identified





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