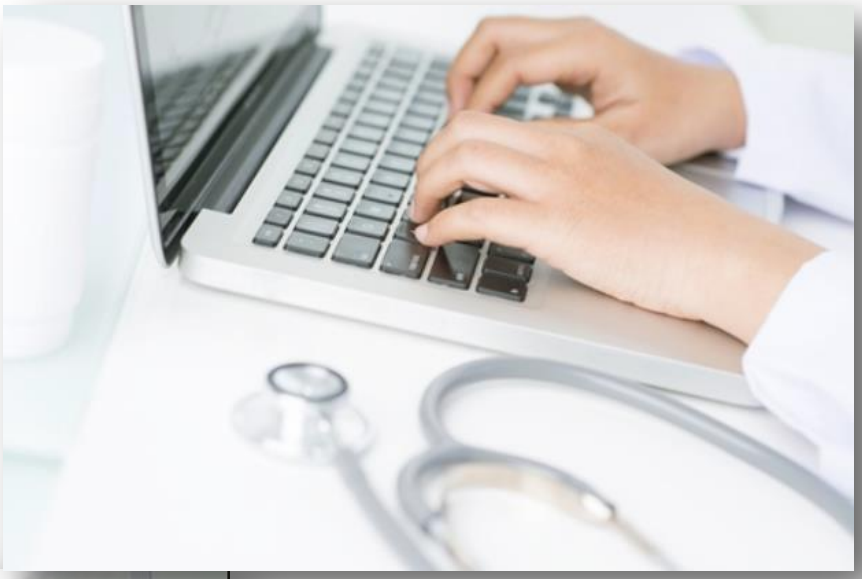
Appropriateness of Care Framework: Data and Measurement Strategy



Appropriateness of Care: Better Care Made Easier

Version 1: December 4, 2015

Data and Measurement Strategy

1. Introduction

Successful implementation of the provincial Appropriateness of Care framework is dependent on the availability of relevant clinical information to support continuous learning and improvement. Throughout this work timely and accurate data is necessary for context and evaluation as clinical groups question appropriateness of care, consider their patient outcomes and processes, identify areas of variation, and implement change.

It is recognized that without valuable clinical information it will not be possible to understand the current state nor will it be possible to understand the impact of any practice changes to patient outcomes and appropriateness of care. The development of valuable clinical information systems requires leadership, methodology, and human resource and infrastructure support.

Saskatchewan has rich health databases for use in quality improvement and clinical research. There are a number of databases that are frequently utilized and have strong structures in place for data access and analysis (e.g. Discharge Abstract Database, MDS, etc.). However, in other instances databases exist that are not widely known and increased awareness of their existence could support clinical quality improvement. Still, in other situations, the necessary clinical data to support specific projects may not exist and new data systems are needed. Human resources and sound processes are required to support the awareness, access and development of data systems. Additionally, there are multiple organizations in Saskatchewan involved in various aspects of data system development and reporting and for the Appropriateness of Care program to best support clinicians with valuable information it is important that the roles and responsibilities of these various organizations are identified.

The Appropriateness of Care program team has developed a Driver Diagram (Figure 1) to outline the key drivers and actions that exist in the Saskatchewan health system, or are required, to support this work and achieving the goal of "clinicians will have valuable information to support continuous learning and improvement."

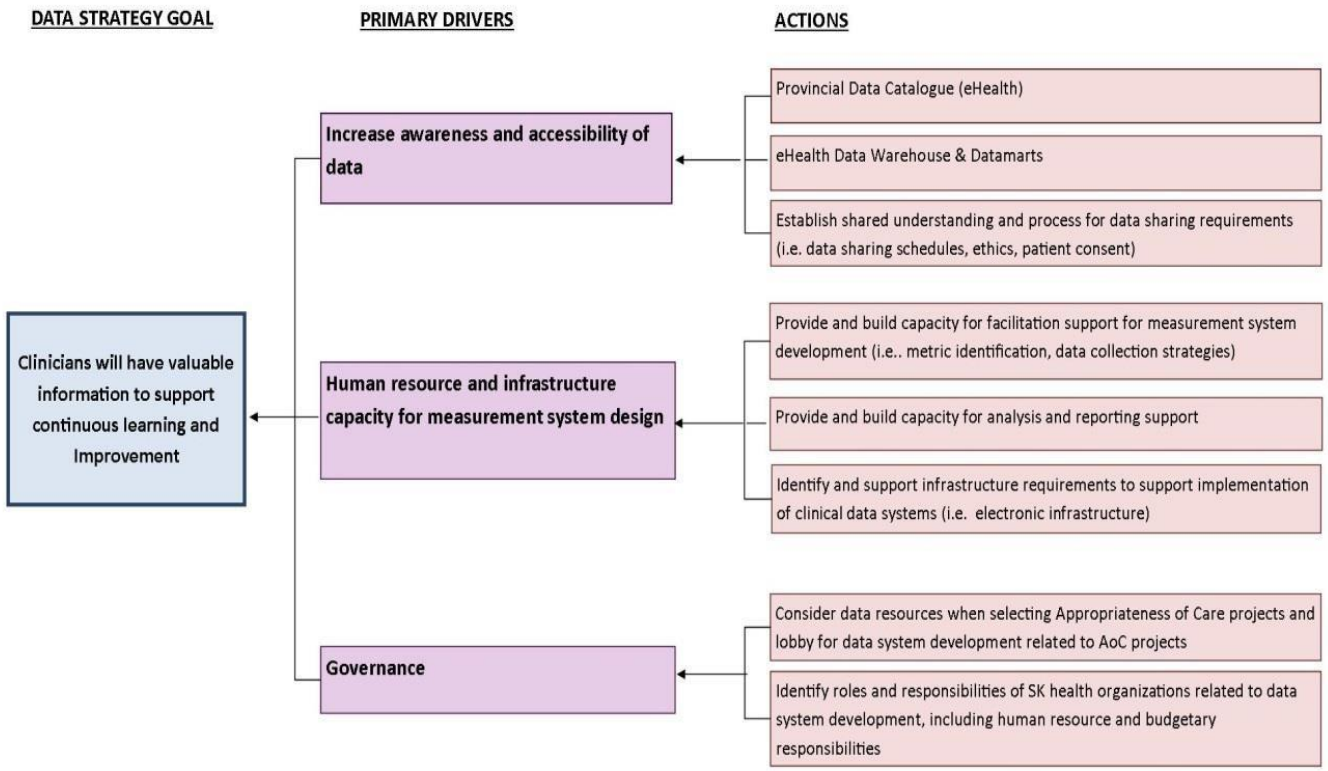
2. Drivers of Strong Data Systems

The goal, primary drivers, and actions to create a strong clinical information system for Appropriateness of Care are:

Goal: Clinicians will have valuable information to support continuous learning and improvement

Primary Drivers and Actions:

Figure 1: Creating a Strong Clinical Information System



- **Increase Awareness and Accessibility of Data:** Data access includes awareness of available data in Saskatchewan and ability to access and use this information.

  - eHealth Saskatchewan is currently creating a meta data catalogue that will provide a comprehensive review of all databases in Saskatchewan. It will allow users to know what data is available and how it can be used.

- Additionally they are working on a data warehouse and data mart structure that will facilitate ease of access to many databases and linkage between multiple databases. They have proposed modifications to their data warehouse governance structure which would result in more timely access to data.
- Data access includes the logistics of obtaining data from existing datasets, and obtaining new data to create new datasets. Clear processes are required for when and how data sharing schedules, ethics agreements and patient consent are required. These processes will be different depending on:
  - Whether the data/database exists or whether creating a new database is proposed and; and
  - If the required database does exist, whether it is located within a centralized data warehouse or is an independent database within a health organization.

- **Human Resource and Infrastructure Capacity for Measurement System Design:**

  - Human resource capacity is required for facilitation support for measurement system design. This includes the identification of metrics, the required data to report metrics, and data collection and reporting strategies. This facilitation also includes support for using metrics to drive continuous learning and quality improvement.
  - The key guiding principles of the measurement system design include:
    - Organizing data flow around value-added (front line) work processes,
    - Using data for patient care (disease management) but also for rolling it up for reporting and accountability at the level of individual health professionals, facilities/clinics/practice groups, hospitals, regions, and at the provincial and national level.
    - It is important that the right data is collected once, at the point of origin and then used for all applications.
    - All value-adding work is inherently local. All improvement is inherently local; therefore, implementation of a data collection system can't destroy clinical productivity. Instead, data collection must be integrated into workflow at the front line

  - The role of the provincial Appropriateness of Care team is to both provide facilitation and support as well as to build capacity within the Saskatchewan health system to lead this work. They have developed a data methodology

document within the Appropriateness of Care tool kit to further support the development of measurement systems within clinical projects (See Toolkit 4).

- Additionally, human resource capacity is required to support the data collection, data entry and analysis once the measurement system is designed and implemented.

- Finally, system support and infrastructure is necessary to support implementation of new data systems. Electronic infrastructure is an important component of measurement system design. This will include identification of how the measurement system may fit into current electronic infrastructure or if a new electronic infrastructure will be created, and within what timelines.

- Strong partnerships between the Appropriateness of Care team and eHealth will be necessary to facilitate modifications of existing and development of new electronic infrastructure.

- **Data Governance**

  - The Appropriateness of Care data strategy will be overseen by the Appropriateness of Care governance structure (see Appendix E) but will be strongly influenced by the Saskatchewan data environment including other governance organizations such as the eHealth Information Advisory Committee and the eHealth Information & Analytics Sub-Committee.

  - When selecting Appropriateness of Care provincial projects, or providing support to regional Appropriateness of Care projects it will be important to consider the necessary and available data to support such work.

  - Additionally, a key role of the Appropriateness of Care teams will be to garner support for the provincial development of data systems that will impact the Appropriateness of Care work.

  - As it relates to the data strategy the Appropriateness of Care governance will approve the overall data strategy and data collection and reporting plan within clinical areas of focus and approve allocation of resources to carry out the plan(s).

  - There are multiple health organizations in Saskatchewan with capacity and capability to provide clinical information support to clinical groups. For the

Appropriateness of Care program to best support clinicians with valuable information it is important that the roles and responsibilities of these various organizations are identified. Suggested roles for these organizations include:

- Health Quality Council
  - Assist in identifying existing data and data reports to support early project work.
  - Collaborate with other partners and clinical development teams to:
    - Develop clinical process maps;
    - Define metrics needed for learning and improvement and how they will be reported;
    - Define data elements and collection methods;
    - Facilitate development of database design, data entry and analytics for paper based data systems; and
    - Assist in building capacity and capability for RHAs and providers to independently collect, enter, and analyze data.
    - Create capacity and skills for measurement and analysis for quality improvement and new knowledge generation

- Ministry of Health
  - Assist with identifying and creating data reports for databases that the MoH has access to.
  - Assist in facilitation of data access.

- eHealth Saskatchewan
  - Assist with identifying existing datasets and linkage between databases.
  - Assist in facilitation of data access.
  - Collaborate with other partners to create electronic platforms for new data capture, analytics, and reporting.
  - Assist in building capacity and capability for RHAs and providers to independently collect, enter, and analyze data.

- Regional Health Authorities
  - Assist in identifying existing data from relevant datasets.
  - Assist in facilitation of data access.

- Saskatchewan Cancer Agency
  - Assist in identifying existing data from relevant datasets.
  - Assist in facilitation of data access.

- Saskatchewan Health Information Analyst Network
  - Assist in identifying existing data from relevant datasets.
  - Assist in analytics

- Saskatchewan Centre for Patient Oriented Research
  - Provide access to data platforms developed for research and learning related to health system priorities.
  - Collaborate with steering committees for health system priorities (of which appropriateness may be part) to develop shared research priorities.
  - Conduct research studies as defined in the SCPOR strategic plan. (Directly related to health system priorities of which appropriateness may be part)
  - Share the results of relevant research projects.
  - Create capacity in collaboration with system partners including measurement, analysis and research.

- Budgetary responsibilities for measurement system design may be spread across multiple organizations. Many activities carried out under the strategy would be accomplished by in-kind allocation of staff time and data capture and analytics development resources from participating organizations.

- Additional funding may be required to acquire new software and/or hardware for data capture, analytics, and reporting. Planning and approval for these acquisitions would occur through the Provincial Leadership Team/Central Government strategic planning and budgeting process.

3. Key Messages Regarding Appropriateness of Care and Data Strategy

- The Saskatchewan health system has committed to improving Appropriateness of Care through working collaboratively with our physicians, other healthcare professionals, patients and researchers in embedding the Appropriateness of Care framework into the system.
- Implementation of this program requires that clinicians have access to valuable information to drive continuous learning and quality improvement.
- In order to provide valuable information to clinical groups the Saskatchewan health system requires increased awareness of existing data, sound processes to support data sharing, and human resource support to develop new measurement systems.

- The role of the Appropriateness or Care team is to both provide these tasks and build capacity within the health system to take on this work.
- Data governance and collaboration between multiple organizations is also required