



# **AHS Data and Analytics Roadmap**

**October, 2017**

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Analytics is the use of data, analysis techniques, and interpretation to generate actionable insights and inform decisions.

This Roadmap describes the vision for data and analytics in AHS, the guiding principles for this work, the strategies to get us there, and the specific deliverables and timelines.

## **1. Scope**

The scope of this roadmap is limited to the services provided by AHS; however, it is recognized that Alberta's health system spans the continuum of care across all health sectors from public/population health to primary and community care, acute care, continuing care and end of life care.

This Roadmap is not a stand-alone document; rather, it is intended to describe the tangible data and analytic requirements necessary to deliver on broader organizational strategies and frameworks; specifically:

- AHS 2015-2020 IM/IT strategic plan
- Deployment of a Provincial Clinical Information System (CIS)
- AHS Enterprise Information Management (EIM) strategy
- AHS Clinical Documentation Framework
- AHS 2015-2020 strategy for Clinical Health Research, Innovation and Analytics
- Our People Strategy
- Patient First Strategy
- Improving Health Outcomes Together (long-term outcomes improvement strategies for specific clinical populations)
- Clinical Workforce Strategic Plan 2017-2020
- Operational Best Practice
- Long Range Planning

## **2. Vision (where we want to get)**

Our people (at all levels) use data, expertise, evidence and experience to generate actionable insights, inform decisions and improve outcomes for patients, populations and the health system.

## **3. Mission (why we are here)**

To transform data into insight to support care delivery and system improvement for the services AHS provides to Albertans. Improvement goals span all areas of the quadruple aim: (i) clinical and patient reported outcomes; (ii) financial health; (iii) patient experience; and (iv) our people's experience.

## 4. Values / Guiding Principles (what we believe in and will guide our work)

### a) Improvement Oriented:

We believe in continuously improving the health of Albertans and are committed to improvement across the quadruple aim. With this in mind:

- AHS' improvement priorities will drive our analytical priorities which, in turn, will drive our data priorities.
- The foundational 'data pillars' for a high performing health system are aligned to the quadruple aim (clinical, financial, patient experience and provider/workforce experience) and so data acquisition priorities will focus in these domains. This will allow us to assess value in the health system.
- Data literacy (i.e., the ability to ask meaningful and answerable questions, interpret and draw accurate conclusions from data and analytics) is a core competency and important development area for our workforce.
- We value research and will assist the research community in accessing data for ethics-approved studies.
- Translating data into information (and ultimately knowledge) relevant to clinical, operational (i.e., front-line managers) and executive decision making is a core competency and a key development area for our analysts.

### b) Clinically Grounded:

We strive to support our **front line clinical teams** by providing them with useable insights into the data they collect and use every day. With this in mind:

- Bottom-up clinical and front line operational analytics should be the primary driver for clinical transformation.
- Analytic capacity needs to be embedded into front line clinical operations.
- Patient-level information on the social determinants of health need to be available at the point of care to inform care planning.
- CIS-embedded analytic capabilities and tools need to be leveraged for all CIS functions and workflows.
- Clinical needs should take priority in determining how data is captured and accessed by clinicians and analysts across AHS.

### c) Learning Healthcare Organization:

We strive to provide our **front line managers** with reliable and timely data to support clinical best practices and optimal management of their workforces and resources, as well as to ensure that other decision-making, planning or evaluation needs are informed by evidence.

We strive to provide our **senior leaders** with evidence to inform strategic decision-making and health system planning needs.

**d) Analytics Professionalism:**

We trust our analysts to use data for the right reasons and believe that their ability to access and explore data will lead to solutions to the complex challenges facing the health system. With this in mind:

- Our analysts should have the freedom to explore and be creative in supporting clinical, operational and corporate needs. As such, our focus should shift to creating analytic outputs that generate value for AHS, and less so to managing data access.
- Our analysts need to abide by AHS policies and procedures, the *Health Information Act*, the *Freedom of Information and Protection of Privacy Act*, and applicable professional regulations, supporting AHS' responsibility as custodian of health information and appropriately balancing the benefits and risks of data protection and data sharing.
- Providing analysts with near real-time access to source, raw (untransformed) transactional data is a requirement for clinical and operational analytics. Most importantly, we need to enable access to the clinical data housed in our clinical information systems as this data is a critical enabler for outcomes improvement.
  - This said, we acknowledge that access to raw transactional data does not imply access to our real-time production systems (near real-time access can be provisioned in different ways; we will not adversely affect performance of our production systems).

**e) Analytics Innovation:**

We value those who seek to leverage the latest technology to advance AHS' analytic capabilities and generate actionable insights. With this in mind:

- Clinicians should have access to real-time analytics to inform their decisions at the point of care.
- Enabling 'closed loop analytics' – where decision supports developed outside our clinical information systems are fed back into these systems and embedded into clinical workflows and decision supports – is a priority.

## 5. Strategies, Deliverables and Timelines (how we will work towards our vision)

### a) Governance

#### Strategies:

- The Analytics Executive Committee (AEC) will oversee implementation of this Roadmap.
- AEC will oversee progress on the analytic functions, and will guide development of new policies affecting data collection, access, use, disclosure and retention for analytics purposes (e.g., Secondary Use and Data Access policy).
- Promote the hub and spoke model to connect and support AHS' analytics community (analysts need to be embedded within their 'home' clinical/operational/corporate teams but also need to be closely linked to a central 'hub' for development purposes, as well as leveraging standards of practice, definitions, methods, common tools, etc.).

#### Deliverables and Timelines:

- i. Update AEC terms of reference relative to other relevant AHS committees (e.g., QSO, CSHREC, IMITEC, Provincial Clinical Documentation Committee, and other CIS committees).
  - *Accountability: Internal Audit & Enterprise Risk Management; timeline: FY 2017/18*
- ii. Owners for the various clinical, operational and corporate analytic functions will prepare annual work plans for AEC in April of each year.
- iii. Approve the Secondary Use and Data Access Policy (SUDP) and communicate within AHS (including implementation plan that identifies target data sources over different timelines).
  - *Accountability: SUDP Working Group; timeline: FY 2017/18*
- iv. To help build out the hub and spoke model, publish a registry of data custodians/data stewards.
  - *Accountability: EIM and Analytics (DIMR); timeline: FY 2017/18*
- v. Develop a reporting governance process that will: (1) identify the source of truth and opportunities for consolidation of different reporting domains (e.g., clinical, financial, experience, workforce); and (2) ensure common measurement definitions where consistency is most critical (this includes identification of deviations from common definitions to support specific clinical and operational needs).
  - *Accountability: Analytics (DIMR) and Planning & Performance; timeline: FY 2018/19*

### b) Data

AHS' Strategy for Clinical Health Research, Innovation and Analytics includes a strategic direction to *liberate health system data* as an enabler for SCNs, health care providers, researchers and innovators to improve the health and well-being of Albertans. The strategies below are designed to support this direction.

#### Strategies:

- Continue work to acquire data based on the priorities established in the [December/2015 Strategic Dataset Prioritization](#), and update these priorities every two years.
- Focus data acquisition and integration priorities on the four 'data pillars' (clinical outcomes, financial, patient experience and provider/workforce experience data). Initial focus areas include:

- Enabling near real-time access to raw transactional data from AHS' existing clinical information systems for secondary use purposes (e.g., outcomes improvement initiatives for specific clinical populations).
- Building a bottom-up clinical activity based costing system that leverages the CIS in order to provide the granular costing data necessary to drive value for money decisions (when merged with outcome data). However, as it will be many years before AHS has robust, system-wide clinical costing, we need to advance our current ability to perform economic evaluations to support evidence-based investment decisions.
- Establish a provincial repository of patient scheduling data (Path to Care program). This repository will allow AHS to better assess, understand and improve access to care for scheduled health services across the wait time continuum, including primary care physicians, specialists, diagnostic testing, treatment, etc. The repository will also be used for AHS Wait Time Policy reporting requirements and other reporting requests (e.g., Alberta Health, CIHI, etc.).
- Leverage Privacy Enhancing Technologies (PET) to ensure identifiable data are protected and used appropriately.
- Ensure AHS staff use identifiable data appropriately and ethically.
- Build leading organizational information management practices by defining, establishing and promoting information as a strategic asset to enable high-quality, outcomes-focused and sustainable patient and family-centered care.
- Leverage data from the Alberta Community Health Survey to evaluate the effectiveness of AHS' population health interventions (i.e., strategies impacting healthy eating, exercise, safety and lifestyle behaviours) and their impact on reducing geographic variation in risk factors and improvements over time.
- Develop a strategy to access and integrate data for community-based care (Home Care, etc.) and other contracted service providers, including the ability to capture data electronically where this isn't happening today.

#### Deliverables and Timelines:

- i. Update the strategic dataset prioritization every two years with AEC approval.
  - *Accountability: Analytics (DIMR); timeline for next update: December 2017*
- ii. Enable access to clinical data; specifically:
  - Short term (FY 2017/18):
    - Heart Failure/Ejection Fraction – *accountability: Cardiac Sciences and Analytics (DIMR)*
    - Diagnostic Imaging (DI) – *accountability: DI and Analytics (DIMR)*
    - Provincial integration of Pharmacy data – *accountability: Pharmacy and Analytics (DIMR)*
    - Clinical Data Integration (CDI) in Cancer – *accountability: Cancer Care*
  - Medium term (FY 2018/19):
    - Operating Room (OR) data acquisition – *accountability: Analytics (DIMR) and IT Clinical Services (1<sup>st</sup> phase Calgary)*
    - Lab data – *accountability: Lab and Analytics (DIMR)*
    - eClinician – *accountability: Information Sharing Office and Analytics (DIMR)*
    - Emergency Medical Services (EMS) – *accountability: EMS and Analytics (DIMR)*

- HealthLink data – *accountability: HealthLink and Analytics (DIMR)*
  - Access to existing clinical data repositories (e.g., Quicr: stroke) – *accountability: Analytics (DIMR)*
- iii. Build standardized price lists across the major health areas (e.g., average cost of an inpatient day, ICU day, ED visit by CTAS, GP visit, MRI scan, etc.) to enable fair and unbiased comparisons of the financial impact of interventions.
    - *Accountability: Finance and Analytics (DIMR); timeline: FY 2017/18 (the price lists will continue to be refined for accuracy and to more granular levels)*
  - iv. Build the bottom up clinical costing methods and processes using Alberta Children’s Hospital as the development site (this site is one of the first to be able to capture all of their clinical workload in SCM). This work will include decisions on the level of granularity required, and will position AHS to leverage the CIS to enable clinical costing.
    - *Accountability: Finance and Analytics (DIMR); timeline: FY 2017/18*
  - v. Build the provincial repository of raw patient scheduling data and produce an array of dashboards on referral, wait list, and wait time management information.
    - *Accountability: Path to Care and Analytics (DIMR); timeline: FY 2017/18 for the initial enterprise scheduler and service dashboards (additional services, systems and dashboards will be added over time)*
  - vi. Implement a data de-identification solution (including software and services) to help analysts de-identify datasets for research or other purposes where required.
    - *Accountability: Analytics (DIMR); timeline: FY 2017/18*
  - vii. Produce an ethics framework to govern the use of identifiable data by AHS staff (analysts, frontline providers, and others) for outcomes improvement purposes.
    - *Accountability: AHS Privacy; timeline: December 2018*
  - viii. Establish the Enterprise Information Management (EIM) Advisory Council and the underlying components and work streams, which will guide the development of Enterprise-wide information management policies and standards that are wide-ranging in subject matter involving clinical and patient information as well as corporate services information such as finance, legal and privacy and human resources.
    - *Accountability: EIM; timeline: FY 2017/18*
  - ix. Conduct the Alberta Community Health Survey by gathering data on random sample of Albertans annually.
    - *Accountability: Analytics (DIMR); timeline: annually*
  - x. Identify the organizational accountability and document AHS’ minimum requirements for receiving data from our contracted providers.
    - *Accountability: CPSM; timeline TBD*

## c) Our People

Two of the four priorities in Our People Strategy are *Excellent Leaders* and *Empowered People*, which endorse broad actions to clarify needed behaviours and competencies. The strategies below are designed to support these priorities in developing our people, while also enhancing employee engagement.

### Stakeholder group #1 – Strategies for our analysts:

- Provide tools for leaders to assess the skills of their analysts.
- Implement programs to develop the skills of our analysts; for example:
  - Communicating their work in client-friendly language
  - Providing clients with higher-order information beyond data alone (i.e., interpretation and actionable insights)
  - Developing a deeper understanding of the business they are supporting, the problems their clients face, etc.
  - Training on data sets, tools, analytical methods, visualizations, etc.
  - Communities of practice to share learnings
  - Job rotation assignments and/or secondments
  - Coaching/mentoring relationships
  - Succession planning (formal or informal) for senior analytic roles so analysts see clear career paths and have greater incentive to stay with AHS

### Deliverables and Timelines for our analysts:

- i. Develop a webinar for analysts to develop closer relationships with their key clients, and offer this on an annual basis:
  - Goals are for the analyst to better understand their clients' business, the challenges their clients face, the decisions they need to make, their priorities for data/analytics, etc. so that the analyst can deliver more than just data (i.e., provide interpretation and potentially recommendations)
  - Include key messages/talking points for analysts to use with their clients
  - Suggest analysts visit their clients' operations in person and hear directly from them on the improvements they'd like to see with a view to identifying concrete actions an analyst can take to respond to their clients' suggestions (perhaps also articulated in analysts' performance expectations)
  - *Accountability: AEC Working Group; timeline: FY 2018/19*
- ii. Roll out the analytics job family (i.e., job allocation cards, as well as standardized job codes and job titles) to create a level playing field within AHS for like positions and clarify the differences between different levels in the Career Framework. Use this for succession planning, job rotation assignments, etc.
  - *Accountability: HR Job Evaluation; timeline: FY 2017/18*
- iii. Develop competency profiles for analytical roles within AHS and make this available to managers as a tool to help them assess the skills and potential training needs of their analysts.
  - *Accountability: HR Job Evaluation and Analytics (DIMR); timeline: FY 2018/19*
- iv. Establish an analytics mentorship program to support developing analysts.
  - *Accountability: Analytics (DIMR); timeline: FY 2017/18*



Stakeholder group #2 – Strategies for leaders/decision-makers:

- Enhance data literacy for those who need to use data in their jobs; specifically:
  - their knowledge of fundamental data and analytical concepts;
  - their ability to interact with and interpret data; and
  - their ability to ask clear and meaningful questions.
- Collaborate with thoughtful, analytically-oriented clinical, operational and corporate leaders who are willing and able to influence their peers in using data to improve outcomes.
- Collaborate in the development of ‘Clinical Improvement Career Pathways’ to develop healthcare analytics operational and leadership capacity in AHS and to provide the metrics, incentives and recognition needed to advance such careers.
- Ensure frontline leaders and the Zone Integrated Quality Management teams have the data/information they need to do their jobs.
- Where feasible, redraw reporting relationships to align our analysts with experienced analytical leaders who can provide challenging assignments, set high performance expectations, provide coaching on analytic methods, and ensure high-quality analytic outputs are produced.

Deliverables and Timelines for leaders/decision-makers:

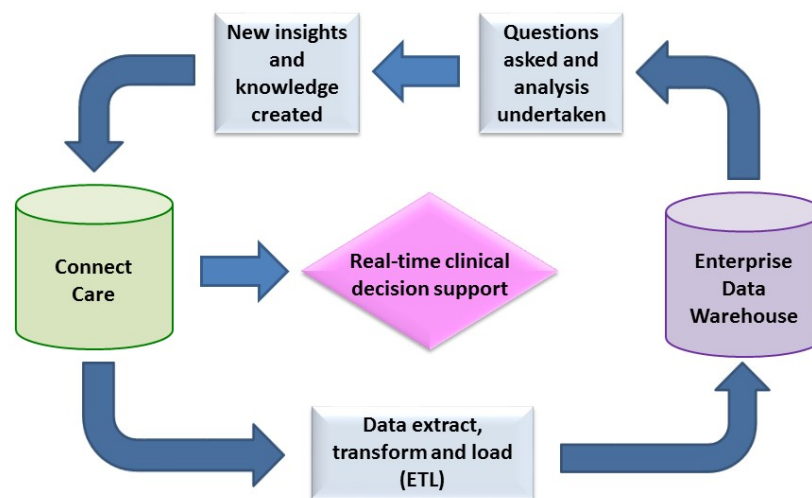
- i. Launch an e-learning module for frontline managers on essential data literacy concepts.
  - *Accountability: Analytics (DIMR) and Quality & Patient Safety Education; timeline: Fall 2017*
- ii. Collaborate with AHS’ eHealth literacy capacity-building initiative (CMIO & HPSP) to include and deploy an analytics literacy module. Promote development of analytics capacity in healthcare education organizations from which AHS draws its future workforce.
  - *Accountability: eHealth Competence Program and Analytics (DIMR); timeline: FY 2017/18 to FY 2018/19*
- iii. Propose that data literacy be included within the “single set of leadership behaviours and competencies” as identified in AHS’ People Strategy (for use in job profiles, job postings, interview guides); specifically, define the minimal analytics competency for management roles in AHS.
  - *Accountability: HR Talent Management and Analytics (DIMR); timeline: FY 2017/18*
- iv. Create an opportunity/forum for clinical/operational leaders to present their success stories to a leadership audience on how analytics contributed to an improvement, solving a problem, etc. (suggest co-presenting with their analyst). Among the possible venues for this are the Zone Quality Councils, quarterly Senior Leaders meetings, annual Quality Forum, etc.
  - *Accountability: AEC Working Group; timeline: ongoing to FY 2019/20 and beyond*
- v. Publish and actively promote the Clinical Improvement Career Pathway Guide, along with an annual reporting process for documenting contributions in clinical informatics, clinical analytics and clinical decision supports.
  - *Accountability: CMIO Office; timeline: FY 2017/18*
- vi. As the Quality, Safety & Outcomes Improvement Executive Committee (QSO) and Zone Quality Councils establish the respective priorities for provincial and Zone outcomes improvement work, embed analysts into frontline clinical operations teams.
  - *Accountability: co-Chairs of QSO or its underlying Outcomes Improvement Coalition, co-Chairs of the Zone Executive Leadership Teams, as well as the co-Chairs of the Zone Quality Councils; timeline: ongoing to FY 2019/20*

## d) Technology

A number of AHS' organizational strategies identify technology requirements to help transform care delivery and improve the health outcomes of Albertans; specifically:

1. The Strategy for Clinical Health Research, Innovation and Analytics notes that tools and repositories are required to enable province-wide access to clinical and corporate data assets, and clinical content (e.g., order sets, care pathways, clinical documentation).
2. The IM/IT Strategic Plan notes a growing trend in the volume, complexity and availability of data in health care. Additionally, it highlights the need to support the adoption and automation of clinical decision support at the point of care to optimize decision-making, flow and outcomes. Critical to enabling real-time decision support is the closed loop analytics lifecycle, whereby analytical insights and knowledge developed outside our clinical information systems and other transactional systems are fed back into those systems and embedded in regular clinical workflows (see diagram below).

### Closed Loop Analytics Lifecycle



#### Strategies:

- Design a technology plan that includes an operational support model, including budget, phases (releases), architecture + tools (technology), as well as the people/organizational structure to support the plan operationally.
- Acquire the tools required to access, store and analyze raw transactional data from AHS' clinical information systems.
- Adopt a set of standardized enterprise tools for advanced analytics.
  - Business intelligence and analytic platforms (data visualization tools)
  - Data integration tools
  - Data modelling tools
- Harmonize data elements, decision-support building blocks and performance measures across our existing clinical information systems and the Provincial CIS.

- Develop information and knowledge management tools (and processes) to support the analytic community (e.g., communities of practice, discussion boards, metadata, documentation, tasks, code, comments and solutions).
  - Analysts should be able to leverage previous work to avoid any duplication of effort.
  - Leverage work from the provincial CIS and terminology services which are putting standard definitions in place. Through the CIS planning and implementation process, priorities for metadata will also be established.

Deliverables and Timelines:

- i. Build an Enterprise Data Warehouse (EDW) roadmap that addresses:
  - The data required for an analytically-mature health care organization (i.e., clinical, financial, patient experience and provider experience data).
  - The technology required to transition to a true 'enterprise' solution. AHS has several data warehouses/repositories in place today and will also bring the future Provincial CIS online. The EDW roadmap will address how to access or merge data from these environments to meet all of AHS' analytics needs. The EDW will have a range of data analysis capabilities, from access to raw transactional complex data to highly conformed and dimensionalized data cubes for efficient querying.
  - The services required to support EDW operations in AHS (i.e., privacy, access/registration, education, consulting/advisory, metadata, data quality, etc.).
  - The people supporting the data warehouses/repositories in AHS by establishing clear EDW accountability for IT/IM departments and analytics teams/departments to eliminate existing instances of role confusion and/or redundancy.
  - *Accountability: Analytics (DIMR); timeline: January 2018*
- ii. Specific to analytical tools/software:
  - An agreed-upon set of standardized enterprise tools for data acquisition, data management, analytics and reporting/visualization will be identified and adopted across AHS to promote knowledge sharing within the analytics community, with the added benefit of streamlining costs for licensing, maintenance, training and support. These tools will be budgeted, managed and supported centrally.
  - Specialized tools/applications required to support higher-end analytic functions will also be considered. It will be the responsibility of an analytic unit to clearly articulate the business need for these tools, ensure that all enterprise-supported alternatives have been assessed, ensure that other analytic units are consulted on potential scale of the desired tool, and ensure that a Senior Program Officer (or equivalent) approves, manages and supports the cost and maintenance of the tool.
  - *Accountability: IT HIE; timeline: FY 2017/18*
- iii. Make definitions, terminologies and classifications available to the analytics community, including efforts to standardize the language used in AHS.
  1. Develop operational links to the Provincial CIS Content Repository to ensure harmonization of data definitions and awareness of CIS standards for measurement and codification of health information in all AHS clinical information systems.
    - *Accountability: CMIO, CIS Program, and Analytics (DIMR); timeline: FY 2017/18*
  2. Raise awareness and promote regular use by analysts of approved and published performance measure definitions to improve the quality and consistency of reported measures across AHS.
    - *Accountability: Analytics (DIMR); timeline: FY 2018/19*

3. Analytics (DIMR) to engage with the clinical terminology teams in:
  - a) Lab (which has adopted the LOINC clinical terminology) to understand how they are using terminology and how it can be used for analytics purposes.
    - *Accountability: Analytics (DIMR) and Lab; timeline: FY 2017/18*
  - b) Calgary Zone using SCM (who will be implementing the Intelligent Medical Objects terminology tool to code Health Issues diagnoses into SNOMED CT). The intent is to demonstrate the qualitative and quantitative benefits of clinical terminology adoption, ultimately leading to an RFP for procurement of a terminology server.
    - *Accountability: Clinical Terminologies, Communication & Learning; timeline: FY 2018/19*

## e) Provincial CIS

### Strategies:

- Ensure the design, build and configuration of the provincial CIS enables the following five analytics capabilities:
  1. The ability to get raw transactional data out of the CIS along with transparent data models (and metadata) so analysts can effectively understand and use data from the CIS for secondary use (i.e., data flowing from the CIS into the EDW as soon as the CIS is turned on).
  2. 'In-system' analytics capabilities to support real-time decision-making and other purposes (e.g., clinical and operational performance management, ability to select cohorts and define measures to assess care variability, etc.).
  3. Enabling 'closed loop analytics'; specifically, the ability to build analytic models in the EDW and integrate the results into the CIS in near real-time (e.g., alerts, reminders, outcome prediction models). Regardless of whether these decision supports are developed within or outside of the CIS, the requirement is to embed them into everyday clinical workflows within the CIS so they can be used to inform real-time clinical decision making at the point of care.
  4. Enabling 'closed loop data quality'; specifically, the ability (on an ongoing basis) to report on the quality of the data created in the CIS and identify issues, communicate this back to frontline users, and act on the findings to improve data quality. Develop the understanding that the CIS is a vital data creation tool that can be used to capture the data needed to improve outcomes. This capability aligns to the EIM Program's strategic objectives as well as the principles in AHS' Clinical Documentation Framework; namely, ensuring that data are entered consistently by frontline clinicians to ensure real-time care decisions and quality improvement efforts are based on accurate clinical data.
  5. Allowing the ability to collect new data from patients or providers within the CIS directly. While a lot of data is created in the CIS as a by-product of health care delivery, vital missing data will still need to be collected. This 'primary data collection' capability is required to support outcomes improvement initiatives (e.g., tracking compliance for clinical pathways/protocols/interventions, capturing patient or provider experience, new data collection for quality improvement projects, etc.).

### Deliverables and Timelines:

The CIS is assumed to satisfy the all of the above analytics capabilities.

## f) Analytics Capabilities

As AHS continues to improve its analytic maturity, it is recognized we need to build out additional capabilities and capacity within our organization to meet ever-increasing clinical, operational and corporate needs.

### Strategies:

- Establish an agreed-upon planning model methodology between AHS and Alberta Health.
- Determine the workforce needs of frontline operations.
- Develop an agreed-upon methodology for operational best practice (benchmarking).
- Develop capability in forecasting and predictive analytics (i.e., what is likely to happen).
- Develop capability and artistic side in translating data and information into the stories needed to lead decision-makers to taking action.

### Deliverables and Timelines:

- i. Develop a mutually-acceptable analytic planning model (between AHS and Alberta Health) to apply to service and capital planning across all Zones (scope to include acute care and continuing care). This is the main analytics deliverable to support long-range planning.
  - *Accountability: Planning & Performance; timeline: FY 2017/18*
- ii. Assess the level of integration between clinical and workforce data that is required for appropriate and safe patient care for the purpose of developing a workforce planning model.
  - *Accountability: Clinical Workforce Planning; timeline: FY 2018/19*
- iii. For internal benchmarking, document the data sources for financial (i.e., cost), statistical (e.g., hours/activity), and clinical data (e.g., length of stay) and implement a method for reporting this data across AHS in a consistent and timely manner (i.e., single source of truth).
  - *Accountability: Operational Best Practice (OBP); timeline: FY 2019/20 (the OBP roll-out is a 2-3 year effort)*
- iv. Produce an inventory of resources (e.g., peer-reviewed journals, post-secondary courses, Conference Board training, etc.) to assist leaders and analysts develop predictive and storytelling analytic competencies as part of regular employee development.
  - *Accountability: HR Analytics & Planning; timeline: FY 2017/18*
- v. Build out the corporate analytics functions through FY 2019/20; namely:
  - Resource allocation analytics – *accountability: Finance*
  - Health economic evaluation – *accountability: Finance*
  - Health system planning analytics – *accountability: Planning & Performance*
  - Performance management analytics – *accountability: Planning & Performance*
  - Human capital analytics – *accountability: HR Analytics & Planning*