# The Concept Dictionary and Glossary at MCHP:

# Tools and Techniques to Support a Population Research Data Repository

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Population Data Science Webinar
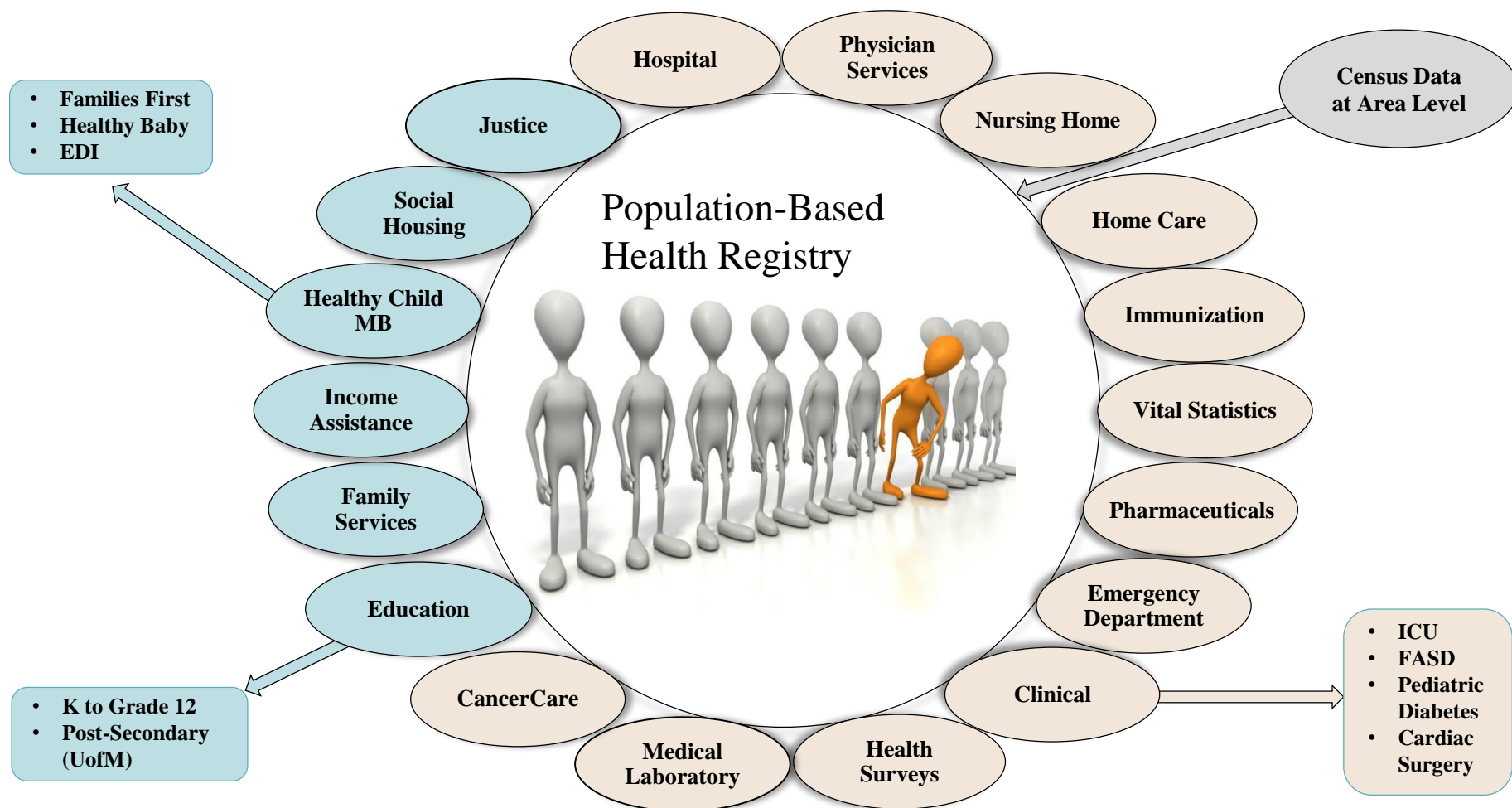February 13, 2020

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# Webinar Outline

- Summary of IJPDS article.

- Overview of key features.

- The concept development process.

- Live Demonstration

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# Manitoba Population Research Data Repository

- The Manitoba Population Research Data Repository is a comprehensive collection of administrative, registry, survey, and other databases primarily relating to residents of Manitoba.

- The Repository was developed to facilitate inter-sectoral research.

- It now includes more than 80 different government databases, consisting of over 1800 individual files.

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# Manitoba Population Research Data Repository

**Population-Based Health Registry**

- Hospital
- Physician Services
- Nursing Home
- Census Data at Area Level
- Justice
- Social Housing
- Home Care
- Healthy Child MB
- Immunization
- Income Assistance
- Vital Statistics
- Family Services
- Pharmaceuticals
- Education
- Emergency Department
- CancerCare
- Clinical
- Medical Laboratory
- Health Surveys

- Families First
- Healthy Baby
- EDI

- K to Grade 12
- Post-Secondary (UofM)

- ICU
- FASD
- Pediatric Diabetes
- Cardiac Surgery

# Manitoba Population Research Data Repository

The Repository consists of databases grouped into six domains:

- [Health](#) – Administrative, survey, and clinical health data (from Manitoba Health, Seniors and Active Living and from Statistics Canada).

- [Education](#) – The Early Development Index (EDI) and Manitoba K–12 data.

- [Social](#) – Housing, Community and Social Services, Healthy Child Manitoba, and survey data.

- [Justice](#) – Prosecution files, Court Appearances and Convictions.

- [Registries](#) – Manitoba Health Insurance, Providers, Vital Statistics Mortality, and First Nations Research Registry data.

- [Support Files](#) – Population Counts, Facilities, Tariff Codes, PCCF

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# Manitoba Population Research Data Repository

- Information-rich environments based on record linkage and cooperation among departments and government ministries have broadened the analytic possibilities associated with administrative data.

- A number of jurisdictions including Canada, Australia, the United Kingdom, and Scandinavia have proposed or undertaken the development of data repositories.

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# MCHP's Concept Dictionary and Glossary

- contains information from MCHP publications dating back to 1991;

- provides definitions for commonly used terms;

- provides detailed descriptions of MCHP methods, analytical approaches and algorithms for indicators and measures used in MCHP research;

- contains publication / reference information that is integrated within the Concept Dictionary system.

- focuses on our Deliverables (reports commissioned by Manitoba Health Seniors and Active Living); and

- acts as a gateway to information on our web site and beyond.

# MCHP's Concept Dictionary and Glossary

The resource was designed to:

- retain "corporate" knowledge about changing database holdings and privacy requirements;

- serve as a "storehouse" of working / historical knowledge;

- facilitate researcher/analyst communication;

- enhance MCHP's knowledge translation activities;

- help communicate about the Centre's work to prospective and established users; and

- aid in efforts to obtain funding.

# MCHP's Concept Dictionary and Glossary History

- 1993 – began documenting methods and analytical techniques for internal communication.

- 1999 – expanded to include glossary terms from existing research.

- 1999 – developed an html / text-based interface for display on the MCHP external web site.

- 2005-2010 – received a Lupina Foundation grant to expand the scope of the content.

- 2008 – new system implemented with a database structure.

- 2010 – expanded content and added links to Deliverable sections / research findings.

- 2020 – upgrading the system to a new server.

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# MCHP's Concept Dictionary and Glossary The Lupina Years

MCHP received Lupina Foundation Funding over the 2005-2010 period to develop web-based documentation in a number of key areas:

a) Transitioning from the ICD-9-CM to the ICD-10-CA/CCI disease/procedure coding systems

b) Costing of the health care system

c) Measuring the social determinants of health and wellbeing

d) The development of population health concepts based on pharmaceutical data.

- 2008 - Implementation of a new Concept Dictionary system.

# MCHP's Concept Dictionary and Glossary

Two key characteristics which are heightened by the expansion of available data:

- the need to educate prospective researchers concerning content, and

- the importance of issues related to access, privacy and confidentiality

With many studies depending on heterogeneous files from different sources, the need for documentation of working knowledge has never been greater.

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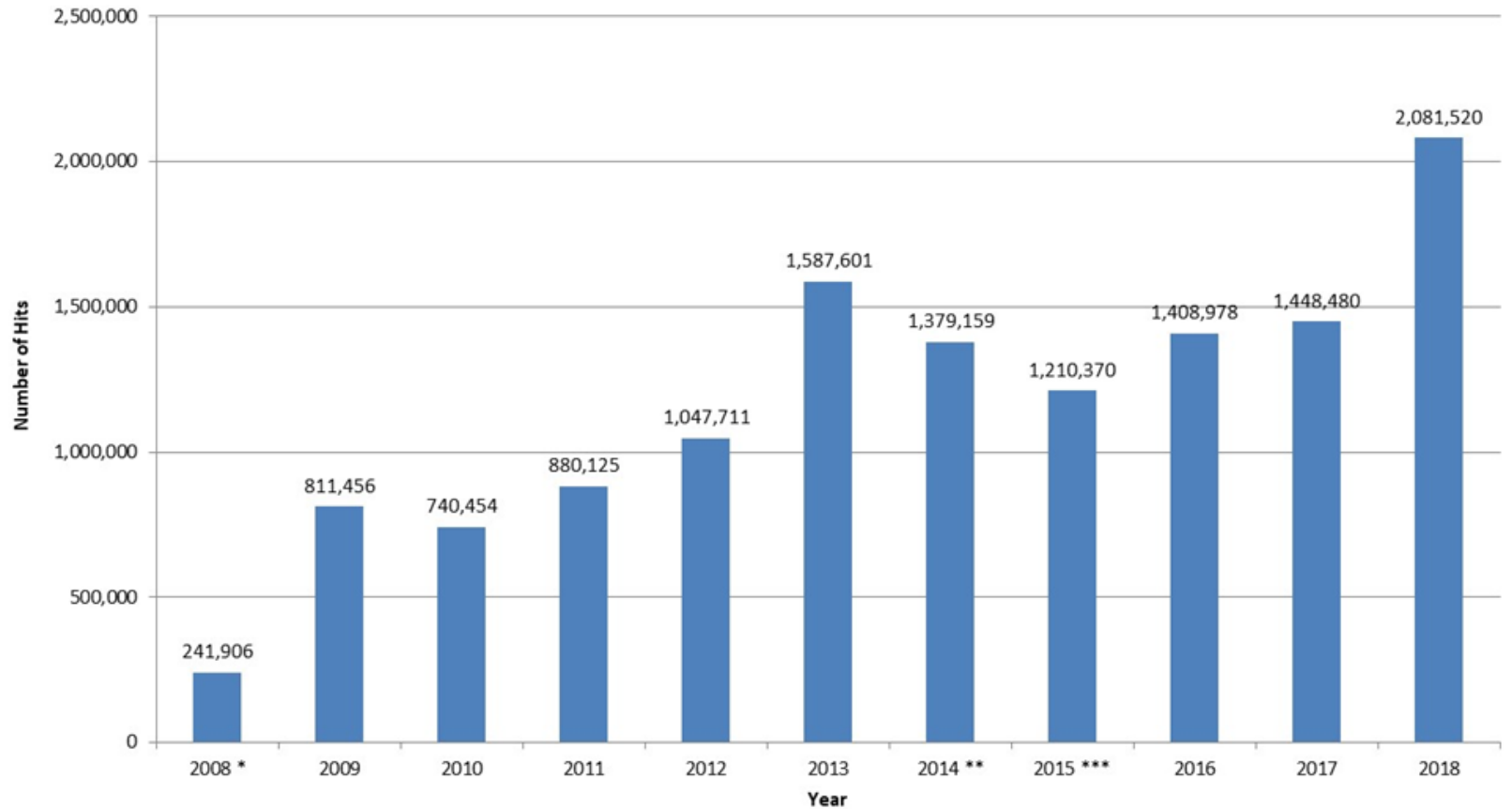Health Sciences | UM

# What have we learned?

- The value of keeping historical content in a concept so that changes in data and methodology that impact the concept can be understood and re-created if necessary.

- The recognition that the inclusion of information related to the intricacies, nuances and limitations of various data sources has helped to save countless hours of future work repeating the same learning steps.

# What have we learned?

- Centers housing large linkable data repositories accessed by multiple investigators can benefit from web-based resources to compile and disseminate common organizational knowledge.

- Creating a user-friendly interface to the knowledge generated from a wide range of research projects contributes to productivity and methodological excellence.

- Traffic at the MCHP website has increased over time. One of our analytic packages (Deep Log Analyzer) recorded over two million hits in 2018 to "mchp-appserv", reflecting the broad interest and appeal of this kind of documentation.

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Total Hits Per Year on the "mchp-appserv" Server
As at the end of December 2018

NOTE: 2008* - 6 months of data; 2014** - 10 months of data; 2015*** - 9 months of data
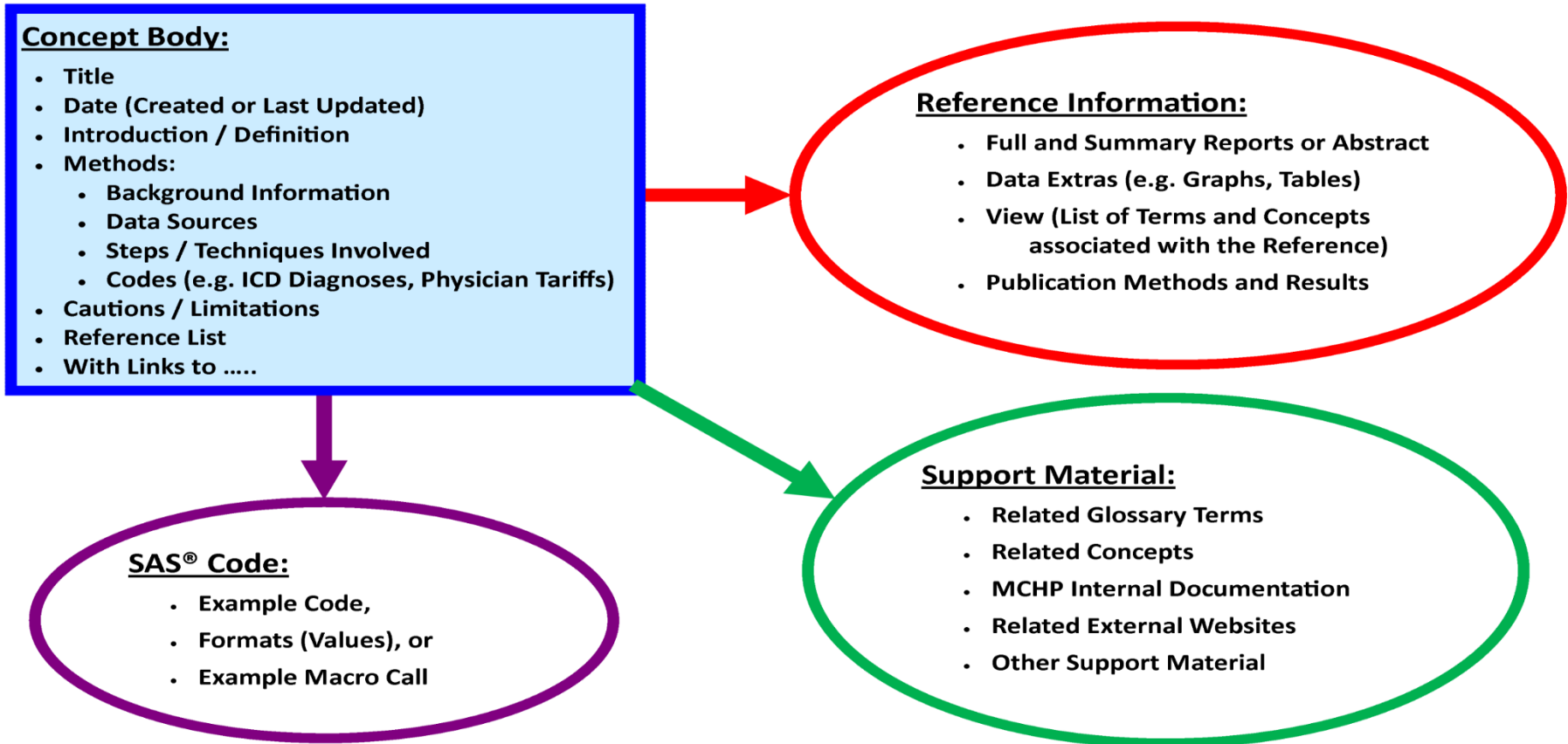
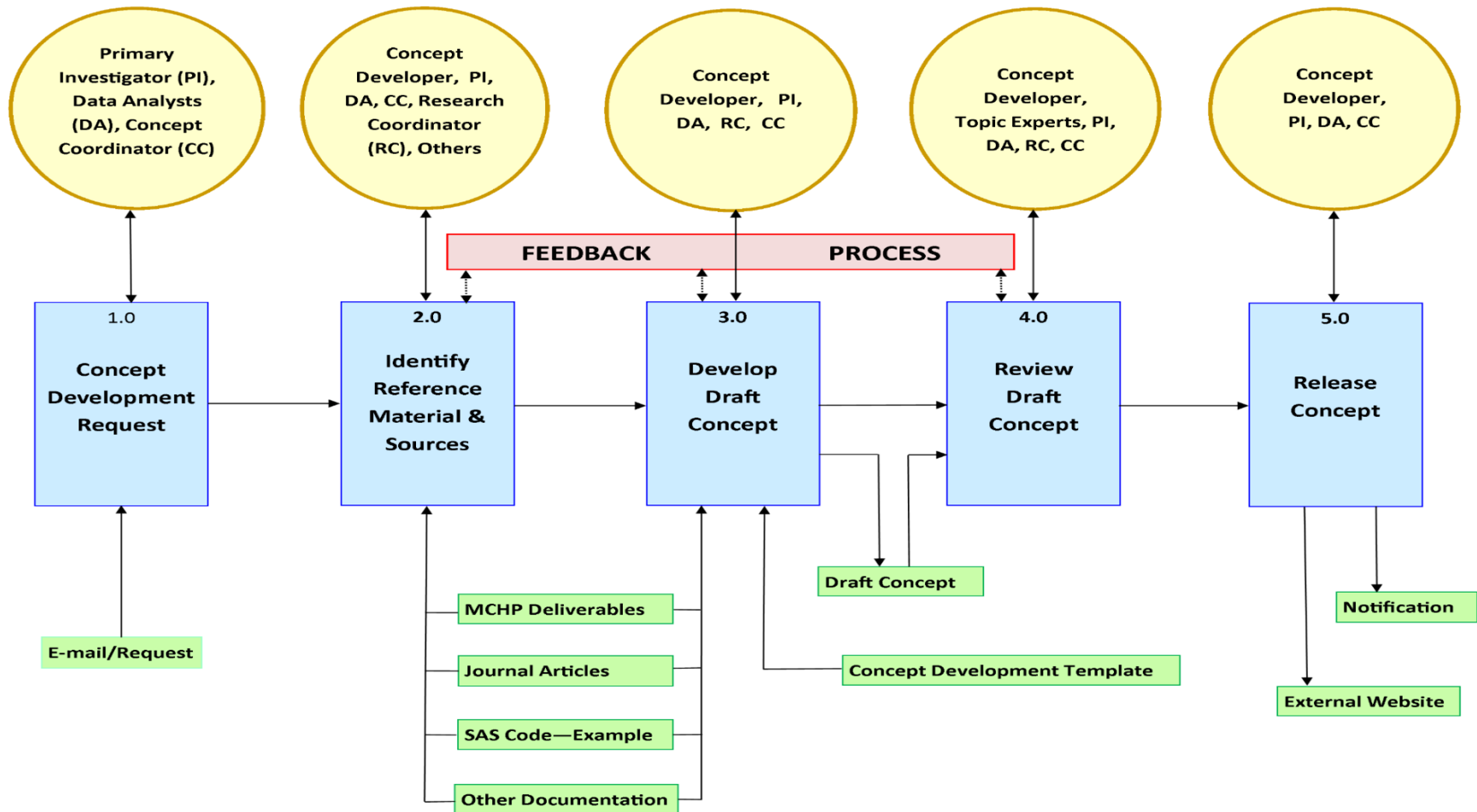# MCHP's Concept Dictionary and Glossary Conclusions

- Information on new programs has been incorporated while updating / maintaining the resource is a constant task.

- Evolving methods and changes in data content / file structure require review and evaluation / updating methods and approaches.

- The use of the Dictionary, both nationally and internationally, has continually increased.

- Several organizations developing their own Concept Dictionary / algorithm library.

- The Concept Dictionary should prove to be a valuable resource for the SPOR Canadian Data Platform – multi-jurisdictional research in Canada.

# MCHP's Concept Dictionary and Glossary Key Features

**Concept Body:**
- Title
- Date (Created or Last Updated)
- Introduction / Definition
- Methods:
  - Background Information
  - Data Sources
  - Steps / Techniques Involved
  - Codes (e.g. ICD Diagnoses, Physician Tariffs)
- Cautions / Limitations
- Reference List
- With Links to …..

**Reference Information:**
- Full and Summary Reports or Abstract
- Data Extras (e.g. Graphs, Tables)
- View (List of Terms and Concepts associated with the Reference)
- Publication Methods and Results

**SAS® Code:**
- Example Code,
- Formats (Values), or
- Example Macro Call

**Support Material:**
- Related Glossary Terms
- Related Concepts
- MCHP Internal Documentation
- Related External Websites
- Other Support Material

# MCHP Concept Development Process

# MCHP's Concept Dictionary and Glossary Live Demonstration

- MCHP External Web Site

- Integration of Concepts, Terms, Publications and other Systems / Information / Documentation

- [http://umanitoba.ca/faculties/health_sciences/medicine/units/chs/departmental_units/mchp/resources/concept_dictionary.html](http://umanitoba.ca/faculties/health_sciences/medicine/units/chs/departmental_units/mchp/resources/concept_dictionary.html)

# MCHP's Concept Dictionary and Glossary

Thank you for "webinaring" with us!!

Questions ?

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