

# Canadian Institutes of Health Research Performance Measurement Regime Toolbox

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# Purpose

1. CIHR – Our Organizations
2. CIHR's PM Regime Toolbox and Demonstrating Impact
3. Barriers, Benefits and Lessons Learned
4. Next Steps



# OUR ORGANIZATION



# About CIHR and why the PM Regime Toolbox was needed

- **CIHR is the Government of Canada's health research investment agency**
  - \$1B in grants annually to researchers, universities, research hospitals etc.
  - 13 'Virtual Institutes' based in universities across Canada
  - Part of the health portfolio
- In the past, monitoring and **reporting of performance across CIHR was been done in silos**
  - Redundancies & replication of efforts
  - Inconsistency in reporting
  - Erroneous results stemming from lack of validation
  - Non comparable results
  - Over 1500 indicators being tracked and monitored annually at CIHR





## CIHR's PM REGIME TOOLBOX



# What is CIHR's Performance Measurement Regime Toolbox?

A corporate-wide, all-encompassing performance measurement toolbox facilitating consistent reporting across all of CIHR

Comprises two performance measurement streams :

## 1. CIHR accountability stream

- Allows for the monitoring and reporting of CIHR activities, outputs and outcomes for transparent accountability to stakeholders including parliament (e.g. DPR, annual report etc.)

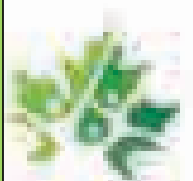
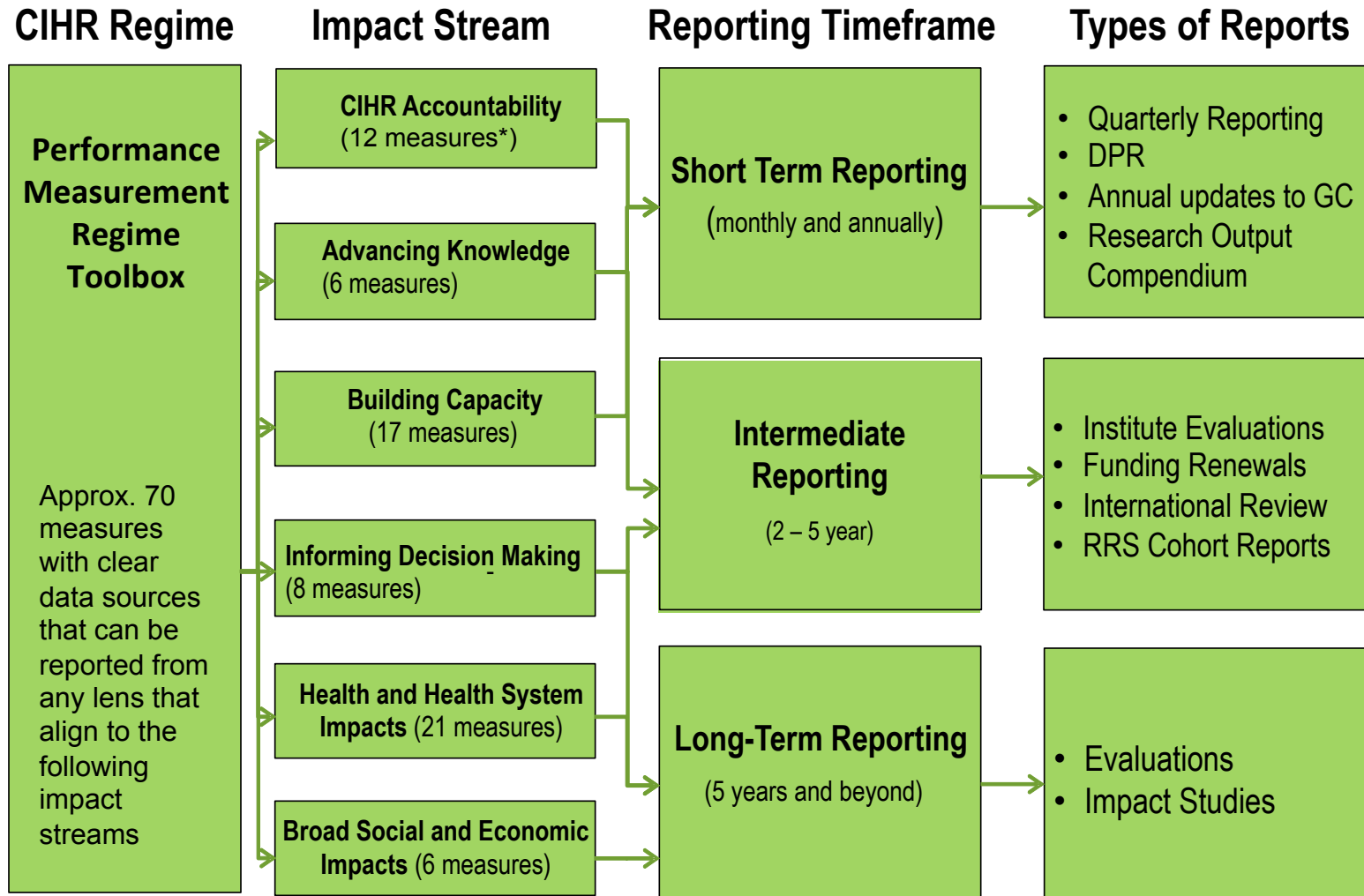
## 2. Health research impact stream

- Allows for the monitoring and reporting of health research outputs, outcomes and impacts (informed by Canadian Academy of Health Sciences (CAHS) Impact Framework)



# The PM Regime Toolbox informs all CIHR reporting

A corporate-wide, all-encompassing performance measurement toolbox facilitating consistent reporting across all of CIHR



# Example of Performance Measures

Category	Performance Measure	Results 2014-15
Advancing Knowledge	Number of Publications resulting from CIHR investment	9,940
Building Capacity	Co-author Analysis of publications resulting from CIHR investment	50.6% of publications have international collaborations 12.8% of publications have interprovincial collaborations 33.4% of publications have intersectoral collaborations
	Ratio of funds leveraged by CIHR investments	\$1 : \$0,51
Informing Decision-Making	Total number of clinical guidelines citing publications resulting from CIHR investment	745 clinical guidelines <ul style="list-style-type: none"> <li>• 149 of these references had a Strong influence</li> <li>• 173 of these had a Moderate influence</li> </ul>
	Total number of federal health related policies/documents impacted by publications resulting from CIHR investment	29 in 2014 145 since 2008
Broad Social and Economic Impacts	- Total number of staff being paid from CIHR grants	2,657





# Using CIHR's PM Regime Toolbox to demonstrate results for Canadians



The image is a screenshot of a CBC News website article. At the top, it says "CBC NEWS | British Columbia" and features a row of five news anchors. Below the navigation bar, the main headline reads "Hepatitis C: breakthrough drug coverage a lifesaver for B.C. man". A sub-headline states "New drugs Sovaldi and Harvoni will treat 80 per cent of cases, says B.C. Health Minister". The article text below the sub-headline says: "B.C. government agrees to pay for two new hepatitis C drugs if being added to health plan, one high-profile clinician. The Ministry of Health approved coverage for Sovaldi and Harvoni last week. The breakthrough drugs can cure about 80 per cent of cases, but cost between \$10,000 and \$112,000 per patient, meaning most patients would still be free." To the left of the text is a photograph of a man in a white lab coat. To the right is a photograph of a white pill bottle with a single orange pill next to it.

# CIHR-supported research contributes to improved treatment of Hepatitis C in British Columbia

CIHR distributed grants and awards to 10 of the listed co-authors whose research lead to published research articles that influenced future decision making (2003-2012).

The Canadian Common Drug Review issues a recommendation that sofosbuvir (SOF) be listed for the treatment of chronic hepatitis C (CHC) virus infection in adult patients with compensated liver disease, including cirrhosis, if they meet a defined set of criteria. This recommendation references the four HEP C related CIHR-supported publications.

BC Government expands coverage and announces “People with hepatitis C will be able to apply tomorrow for coverage under B.C.’s PharmaCare program of Sovaldi (sofosbuvir) and Harvoni (ledipasvir and sofosbuvir)...These drugs represent a significant advance in the treatment of chronic hepatitis C, and more British Columbians affected by this virus now have significantly better odds of becoming free of the disease.”

2003

2009<sup>a</sup>

2012<sup>b</sup>

2014

2015

Four key publications related to Hepatitis C are released by the various authors.\*

\*CIHR grants and awards have been mapped to the four publications included in this timeline based on a methodology developed by the CIHR Performance and Accountability branch

a) “Sustained Responders Have Better Quality of Life and Productivity Compared With Treatment Failures Long After Antiviral Therapy for Hepatitis C” (42 citations);

“Does cirrhosis affect quality of life in hepatitis C virus infected patients” (10 citations)

b) “An update on the management of chronic hepatitis C Consensus guidelines from the Canadian Association for the Study of the Liver” (42 citations);

“Health utilities and psychometric quality of life in patients with early and late stage hepatitis C virus infection” (25 citations)



# New Approaches (for collecting better attributable data) - Publications

- There are currently ~57,000 documents since 2008 that acknowledge CIHR in Web of Science
- CIHR downloads this data and maps it to relevant supported researchers and funding instruments

Step 1: Collection of all documents that acknowledge CIHR as a funding source

Includes PI, OPI and Co-applicants listed in applications

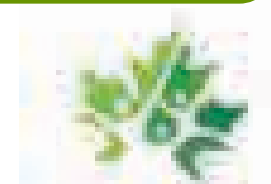
Step 2: Merging of authors with CIHR funding data

Step 3: Mapping to relevant funding instruments based on windows of support\*

Based on a common purpose of funding assumption

Step 4: Inputting of publication sets into WoS to collect bibliometric data

\*Mapping currently restricted to 2009-2013: expanding the coverage to include 2008, 2014 & 2015



# New Approaches - Influence Beyond Academia (Downstream Documents)

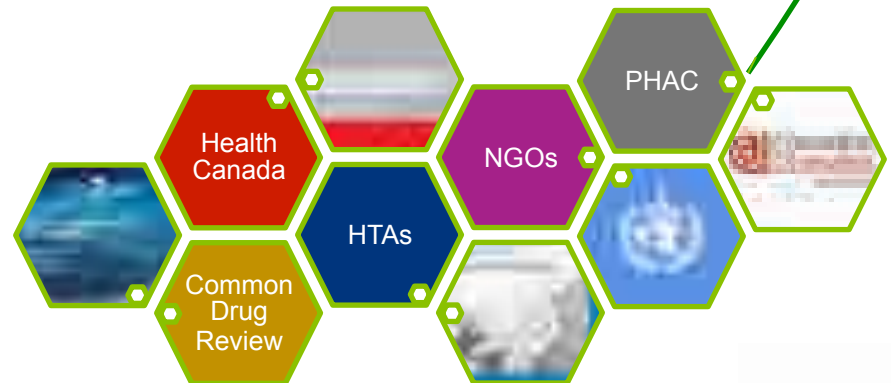
Step 1: Collection of all documents that acknowledge CIHR as a funding source

Step 3: Mapping to relevant funding instruments based on windows of support\* and KWs

Step 5: Validation and estimating strength of influence on downstream document

Step 2: Merging of authors with funding data

Step 4: Identification of downstream documents influenced by supported research\*

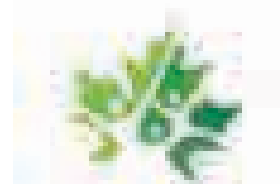


\*RRS listed publication titles were appended to the submitted list.



# Influence Beyond Academia – Validation and Estimating Influence

- Validation process also collects information on the following variables:
  - Author, Publication year, Origin, Disease/Health area, Type of document, Number of times the article title was cited in document
- CIHR modified an approach to estimating strength of influence
- CIHR's Estimate of Reference Influence:
  - **Strong:** The referenced article is used in a recommendation, conclusion or the authors have indicated that the research was pivotal. As well, there are instances where the reference is the only work cited or is cited numerous times in the document
  - **Moderate:** The referenced article is cited in the body of the document
  - **Weak:** The referenced article is referred to in the document but not directly cited or is excluded from the works referenced





# BARRIERS, BENEFITS AND LESSONS LEARNED



# Current Barriers

1. **External data sources** – a number of measures have been selected based on available external data sources that are not being maintained
2. **Pressure to demonstrate all results immediately** – long term impacts cannot be reported with the same consistency which results in suspicion
3. **Striving for commitment to Health and Health System Impacts and Broad Social and Economic Impacts** – Fear of failure to meet these long term impacts





# Benefits to Date

- 1. Consistent reporting**
  - External reporting has consistent information, targets and results.
  - Provinces of Alberta, Saskatchewan and Nova Scotia have begun to frame their Annual Reports around the CAHS Impact Framework.
- 2. Evaluations being designed using PM Strategies and data**
- 3. Senior management buy-in** – performance measurement was a concern and is now the basis of decisions for renewal of programs
- 4. Re-investment in data and new approaches** - successful business cases have resulted from data being made available (e.g. purchase of patent data)
- 5. Informing decision making** – CIHR has been able to demonstrate its impact on Federal Government Policy





# Lessons Learned

1. **Allowing a mix** of toolbox and program-specific indicators helps buy-in and adoption
2. **Clear accountabilities** – Assists in maintaining toolbox and all relevant data
3. **Longer-term term outcome measures have less easily available data** and there are concerns over attribution. As a result, CIHR has reduced the number of measures in **Broad Social and Economic Impacts** and will now demonstrate results using **impact assessments and case studies**.
4. **Allows for program level reporting, Agency-wide reporting or External Comparisons** – the measures can take any lens (i.e. gender, official language, disease)
9. **'Darwinian' approach to indicators** – annual review to remove from the toolbox indicators not being used; also add new ones





NEXT STEPS



## Next Steps

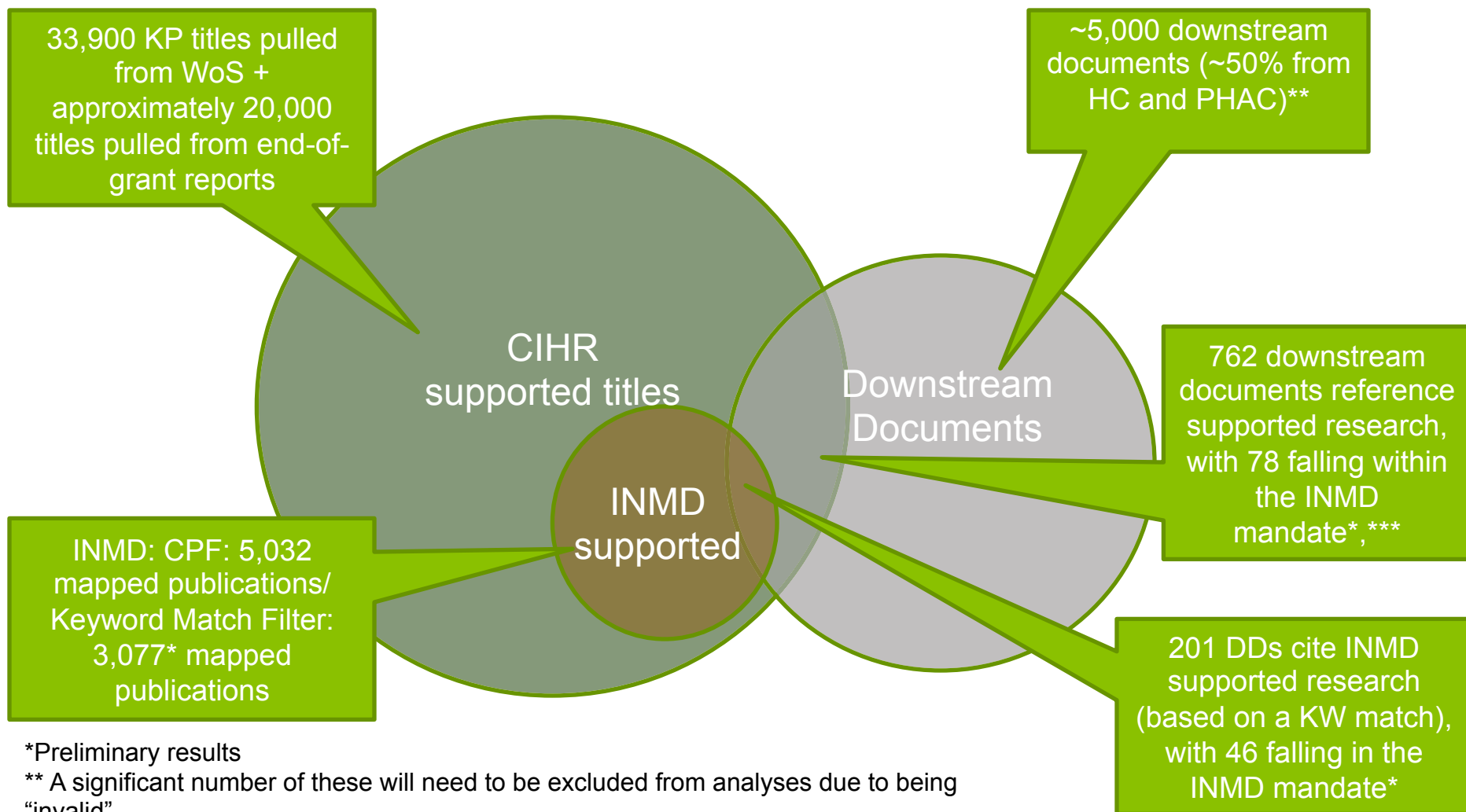
- Assess how PM toolbox can support the new Policy on Results
- Continue working with national and international partners in evaluation and impact to enhance awareness of the toolbox
- Toolbox refinement – ensure that measures continue to be useful and relevant
- Work with other federal departments to enable cross jurisdictional and cross disciplinary comparability



# Questions?



# New Approaches – An Example of the Expanded Approach Using INMD Data

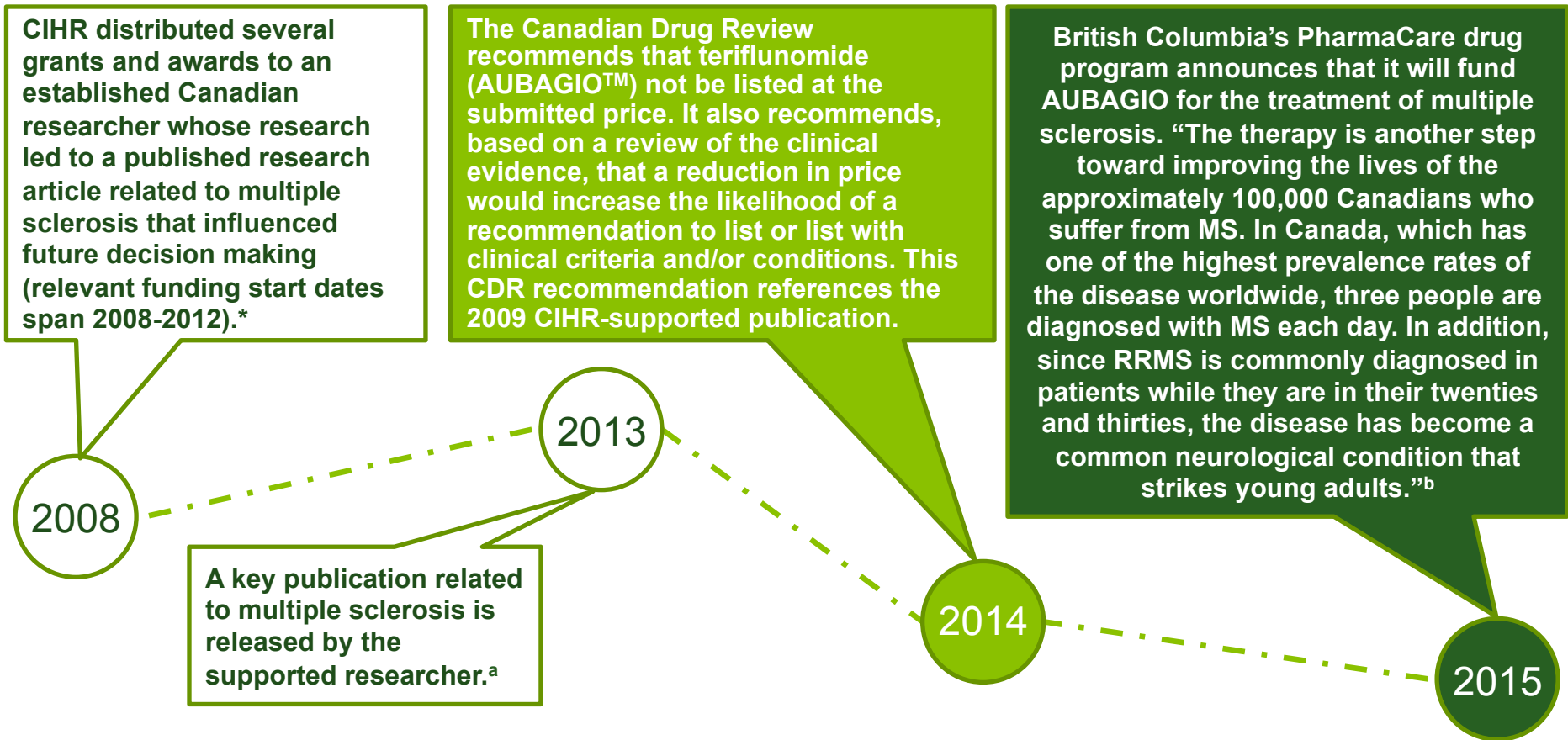


\*Preliminary results

\*\* A significant number of these will need to be excluded from analyses due to being "invalid"

\*\*\*Currently 14% of DDs – final results estimated to be between 22-30%

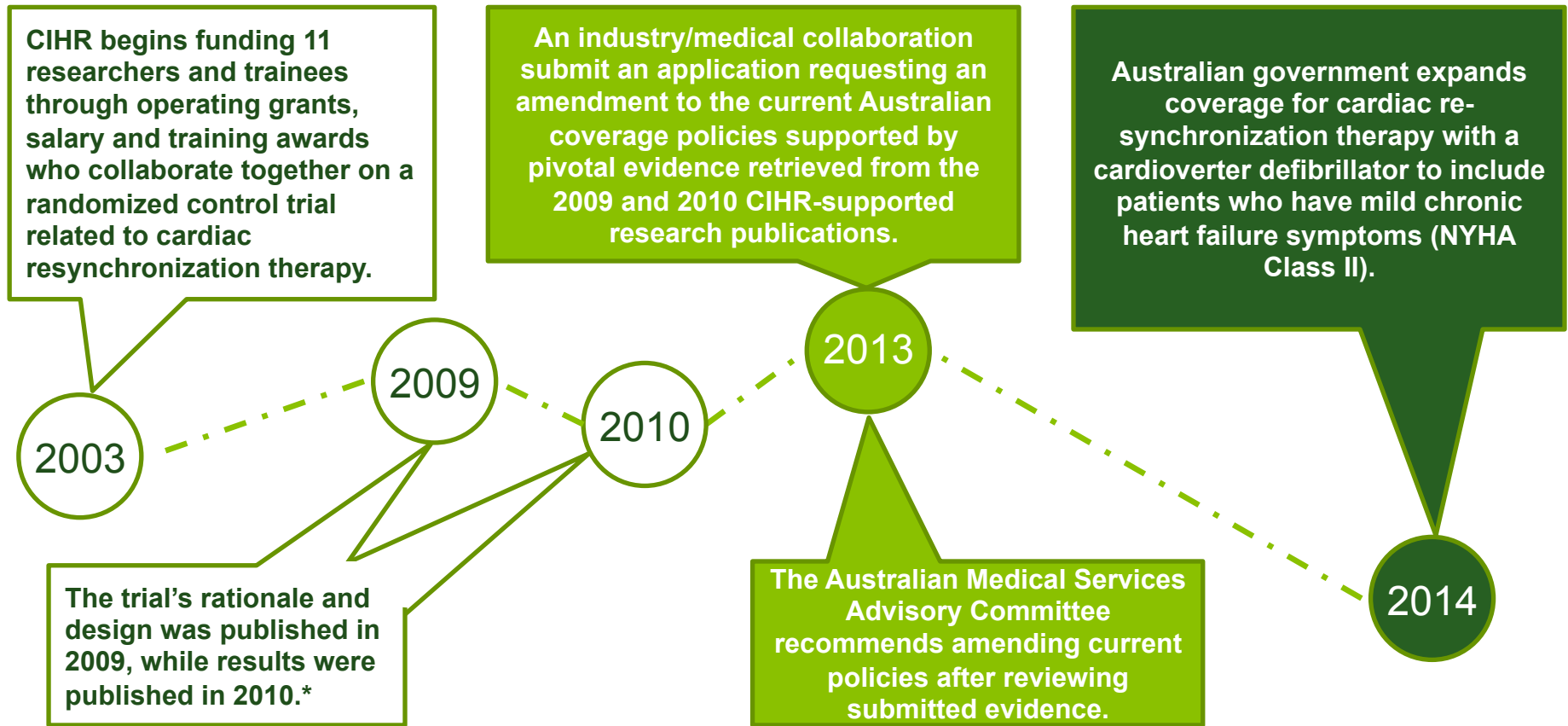
# CIHR-supported research contributes to improved treatment of relapsing-remitting MS for BC residents



\*CIHR grants and awards have been mapped to the publication included in this timeline based on a methodology developed by the CIHR Performance and Accountability branch.

- a) "Do generic utility measures capture what is important to the quality of life of people with multiple sclerosis" (16 citations)
- b) Ferreira, L. M. (2014). *British Columbia agrees to fund AUBAGIO RRMS Therapy*. Accessed on May5, 2016. Retrieved from <http://multiplesclerosisnewstoday.com/2014/12/26/british-columbia-agrees-fund-aubagio-rrms-therapy/>.

# CIHR-supported research contributes to improved health outcomes for Australians



\*CIHR distributed 34 grants and awards that have been mapped to the two publications included in this timeline based on a methodology developed by the CIHR Performance and Accountability branch to 11/13 of the listed co-authors whose research lead to these two published research articles that influenced future decision making (funding issued between 2003 and 2010) – (2009) “Resynchronization defibrillation for ambulatory heart failure trial rationale and trial design” (25 citations); (2010) “Cardiac Resynchronization Therapy for Mild to Moderate Heart Failure” – a highly cited paper (625 citations).