Information Sheet

Executive Summary: Determining the Need for a Canadian Version ("Linearization") of ICD-11

Introduction

The transition of Canada's health systems to ICD-11 requires a strategic and proactive approach to ensure alignment with international standards while addressing the unique health care needs of Canada. The Canadian Institute for Health Information (CIHI) is actively engaged in various impact assessment activities. Among these efforts is an evaluation to determine whether a Canadian linearization will be required to address the unique needs of our health care systems. To guide this process, CIHI engaged an external consultant to help identify and understand the impacts and requirements. This executive summary outlines the work undertaken to determine the need for a Canadian linearization of ICD-11.

Background

ICD-11 (*International Classification of Diseases, Eleventh Revision*), developed by the World Health Organization (WHO), is the latest edition of the ICD; it offers a more comprehensive and flexible framework for coding diseases and health conditions globally than the previous revisions. As Canada prepares for the transition from ICD-10-CA to ICD-11, there is a need to evaluate whether a linearization specific to Canada is required to ensure that the system accommodates Canada's specific health data requirements and clinical practices.

In 1995, the Conference of Deputy Ministers of Health agreed that ICD-10 should be adopted in Canada. Following that decision, Canadian stakeholders became aware that other countries (e.g., Australia, United States) were adding detail to ICD-10 by creating national modifications of the international classification for morbidity use. CIHI assembled a committee of clinical experts to review Australia's ICD-10-AM (Australian Modification) and the United States' ICD-9-CM (Clinical Modification) national modifications and determine whether the added detail was required in Canada to meet the needs of administrative, epidemiological and public health research requirements. The committee determined that the extra detail was beneficial, and the work of creating the Canadian modification of ICD-10 began.

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Other countries soon followed suit. It became apparent that the various national modifications of ICD-10 were not created equally. They differed in the number of codes, chapters and subcategories and in the classification of specific conditions, which resulted in a subsequent threat to the comparability of international clinical morbidity. Additionally, translations of ICD-10 into over 40 languages were not validated, resulting in even more discrepancies.

The divergent national modifications of ICD-10 supported the need for an international classification that could be used by all and that would include the desired levels of detail. First released in 2022, ICD-11 was therefore created in an open, transparent fashion by hundreds of experts from many countries, resulting in over 14,000 proposals for the content. The intent was to essentially eliminate the perceived need for national modifications and reduce the threat to international comparability for morbidity. There has also been a shift in the language used regarding national modifications of the ICD. Regarding ICD-11, any "national modification" is now termed a "national linearization."

Canadian rationale

First and foremost, the potential need for a Canadian-specific morbidity linearization does not come from a call for more detail, as was the case with ICD-10. It comes from the need to identify and collect required data efficiently and effectively.

The Canadian morbidity use case has its own specific requirements, primarily for maintaining the level of detail currently available in ICD-10-CA that is needed for the following:

- **Case-mix products:** ICD-10-CA codes are the determining factor in assigning the major clinical category (MCC) and major ambulatory cluster (MAC) in the Case Mix Group+ (CMG+) and Comprehensive Ambulatory Classification System (CACS) grouping methodologies.
- **National health indicator reporting:** Detail may be required to support health indicators.
- **Canadian stakeholder requests:** Federal, provincial and territorial stakeholders could request detail in ICD-10-CA that was needed for their reporting purposes that is not applicable internationally.

To maintain the same level of detail that is available in ICD-10-CA, there must be a way to identify which ICD-11 extension codes are mandatory for reporting in Canada. The volume and diversity of the available extension codes in ICD-11 could increase coder burden if ICD-11 is published in Canada with all options available in an uncontrolled manner. If coders do not know which extension codes are mandatory, there is a risk that extraneous information may be added and time may be wasted.

There may be a need for a precoordinated concept in a Canadian linearization that is not present in this format in the international version. WHO prioritizes maintaining international comparability but is open to considering use case–specific requirements. However, the increased level of detail in the ICD-11 foundation and the methods of postcoordinating that detail may reduce the need for Canadian-specific codes, provided that CIHI products and systems can support the new structure.

Traditionally, ICD has been used in the acute care sector. However, the broader and enhanced content in ICD-11 may have utility in other health care sectors. An investigation is underway to assess whether the primary care linearization for use in Canada is appropriate.

Consideration must also be given to the current platform that manages the classifications at CIHI to ensure its compatibility with the ICD-11 architecture, as well as its capacity to accommodate any future enhancements to the *Canadian Classification of Health Interventions* (CCI).

Considerations for a Canadian linearization

The necessary steps in creating a national linearization have not yet been fully defined. This presents an opportunity for CIHI to create a list of desirable conditions and help pave the way for others. There are 5 considerations for Canada:

1. **Licensing:** The licensing for ICD-11 is managed by WHO, and access is provided under specific terms for both commercial and non-commercial use. The impact of ICD-11 licensing on a Canadian linearization has yet to be fully determined. However, at minimum, it will involve ensuring that any adaptations made for the Canadian context comply with the relevant licensing agreements.
2. **Creation and maintenance:** The tasks related to updating and maintaining ICD-10-CA are complex and costly. The impact on internal systems, such as CIHI's Classification Information Management System (CIMS), which is currently used to maintain ICD-10-CA and CCI, is another primary consideration. Would CIMS be adequate for and compatible with the new ICD-11 features?
3. **Distribution of a Canadian linearization:** The distribution method for a Canadian linearization will also need to be discussed with WHO. WHO has stated that ICD-11 can be integrated into any type of software, and utilizing the ICD-11 Coding Tool could potentially reduce or even eliminate the costs associated with alternative coding solutions.
4. **Downstream impact of case-mix decisions:** Maintaining the level of detail currently available in ICD-10-CA will be crucial for ensuring accurate case-mix methodologies. This will need to be assessed carefully in terms of how ICD-11 codes are used in Canada, and the final decisions made in this regard will influence the requirements for a Canadian linearization.
5. **Postcoordination and identification of mandatory postcoordination of extension codes:** Postcoordination in ICD-11 refers to the process of combining multiple codes to represent a more specific or complex clinical condition. There are several reasons to believe that the current number of precoordinated Canadian-specific codes may not need to be reproduced in ICD-11. The new feature of postcoordination encourages consideration of alternative means of capturing detail, rather than relying solely on precoordinated codes. One potential option is the ability to add detail using postcoordination with relevant stem codes in a cluster, which could reduce or even eliminate the need for some Canadian-specific codes. For example, it can be argued that ICD-11 is less specific for the concept of type 2 diabetes mellitus with preproliferative retinopathy; the ICD-10-CA precoordinated code is E11.31 *Type 2 diabetes mellitus with preproliferative retinopathy (H36.0**). However, the equivalent information is available with postcoordination (i.e., ICD-11 codes 9B71.00 *Nonproliferative diabetic retinopathy*/5A11 *Type 2 diabetes mellitus*) and this postcoordination has already been identified as mandatory.

Conclusion

The new structure of ICD-11 — with the elimination of some previously precoordinated concepts and the relocation of that detail to extension codes — means that the equivalent information must be captured through postcoordination. It is anticipated that a Canadian linearization will not be required because of the need for additional detail, as was the case with ICD-10-CA; rather, it may be needed to identify the specific information required for morbidity data collection in Canada.

CIHI is collaborating with national and international partners to assess the impacts of ICD-11, including the potential need for a country-specific linearization. Further studies will be necessary to understand the impact on CIHI’s internal and external systems and processes for ICD-11 implementation. Findings from these studies will help determine whether Canada requires a national linearization.

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