Australian Government

Department of Health, Disability and Ageing

First Nations Health Reporting:

nKPI and OSR - CIS data migration

Introduction

Changing clinical information systems (CIS) is a significant undertaking for any health service. There are lots of things to consider. Weighing up the pros, cons, limitations and frustrations of current and future functionality is essential.

This article highlights some key considerations specifically in relation to health service data and potential impact on National Key Performance Indictors (nKPIs) and Online Services Reports (OSR) as a result of a change in CIS. It is not intended to be an exhaustive list. Rather than offering definitive answers, the content aims to stimulate thinking by raising key questions for health services to reflect on when considering a CIS change. Working through these considerations may help you assess the impact of any potential missing data and identify any possible advantages in recording and reporting of information.

Key considerations and impact on reported data

Software differences

All CIS work differently; there can be variances in user interface (the front end), the database (backend), terminology (for example the coding systems for conditions), and capability for recording data. These factors can all impact the data available for reporting.

The Specifications for nKPI and OSR (the Specifications) contains several tables that highlight the differences between the four CIS that are supported, and validated, for reporting nKPI and OSR, i.e. Best Practice, Communicare, Medical Director and MMEx. These tables include:

- Table 1: Visit type implementation by CIS vendor
- Table 4: Health provider role classifications by CIS (Appendix B)
- Differences in implementation of the new nKPIs, PI25 and PI26, which have more complicated search rules:
    - Table 55: Ear check search methods by CIS vendor (Appendix E)
    - Table 72: STI pathology search methods by CIS vendor (Appendix F)

The data validation Vendor Scorecard (see link in 'Resources' section below) highlights the significant differences between CIS reports for nKPI and OSR. Not all variances and limitations are listed so this only serves as a high-level comparison. A more detailed explanation of reporting limitations by CIS is outlined in other articles in this series '*nKPI data limitations'* and '*OSR data limitations'* (see link to the articles in the 'Resources' section below).

Consider the organisational structure of your health service and any requirement to report by service location. The functionality to separate data by location, easily and cleanly, varies by CIS. This is quite a complex process and its important in the new CIS to have this set up from the outset. Discuss the ability of the proposed CIS to determine how accurately they can segregate service provision by location.

TIP: Compare the capability in your current CIS to the proposed CIS and compare their reporting tool documentation. Discuss any concerns about these differences with the CIS vendor(s).

NOTE: Work is underway at a national level to standardise data formats and structures. Although this is focussed on sharing information between providers it is highly likely the streamlined fields will also aid future migration. Until that becomes a reality, health services are advised to do their own comparisons.

Mapping data between CIS

When health services change CIS, data are migrated from your existing CIS to the new one. How the data are mapped between the two systems is determined by the receiving CIS. The accuracy and completeness of the mapping may be impacted by the commonality of data between systems and the available data elements, fields and values for specific data as well as the accuracy of matching comparable data.

Many data elements need to be considered when thinking about possible impact on nKPI and OSR indicators. Some things you may wish to explore:

- Available fields differ significantly across some systems. It's important to check whether both systems use the same or similar values (labels). For example, the available values for visits / client contacts can significantly impact the count of regular clients and episodes of care, while available provider types may impact OSR results. Available fields for types of providers and how they are mapped between systems may impact the OSR by returning differences between systems as well as impacting the ability to record and report services by visiting providers such as medical specialists. When a CIS offers an extensive list of options for these data elements, but the receiving system has a more limited set, the receiving system will need to determine how the 'extra' data are interpreted and managed. Table 1, 'Visit type implementation by CIS vendor' in the Specifications provides a helpful reference for comparing these differences.
- Pathology results are particularly tricky to report and all the CIS approach reporting in a slightly different way. Will all pathology results migrate in useable (and therefore reportable) format? Will the receiving system read laboratory results as well as manually entered results?
- Many nKPIs reply on condition coding. Only coded conditions are counted; free text i.e. uncoded data is not counted. The four CISs use different coding terminology. How will the conditions data be imported in the new system? Will it be coded or stored as free text? How will the new reporting tool count the data if the condition code from your old CIS is not recognised in their list of coded conditions?
- There may also be differences in other foundation data elements such as the status of a client's record. Where your current system has fields that don't obviously exist in the new

system how will they be managed? How these data are managed could impact regular client counts and in turn most of the nKPIs. For example, some CIS have a fictitious client record status and can exclude this from reporting, others don't.

- Where variances between the two CIS are identified, how will they be managed? Will data be migrated to a similar value? Will the data be migrated in a coded or non-coded format? Non-coded data will most likely not be extractable and therefore not available for reporting. This may result in different counts for some indicators and potentially lower counts from missing data.
- The rules CIS vendors apply for mapping data between CIS are not published. Consider talking to the proposed CIS(s) for more information and to address any specific concerns; does the vendor have experience migrating data from your current CIS?

TIP: Talk to other health services about their migration experiences.

nKPI and OSR reporting tools

The CISs' reporting tools use different rules for reporting nKPI and OSR. These rules are specifically tailored to the CIS's capability and available data fields. Because the functionality is different between CIS, it is important to know where data need to be recorded in the new system so that clinical teams can adapt their data recording. Some education for health service staff may be required.

Like the differences between the CIS, the reporting tools also look and feel a little different across vendors. The reporting tools may also have constraints around setting defined reporting periods. Although all the CIS reporting tools produce data to send to the health data portal in a standardised way the available output reports differ; they look different and function slightly differently when used for local monitoring and quality improvement. Some CIS also offer more reports than others.

Other articles in this series may be useful to highlight the differences between CIS as relevant to NKPI and OSR.

TIP: Reporting capability for some indicators does differ across CIS due to functionality of the CIS and/or the capability of the reporting tool. Be aware that reported results may be more or less complete than your current CIS.

Migration timing

The First Nations Health Division, Department of Health, Disability and Ageing, no longer offers an automatic one-time exemption for reporting after migrating between systems. This is because the data inform the Indigenous Australians' Health Programme's (IAHP) revised funding model.

OSR is reported annually, in July. It is recommended health services consider planning any future migration towards the end of the financial year to enable reporting of a complete year of data in the outgoing CIS and a complete year of reporting in the new CIS. This timing also enables health services to run reports in both CIS, at the time of migration, to compare data across the two systems. This will demonstrate any differences and possible missing data as well as any potential advantages in recording and reporting from the proposed CIS reporting tool.

TIP: When you perform a trial/test migration, plan to also compare the nKPI and OSR reports from both the existing and new CIS to identify any significant differences before the live migration. This will also inform any data gaps that may need to be filled with manual/alternate reporting.

Key takeaways:

- Data elements may not be equal between CIS. This may impact available and reportable data post migration.
- Plan migration timing for the end of the financial year to enable complete reporting years of OSR and nKPI and comparison of data across CIS.

Resources

Links to supporting documents, information and further reading:

- **Specifications for nKPI and OSR:** This document is intended for health services and clinical information system vendors. It provides a detailed overview of foundation data elements (including differences between nKPI and OSR) and a full explanation of each indicator - covering inclusions, exclusions, counting rules and disaggregation points (including the related data 'measure codes' that you may see in your CIS reports). It also highlights variances in vendor implementation for some data. You can access the Specifications here: https://www.solvinghealth.au/specifications or by following Projects > then Specifications from the home page. **Links to CIS vendor user guides are also listed at the bottom of the webpage.** Make sure you have the most recent version as the specifications are updated periodically.
- **nKPI Coding Frameworks**: The coding frameworks for conditions (and pathology for sexually transmitted infections) outline which condition diagnosis codes are included and excluded for each CIS. These are included in the Specifications for nKPI and OSR (as per link above).
- **Vendor scorecard:** The vendor scorecard is a one page visual that compares results for nKPI and OSR across CIS: https://www.solvinghealth.au/scorecard
- **nKPI Data Quality Statement:** The AIHW's METEOR data quality statement lists known data quality issues in the nKPIs. Updated at the end of the reporting round, the most recent link for the June 2024 round is at: https://meteor.aihw.gov.au/content/801544

For more data management tips see the other articles in this series available at: Clinical Information System (CIS) Education Articles