Canada Health Infoway
Inforoute Santé du Canada

Building Blocks Working Group Meeting Summary

Meeting Summary

Date and Time Thursday, November 28, 2024, 1:00pm-2:00PM ET	**Location** Virtual	**Note Taker** Sadrina Petit, Project Analyst, Digital Health Interoperability	**Next Meeting Date** Thursday, December 5, 2024, 1:00pm-2:00PM ET
Meeting Agenda: 1. Use of Bulk Exports (eScan) 2. Defined Bulk Export in CA: CSD			
Presenters			
• Dean Matthews – Service Directory, Product Owner • Irfan Hakim - Functional & Industry Consultant| Data & AI			
Invited Guests			
• Public			

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1. Welcome and Introductions

D. Matthews welcomed all participants to the working group meeting. Meeting materials and recording of the session will be made available on the InfoCentral working group.

2. Content Presentation

The Infoway Team presented each of the agenda items as outlined above. In the meeting, we discussed the use of bulk exports (eScan) and defined what bulk export means in CA: CSD.

- The video recording is available here
- The presentation deck is available here

3. Summary

The meeting focused on defining bulk export functionality for the Pan-Canadian Service Directory Guide, comparing approaches from the HL7 FHIR Bulk Export Guide and Ontario's Provincial Health Services Directory (PHSD) Guide. Key findings highlighted that the HL7 FHIR guide supports retrieval of patient resources and associated content, while the Ontario guide focuses on healthcare services, organizations, locations, practitioners, and roles. The group emphasized the need for clear definitions of resource types and associated data, with a preference for using the NDJSON format for bulk exports due to its efficiency with large datasets. The discussion also considered whether to include bulk export

functionality in the current version 1.0 or defer it to version 1.1. The consensus leaned toward further discussion and refinement during the upcoming Plugathon before making a final decision.

4. Questions raised during the working group meeting

What is the primary focus for the first phase of bulk export implementation?

The first phase will focus on exporting data from the directory. Additional functionality, such as importing data into the directory, will be considered in future phases.

Where are the exported files stored?

The storage mechanism for exported files is yet to be finalized. Options like cloud file shares or specific storage buckets are being explored. This will be clarified in future updates.

Is a "Check Export Status" functionality necessary?

Yes, having a "Check Export Status" feature is relevant, especially for large exports. It allows users to monitor the export process and ensures that files are ready for retrieval when the export is complete.

Should bulk export include updates from source systems like EMRs?

Not in the first phase. The focus will be on exporting data from the directory. Real-time updates or imports from source systems may be explored in later stages, depending on jurisdictional and vendor requirements.

How should jurisdictional directories handle updates: bulk export or real-time querying?

It depends on the use case:

- For directories that don't track real-time availability, periodic bulk exports (e.g., nightly) can suffice.
- Real-time querying may be necessary for dynamic data such as provider availability or location-specific services.

How will multiple data sources for the directory be managed?

Jurisdictions can pull data from various sources (e.g., registries, EMRs) at different frequencies. Integration models will vary based on local systems and the type of information required.

Are there scenarios where bulk export won't be useful?

Yes, real-time querying may be better suited for:

- Scenarios requiring immediate or dynamic data (e.g., availability updates, schedules).
- Situations where a centralized registry isn't the primary data source.

What resources should be supported in the bulk export context?

At a minimum, healthcare services should be included as they are central to the Pan-Canadian use case and jurisdictional needs. Additional resources, such as organizational information, location, practitioner,

and practitioner roles, may also be included. Some jurisdictions suggest making these additional resources optional.

How should location-related resources be handled in bulk exports?

There is some debate about whether all location-related profiles (e.g., geo-coordinates, distance) should be bundled under a single "location" resource or treated as separate queries. The current consensus is:

- Export should include all instances of a resource type unless explicitly filtered by type.
- Profiles like "location with distance" should return all relevant data within the same query unless further filtered.

Should exports include a distinction between types or profiles of resources?

The "type" parameter in FHIR refers to resource kinds (e.g., location, practitioner) rather than specific profiles or subtypes (e.g., clinic vs. hospital). Jurisdictions may need clarity on using profiles for more specific queries.

What is the business model for the batch export process?

The bulk export is primarily a **backend system-to-system operation** intended for synchronization or refreshing datasets. This is not designed for direct user interaction but ensures systems are updated with the latest directory data.

How often should bulk exports be performed?

It depends on the jurisdiction's needs. For example:

- Ontario's PHS Directory uses nightly bulk updates to ensure changes since the last refresh are captured. These include new entries, modifications, and removals of outdated records.

Should exports include associated data with resources?

When exporting resources like locations, associated data (e.g., services, practitioners) should be clearly defined. It should be specified whether the export includes linked or associated information or if separate queries are required.

Can jurisdictions customize the export process?

Yes, the Pan-Canadian Service Directory guide aims to provide flexibility for jurisdictions to define their export processes. Options for filtering by type, including or excluding profiles, and setting operational parameters will be included in the guide.

How are changes tracked in bulk exports?

The "since" parameter allows jurisdictions to query for changes made after a specified timestamp. This enables efficient synchronization by fetching only updated records.

Is the "type" parameter sufficient for filtering resource exports?

The "type" parameter filters by resource kind, but additional filters (e.g., profiles, geo-coordinates) may be required to meet specific use cases. These need to be defined in the implementation guide.

Should we separate the export process into phases or templates?

It is proposed that the first phase focuses on core resources (e.g., healthcare services, practitioners). Later phases may include customizable templates or predefined workflows for different jurisdictions.

How does the "type" parameter interact with associated data in bulk export?

If a type (e.g., healthcare service) is specified, only that type is returned unless an additional parameter explicitly includes associated data (e.g., organization, location). This interaction needs to be clearly defined in the guide to avoid ambiguity.

Should the HL7 FHIR Bulk Export Guide be used as a starting point?

Yes, the HL7 FHIR Bulk Export Implementation Guide is a suitable starting point. It aligns with international standards and is already used in similar contexts, such as Ontario's PHS Directory.

Would example business cases help clarify the bulk export functionality?

Yes, including example business cases with queries will help clarify the functionality and provide practical insights. These examples will draw from international and jurisdictional guides.

What output format should be used for bulk export?

The NDJSON format is the standard for bulk export, as defined by the HL7 FHIR Bulk Export Guide. This format processes data row by row, making it efficient for large datasets.

Should bulk export functionality be included in version 1.0 or deferred to version 1.1?

The working group is leaning toward finalizing version 1.0 for ballot without bulk export and addressing it in version 1.1. This approach avoids rushing the development of bulk export functionality and allows for more thorough discussions.

Is it possible to complete bulk export discussions by the Plugathon?

Concerns were raised about committing to a timeboxed schedule for bulk export. The consensus was to focus on the current guide (v1.0) and use the Plugathon and subsequent sessions to refine bulk export functionality for a future version.

How should the guide handle filtering by resource type and profile?

Explicit filters or parameters for profiles (e.g., locations with geo-coordinates) should be defined in the guide. If no filters are applied, all instances of a resource type will be returned.

Can the guide be released for ballot earlier than March?

The current process involves a content freeze in December, feedback gathering during the Plugathon, and subsequent updates for a March release. Parallel development or changes to the timeline may be considered, but this requires further discussion and planning.

How long would it take to integrate the bulk export functionality as specified in the HL7 Bulk Data Access IG?

There is no specific timeline available yet. The group will investigate and provide an estimate in a future meeting.

Should the Pan-Canadian guide support multiple output formats (e.g., NDJSON, JSON bundle, XML)?

- NDJSON is recommended for bulk export due to its efficiency with large datasets. It processes data row by row rather than requiring the entire bundle to be loaded into memory.
- Supporting other formats like JSON or XML bundles may be unnecessary, as these can already be retrieved via standard FHIR queries.

What is the difference between the MIME types for NDJSON in the HL7 Bulk Export IG?

The guide specifies two MIME types:

- application/fhir+ndjson
- application/ndjson the difference between the two requires further clarification and will be addressed in future discussions.

Should other file formats (e.g., SFTP, other serializable formats) be supported?

Supporting additional formats like files dropped on an SFTP server could add complexity. The group agreed to document potential risks and clarify implementation options in the guide.

Should the guide prioritize consistency with the HL7 Bulk Data Access IG?

Yes, aligning with the HL7 Bulk Data Access IG ensures compatibility and reduces implementation burdens for systems importing the data. This alignment will be a priority.

What are the risks of supporting multiple output options?

Allowing too many output options could lead to interoperability issues. If a vendor chooses an uncommon format, it may force others to support that model, increasing complexity. Careful consideration is required to balance flexibility and standardization.

What's the next step for finalizing bulk export functionality?

The working group will:

- Continue investigating the HL7 Bulk Data Access IG.
- Assess feedback from Plugathon participants.
- Refine the guide based on jurisdictional needs and technical feasibility.

Will the guide address the potential bottlenecks caused by large exports?

Yes, risks such as network bandwidth constraints and payload size (e.g., XML's rich metadata) will be documented. The guide will include recommendations for implementers to mitigate these issues.

When is the next discussion on bulk export functionality?

The next meeting is scheduled for the following Thursday. Notes from this meeting will be distributed beforehand to guide the discussion.

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5. **Link shared during the meeting**

https://build.fhir.org/ig/HL7/bulk-data/export.html