

***BC First Nations Data Governance
Initiative
Simplified Reporting - IA***



Version 1.2

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Purpose:

- To provide recommendations for short and long term solutions to reduce the reporting burden for First Nations community income assistance program managers, moving them away from paper based monitoring and reporting; and
- To provide a British Columbia First Nations’ approach to proceeding with systems support to enable reporting on First Nations Community Development and Nation Rebuilding; reporting on outcomes, relationships and investments.

Introduction

BC is home to 203 First Nations, some of whom are located near downtown Vancouver, some of whom are fly-in or boat-in only communities. Some First Nations have much larger populations than others. For example, Squamish and Cowichan each have over 4,000 citizens while Popkum and New Westminster have fewer than 20 registered members. Some First Nations are further along the data governance path than others but the BC First Nations Data Governance Initiative (BCFNDGI) vision, that

Governments (First Nations, Federal and British Columbia) have timely access to quality data and information to plan and account for investments and outcomes in First Nations well-being,

resonates with the First Nations who are involved in rebuilding their Nations and moving towards British Columbia First Nations' common vision of *healthy, self-determining and vibrant BC First Nations children, families and communities.*

In 2015, it was determined that a pilot project was to take place with the objectives to document the data governance capacity of the six demonstration sites (12 First Nation communities) and to implement community resources needed to extract Indigenous and Northern Affairs Canada (INAC) program data. Income Assistance was selected as the best program to pilot given its high profile, intense reporting burden and data integrity risks.

Some First Nations in British Columbia are quite technologically advanced and have systems to manage most, if not all of their data and produce extensive reports to their citizens (for example see Penticton Indian Band - website address attached). Some First Nations have no management systems and are struggling simply to complete the Data Collection Instruments (DCIs) that INAC requires for accountability. Many communities are small (over 50% of the 203 First Nations have fewer than 250 people) or have a small client base in areas such as income assistance. Despite these small numbers, First Nations spend hours completing INAC's income assistance quarterly report. Many of those smaller communities do not have the funds, nor do they have the technical expertise to implement solutions without assistance, but all First Nations need the tools to do the job expected of them. The six demonstration sites, (12 First Nation communities) that are currently participating in the BCFNDGI are not only distributed throughout the province, they are also distributed across the data governance spectrum. These communities represent a diversity of: geography, population land base, remoteness, governance, and also the degree to which they currently use technology, and how they administer their programs.

A short profile outlining the current state of data governance and information management for each demonstration site is attached in the annex. The BCFNDGI income assistance reporting project

objectives included documenting how communities perform their current income assistance management and reporting functions and to recommend solutions for increasing efficiencies and compliance while reducing the reporting burden. Initially, it was hoped that each of the 6 sites (12 communities) would be documented, as it was anticipated that there would be only slight variations in the approaches taken to administer the program in each community. However, it became apparent quite quickly that there were as many approaches as there were sites and the project had to explore solutions to fit a range of situations.

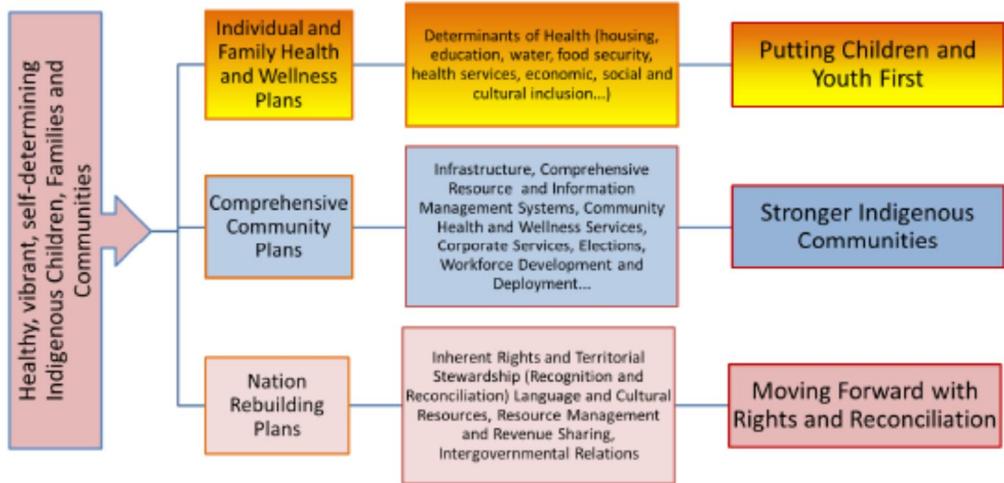
In each site the income assistance workflow varied; some communities have very sophisticated processes for managing program resources and localized policies for managing community resources (lawnmowers, tools) and for managing reporting. Other communities barely had the human resource capacity to manage program resources and depended on the finance department to manage reporting.

It was decided that rather than spending time documenting all of the differences, a better use of time would be to try and standardize the management process across communities, as much as possible. This was to be done by developing an easy-to-use, interim computer-based solution for those communities currently not using an automated system such as Unification or Xyntax, two of the commercially available information management systems built to manage federal programs in First Nations communities. This interim measure would bring the goal of portal based reporting closer for the majority of BC First Nations. An **excel spreadsheet template** for income assistance program management and reporting will be tested by 2 different sites; Ktunaxa and Gitksan.

Of the 6 demonstration site communities, only 1 was not able to participate in the income assistance project beyond the first two meetings; Heiltsuk Nation. The initial Champion, who was also supporting the community's governance transition, left their employ mid-project. The income assistance program manager also changed jobs, which left a void for a brief period. The Champion role was resumed by the initial community representative from 2 years ago and hopefully, they will be able to continue with the regional data governance consultation for Heiltsuk. The Nation did attend the regional data governance session co-hosted by the First Nations Health Authority, and participated on a panel to showcase their health system information management practices. Cowichan Tribes is in the middle of changing their income assistance management processes, adopting a new technology, and so their workflow was not reported. They did, however, provide input into the project and attended group meetings with the consultants/Champions. It was noted that their original workflow was included in the BCFNDGI [Targeted Program Analysis](#)¹ from 3 years ago, documenting a number of program workflows in a few First Nation communities.

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<http://static1.squarespace.com/static/558c624de4b0574c94d62a61/t/575992ddcf80a177cfba405e/1465488112306/BCFNDGI-Targeted-Program-Analysis-I.pdf>



Data Needs: Indigenous Affairs AND First Nations

In the Nation to Nation world of data, ‘one size definitely *does not* fit all’; however, the majority of First Nations are forced to complete the same DCIs monthly or quarterly. The DCIs do not take into account the number of clients each Nation has or how well that Nation is managing their resources. The completed DCIs send data to INAC but not necessarily the kind of data that is useful to the community. The DCIs must be completed by a certain deadline or funding stops.

INAC must prove to Treasury Board that programs are working and money is being spent as agreed upon by program designs. First Nations understand that accountability to INAC is a requirement but accountability to their own citizens is also very important. Much of the reporting required today is simply quantitative and does not really tell the story of how well communities are doing; of how the program is affecting lives. The impact of investments is a key piece that both funders and First Nations are interested in determining, however, this cannot be assessed within the current monitoring and reporting regime.

Increasing Requirements

The income assistance program reporting requirements have grown and become more complex over time as illustrated by the following table. Community respondents also reported that the more recent forms do not seem to have much logic behind them, in relation to tracking the impact of the program on the client from the community perspective. Further, First Nations have not been consulted with respect to the value of the information being gathered.

Date	Report	Data items
2012	Income Assistance Monthly Report(s) DCI 455895.BC.FNITP (2011-2012)	90 data items
2016	Income Assistance Report DCI 455897.GCIMS (2016-2017)	Over 500 data items

First Nations need both quantitative and qualitative data to tell their stories. They need to know about each individual in their community; their citizens’ needs and how well the programs and services being provided to them are working. They need to be able to track the things that impact an individual citizen’s wellbeing; the things that affect outcomes at an individual and family level. The physical environment in which people live has as much to do with their wellbeing, as does the social and economic environments. First Nations need data to provide context to their circumstances, so that they might change the circumstances which in turn will result in behaviour changes.

The DCIs do not gather this kind of personal information – nor should they. INAC needs accountability information at a very high level. The community needs very detailed information at the individual level while still providing INAC with the kind of high level accountability information required.

Almost all of the demonstration site participants have completed a Comprehensive Community Plan (CCP) and are providing some kind of report to their citizens to show the progress being made as the CCP is implemented. Each Nation is reporting on agreed upon indicators that are important and meaningful to them and to their citizens. There is little relationship, if any, to how they report to their citizens and how they report to INAC.

In 2011 Health Canada published their *Community Development Approach in the First Nations and Inuit Health Branch: Building Health Capacity in Communities* wherein they talked about a single report that would serve Health Canada and INAC. INAC, too, has had been working on simplified reporting since that time but with little results to date.

It is clear from the work done in BC that not all First Nations are the same. Not all First Nations measure success in the same way, so any kind of reporting should take that into consideration. Overall data collection should be defined at the community level but BC First Nations do understand that a common set of data or indicators should be agreed upon by all participants. This set of indicators should remain stable in order to ensure that all parties have some longitudinal data that clearly shows progress being made.

In 2016 we are a long way away from an ideal situation where data is easily collected and managed and where certain aggregated reporting data is shared in a secure environment with those who have the authority to access it. All too few of the BC First Nations have integrated data systems to manage their information and – at the push of a button – send the required reports off to INAC. Instead, Nation staff are spending hours completing reports that are not useful to them instead of working with their citizens to help them move forward to taking their rightful place in Canadian society. Just as an example, one of the Income Assistance staff working in a demonstration site has indicated that she currently has only 9 income assistance clients but spends the better part of a day completing the required INAC DCI.

Working together – Canada, BC and First Nations – in a truly Nation to Nation relationship, building on the work done by the BCFNDGI, will result in all parties having better data with less effort. An investment is required; but it is an investment that will bring returns that will benefit all. Having better data will mean that funds currently being allocated can be spent in the best possible way to bring the best possible results because the data will show how programs may need to be adjusted to get better results.

NATION	COMMUNITY	POPULATION	PLANNING ENVIRONMENT
Gitxsan	Gitanyow	847	CCP
	Gitanmaax	2407	CCP
	Glen Vowell	417	CCP
	Kispiox	1627	CCP
Okanagan Nation	Penticton Indian Band	1047	CCP
Ktunaxa Nation	ʔakisq̓nuk First Nation	273	CCP
	ʔakink̓umʔasnuq̓iʔit (Tobacco Plains Band)	206	CCP under development
	ʔaq̓am (St. Mary's Band)	385	CCP
	Yaqan nuʔkiy (Lower Kootenay)	235	CCP
Coast Salish/Sto:lo	Seabird Island	975	CCP
Coast Salish	Cowichan Tribes	4848	CCP

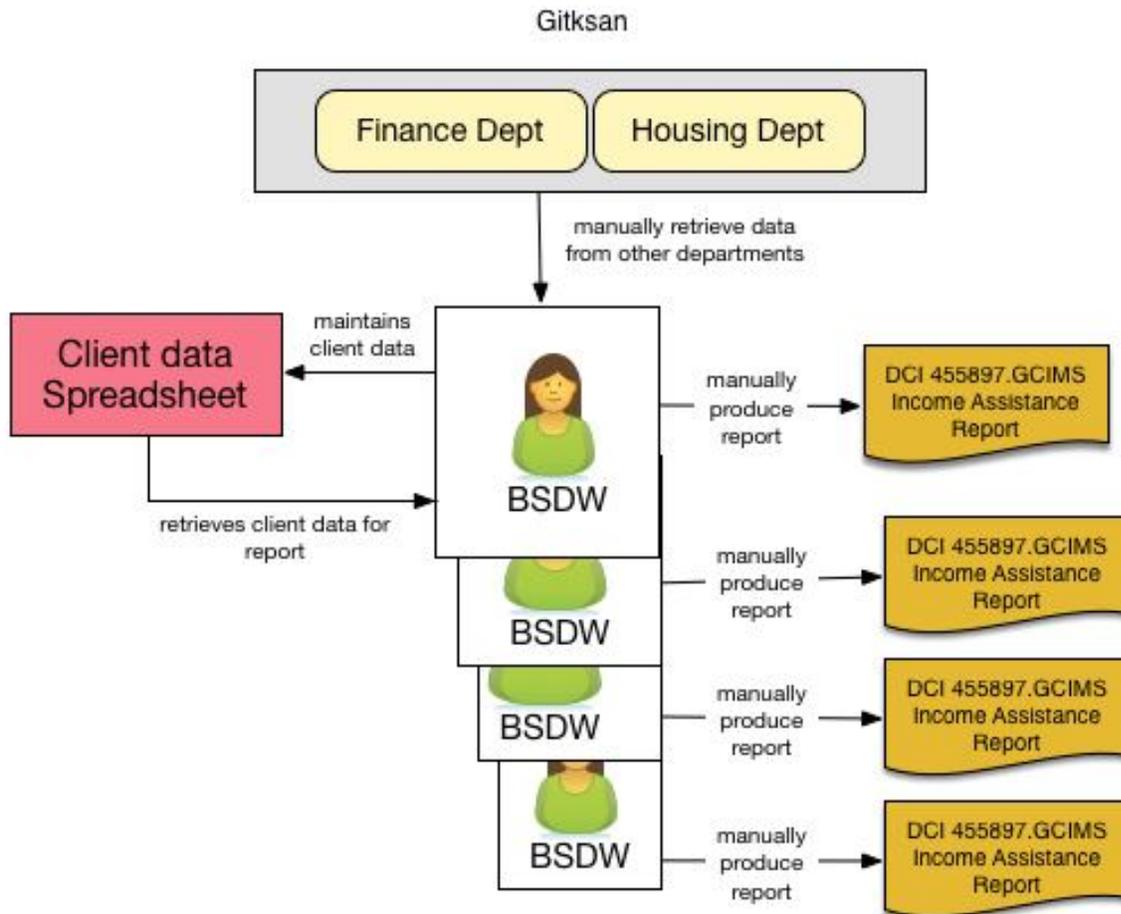
Current Income Assistance Reporting Environments

The following sample of First Nations communities illustrates the types of reporting environments that currently exist. The production of the Income Assistance report is used for illustration.

Community	Local Factors affecting Income Assistance reporting effort
Gitksan	<ul style="list-style-type: none"> • Does not have an Integrated Software system. • The band social development workers for each of the four bands manually maintain income assistance data to produce the INAC income assistance report. The nation is required to produce four income assistance reports quarterly. • Site consists of four bands with a collective high number of Income Assistance Clients (400+ clients). • Updates income assistance reports manually.
Ktunaxa Nation	<ul style="list-style-type: none"> • Has an Integrated Software system but it is not fully operable due to capacity issues. • There is one case worker for each of the four bands using the same basic system to maintain income assistance data and produce the income assistance report. The nation is required to produce four Income Assistance reports quarterly • Currently have a low number of Income Assistance Clients. • Updates Income assistance report manually.
Penticton Band	<ul style="list-style-type: none"> • Uses the Xyntax integrated Software application. • Produces Income assistance report automatically.
Seabird Island	<ul style="list-style-type: none"> • Is in the process of migrating to the Aboriginal Information System (AIS). • Modules to support in Income Assistance have not been currently implemented due to specialized requirements for Seabird Island; they administer program for multiple communities and have variances with policies. • Consists of one band (Seabird itself) with a high number of Income Assistance clients. • Updates Income Assistance report manually.

Gitksan Income Assistance Reporting Environment

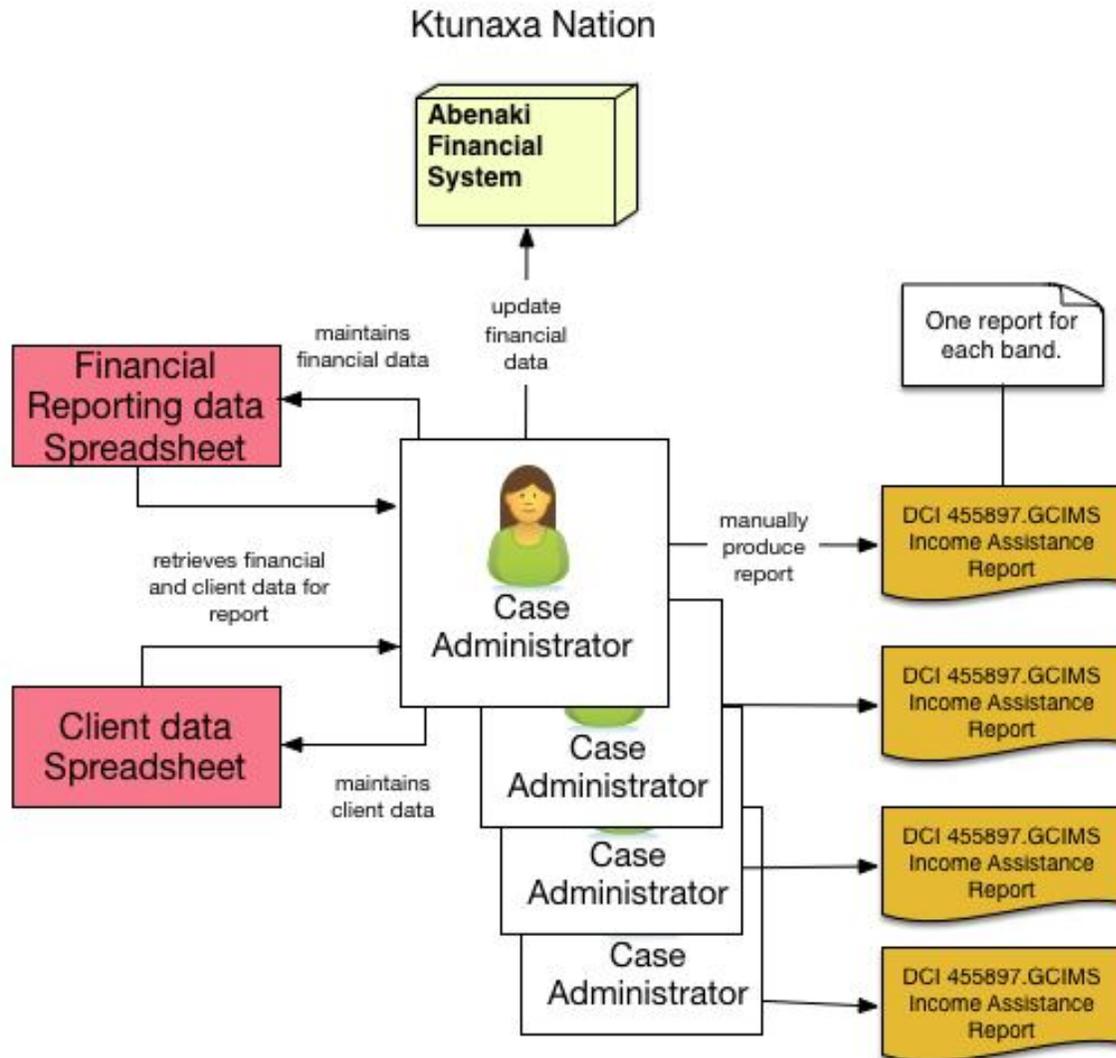
The client data for income assistance is currently being maintained in spreadsheets by the Band's Social Development Worker (BSDW). The many levels of information needed for the client, spouse, children and types of client training and housing information is data maintained by a number of different departments.



This is a very onerous and time consuming task with a large number of income assistance clients where the BSDW must gather data from many departments that can take a number of days. This process must be replicated for each of the four bands in the nation.

Ktunaxa Income Assistance Reporting Environment

The data for income assistance is currently being maintained in Spreadsheets. Financial data is entered into the ABENAKI financial system to produce cheques and update the General Ledger. The financial data is also updated to a spreadsheet as the ABENAKI reports do not directly support the Income Assistance reporting requirements.

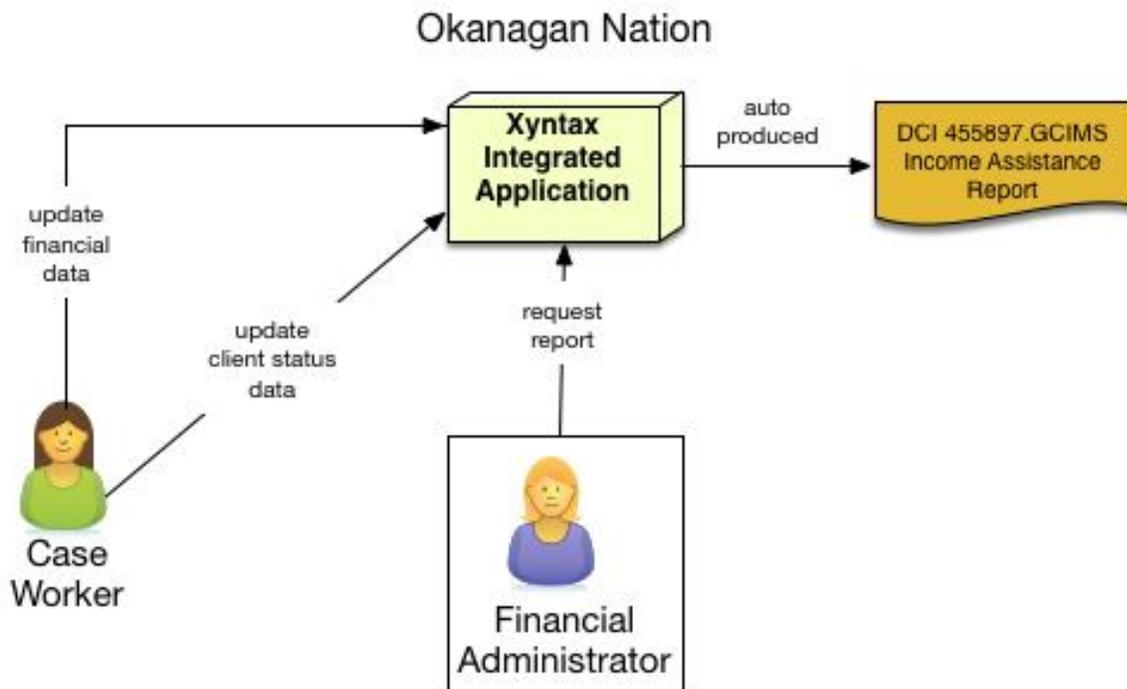


Despite having a small number of income assistance clients the process is onerous and time consuming. The Ktunaxa Nation has four bands and four income assistance reports must be completed each quarter;

a Nation-based report would make much more sense.

Penticton Indian Band Income Assistance Reporting Environment

The PIB of the Okanagan Nation currently uses the Xyntax integrated software application to produce the Income Assistance report.



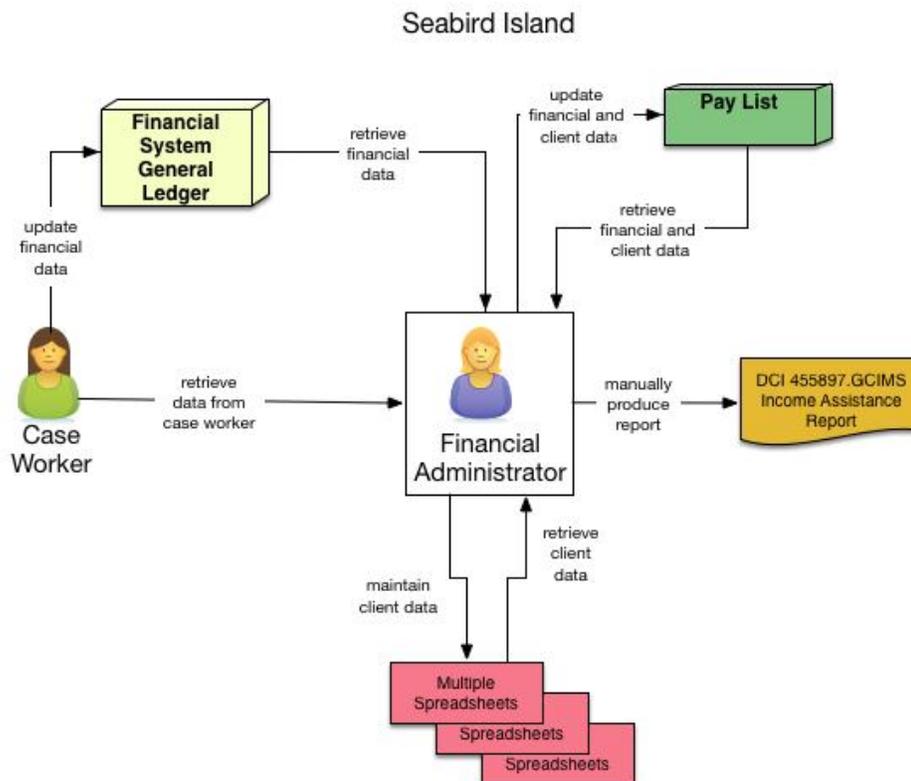
Seabird Island Income Assistance Reporting Environment

The source of data required to produce the Income Assistance report are:

- An in house developed Pay List application that supports specialized requirements relevant to the Seabird community. The Pay List is maintained by the financial administrator.
- A set of specialized spread sheets also maintained by the financial administrator.
- The financial application that maintains the General Ledger.
- The ongoing working knowledge of the case workers who works with the income assistance clients. The financial administrator must retrieve the data manually from the case worker prior to producing the Income Assistance report.

The income assistance report is manually produced by the financial administrator who calculates the totals using data from all of the above sources.

This is a very onerous and time consuming task with a large number of income assistance clients that can take a number of days.



Solutions

Given that there are a variety of work flows and conditions in First Nations communities, there are potentially a number of solutions to achieve the objectives of improved reporting and compliance. Following are 3 (three) solutions that can be adopted to ease the effort of producing INAC reports. Two describe short term solutions that do not necessarily meet the long term objectives of First Nations communities; the third is to be developed further, incrementally, through a capacity transition process.

1. One approach is for communities to be provided access to funds to purchase and maintain commercial information management applications that are currently available, with funding targeted over the long term to assist with change management, and program reporting requirements stabilizing.
2. Another approach is for communities that have little to no financial or human resource capacity at present, to access an interim technical solution based on excel spreadsheets. These applications do not require significant financial investments, but are a piece-meal approach to a much larger information management solution, either that described above, or that described below.
3. A third solution, involves providing funding to First Nations to collaboratively develop and/or access technological solutions on their own, as part of the Regional First Nations Information Governance Centres' (RFNIGC) function; to assist with development and deployment of Community-driven, Nation-based information management systems enabling First Nations' data governance and reporting.

1. Integrated Application

There are currently integrated systems such as AIS and Xyntax that provide support for gathering, processing and reporting community data that is required to maintain program compliance. Funding to purchase software is often a barrier to communities, as is the human resource capacity to implement and support a computer based integrated application such as those mentioned previously. Should funding be made available to First Nations to acquire a system license, it is recommended that technological standards be defined collaboratively at the RFNIGC level, and that systems be deployed on a Nation basis, with the communities of that Nation accessing the system as users, for service delivery applications.

Migration to an Integrated Application

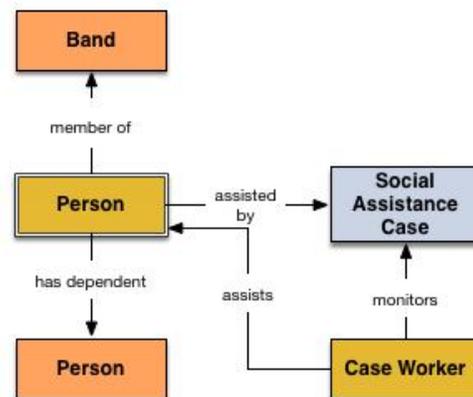
Migrating from a manual system or a system built in house to an integrated system can require a major outlay in cost and capacity. Service interruption is a key consideration and investments are required to support change management. In essence, two systems must be running at the same time; testing if a new process/system while still utilizing the working solution.

The following are cost, resource and capacity factors affecting a system migration:

- Purchase of the integrated application.
 - Purchasing an integrated application can be a major capital expense.
 - Extra costs may be incurred if the community has unique requirements the vendor has to add to the integrated software.
- Maintenance:
 - Ongoing maintenance costs for fixes and upgrades. Due to the ongoing changes in INAC reporting requirements the cost for these upgrades can be quite significant.
- Data migration:
 - This may require extra personnel to enter the data or specialized software written to perform data conversions.
 - Data clean up may be required to address inconsistencies that occur if the data has been stored in multiple sources.
- Training:
 - Cost of training personnel in use of the new software.
 - Ongoing training may be required for new personnel and major upgrades to the software.
 - Training may be required for support personnel to install and support new infrastructure requirements.
- Infrastructure upgrades:
 - Upgrades to existing infrastructure required to support the new system. This can include workstation, server and network upgrades.
 - New or upgrades to existing system software may be required. This can include operating systems, data base software, network software upgrades.
 - Ongoing cost and effort to support the upgraded infrastructure.
- Testing:
 - Resources must be allocated to ensure the application has been implemented properly, data has been migrated correctly and the infrastructure can support the integrated application.
 - The appropriate ongoing resources need to be allocated to test fixes and new releases of the software.

2. Interim Application Aid

This is an interim approach that could be used by a community that cannot afford an Integrated Application, with little human resource capacity.



Using the format of the Pay List and the specialized spread sheets that have been developed at Seabird Island, a small application has been developed to improve reporting and reduce errors. This application is person oriented to facilitate the capturing of data and automatically do much of the calculation and transformation of data to aid the program administrators at the community level. Testing by 2 communities is underway.

3. First Nations Data Governance

As stated on the national First Nations Information Governance Centre² [website](#)...*the right of First Nations communities to own, control, access, and possess information about their peoples is fundamentally tied to self-determination and to the preservation and development of their culture.*

Regrettably, there is very little *good* data currently available; survey data and program data do not meet the day to day management needs of First Nations or enable good decision making. The Auditor General of Canada has long recognized program reporting is burdensome and inefficient, making it difficult if not impossible to connect a spending authority that originates with a good intention, to an actual outcome for a person in a community.

First Nations communities must be the source of information and the holder of their data; they are the ones that must use this data for planning and to account for investments. Local data collection both through service-based information management systems and through Community-driven, Nation-based surveys will result in a complete picture of community wellbeing and support local planning and decision making; good data supports good governance. In most cases, First Nations have much better data than what is available through the standard reporting data requirements by governments.

There are currently a number of information management systems that have been developed by entrepreneurs to manage programs that are designed in Ottawa, and some are owned by First Nations companies. When deployed on a community by community basis, some of these systems are costly and at times, unwieldy, especially for smaller communities with few clients. *A system developer who focuses on First Nations recently confirmed that changes to federal reports cost them, as a business, \$80k last year – and these costs are then passed on to First Nations.*

Additionally, program based reports change every year, depending on what program leads define as important data and what political promises have been made. Communities have no longitudinal data to measure whether success, as defined by them in their own culturally diverse terms, has occurred over the long term; the goal is program compliance, for the most part. Data is not integrated across sectors, so it is difficult to determine cause and effect at a local level without conducting a research project. If

² <http://fnigc.ca/>

communities were managing investments associated with a broad set of outcomes, not programs, then overall systems solutions would not change from year to year, with the exception of advancing technology and the evolving needs at an individual community level.

If the overall goal is wellbeing for First Nations people; children, families and communities, then reporting must connect directly to this strategic objective. The BC First Nations Data Governance Initiative Strategic Framework projects to date, have all been leading to the ultimate goal of Indigenous control of Indigenous data; building capacity in First Nations communities to collect, manage and share data and to make informed decisions.

The third solution focuses on the long term, but the first and second solution must also be implemented, as it is a progression towards data governance and reporting reform that is recommended.

1. For those communities that have no other solution, implement the interim solution.
2. For those communities that are able, implement integrated applications; commercial information management solutions to manage programs, until such a time as the reporting environment changes to outcome based reporting, from program based reporting.
3. For all communities, begin transforming environments and building First Nation driven solutions for managing resources associated with individual and family wellness, community development planning and Nation rebuilding; develop the Regional First Nations Information Governance Centres.
4. Develop a Regional Data Repository: the interface between regional and provincial/territorial/national level reporting.

British Columbia Approach

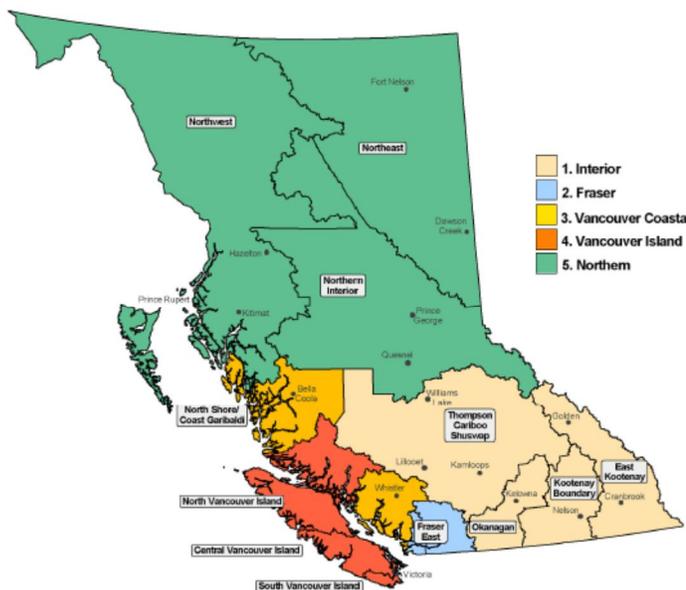
One of the BC FNDGI projects this year was to recommend planning and reporting standards to be used across governments, when interfacing with First Nations in community development and Nation rebuilding. *The Seven Cs: A First Nations' and Partners' Guide to Planning and Reporting Standards* has been developed with participation from the 6 demonstration site partners, additional First Nations advisors as well as input from First Nations organizations and government partners. It is yet another step towards achieving the goal of simplified and relevant reporting. This guide is a tool to help First Nation communities develop plans aligned with common standards and meet their local and collective needs.



It is intended that all British Columbia First Nations communities will engage in both comprehensive community planning, and Nation rebuilding, to manage the transition back to self-government and implement the calls to action.

Through the First Nations Health Council engagement process which follows the 5 British Columbia regional health authority geographic boundaries, British Columbia First Nations leadership has been defining well-being, in terms that are measurable and portable across Nations. The desire is to have localized indicators developed at the Nation level as part of the planning processes, extending the work done in partnership with the First Nations Health Council and Health Authority into other domains. Health, it is said, is the result of a life lived well.

There has recently been a [Memorandum Of Understanding \(MOU\)](#)³ signed between the province of British Columbia and the First Nations Health Council, through which to engage the province and First Nations leadership at the 5 regional tables, where they will collaboratively plan to address the social determinants of health (align provincial resources with comprehensive community plans and Nation rebuilding plans). This is just another reason that First Nations’ data governance is critical to all parties.



The MOU references *regional* health and wellness plans. Geographically, the First Nations of the province have been divided along the existing provincial health authority regions. Within each of these broad zones, there are sub-regions which form the underlying foundation of the Community-driven, Nation-based health governance structure. Nations are encouraged to plan as Nations, even though individual communities may receive services from more than one provincial service area. Community plans are place specific and include plans for Nation citizens living in urban areas, not as urban Indians, but, for example, recognized as the citizens of the Ktunaxa Nation living as a community in Vancouver (which is Coast Salish territory).

- The North Region (sub-regions - the North East, North Central and North West) representing 54 communities.

³ <http://fnhc.ca/2016/03/memorandum-understanding-social-determinants-health/>

- The Interior Region (7 sub-regions based on 7 Nations' territories) representing 54 communities
- The Fraser Region (3 sub-regions based on 2 tribal council groups and 1 independent) representing 32 communities
- Vancouver Coastal Region (3 sub-regions) representing 14 communities
- Vancouver Island Region (3 sub-regions based on 3 linguistic families) representing 50 communities

Through the tables set with the Deputy Ministers, Grand Chief Doug Kelly and the Collaboration and Partnership working group of the First Nations Health Council, the initial set of outcomes to be reported on will be jointly established, by the First Nations Chief Medical Health Officer, Dr. Evan Adams and the provincial Chief Medical Health Officer, Dr. Perry Kendall; a report similar to *Growing up in BC* but focusing on the First Nations population. The Tripartite Committee on health will initially guide the transition to reporting on wellness, until the BC FNIGC is operable. Once this Centre is functioning as is intended, the First Nations Chief Medical Health Officer will have a more inclusive advisory group, broadening the table to include other First Nations provincial organizations, provincial ministries and federal departments, supporting reporting reform transition, over time. The outcomes to be reported on provincially, will align with sub-regional priorities and the current indicators that relate to diabetes, suicide, mortality... but over time, transition to Indigenous indicators of wellbeing, related to citizens, communities and Nations; reporting on the state of the Indigenous Nations and their citizens.

The Engagement and Partnership Working Group, which includes the British Columbia First Nations Data Governance Champion, is responsible for supporting the communities in transforming their regional governance tables to include additional ministries (initially education, justice, child and family services) and for supporting First Nations children, families and communities to find their own paths to becoming healthy, self-determining and vibrant Nations once again. It is through these regional tables that, following the Community-driven, Nation-based directive, technological solutions will be implemented to support management and reporting; to support good governance.

As noted in *The Seven Cs: A First Nations' and Partners' Guide to Planning and Reporting Standards*, planning is like the front cover of the book and reporting is like the back cover. Management is all the pages in between and functions need to be standardized and supported, in order for the book to function well, providing a 'good read' while telling the story. Reporting must follow the planning; saying what you are going to do, doing what you said you were going to, and then telling the story of what happened. If the functions of planning and reporting are not linked, then the outcomes are not likely to be achieved, with great stress and wasted resources.

Over the course of the ten years that the MOU is initially targeting, it is proposed that INAC Headquarters engage with First Nations at the provincial level through the Collaboration and Partnership Working Group's expanded table, reforming policy. It is further proposed that the INAC British Columbia regional office engage with First Nations through the Engagement and Transformation Working Group at the expanded regional tables in the five health authority regions, to carry out reporting reform. The INAC British Columbia regional office would realign their program-based staff, with the regional tables, to transition to a First Nations public service. Incrementally, as plans are instituted, capacity built and data hubs established, agreed upon minimum data elements will be publicly available, similar to the [FNIGC online data portal](#) for on reserve survey data⁴. First Nations will no longer be required to fill out burdensome and irrelevant reports. Rather, external agencies will retrieve desired information via the data portal, and First Nations will report directly to their citizens on what is important to them.

BC Chiefs are already organized into five regional caucuses and have decision making structures in place. They are doing an amazing job guiding governance transition and health system transformation. Moving forward, resources held in organizations, such as All Nations Trust Co (ANTCO) that received over \$40m in connectivity funding and \$5m in information technology capacity building, and the New Relationship Trust, a fund of initially \$100m in 2005 intended to help British Columbia First Nations transition to self-government, will be key to supporting the development of BC First Nations governance capacity, including data governance and information management functions.

Under the British Columbia Regional First Nations Information Governance Centre proposed structure, which will also align with the health governance regions, both governance functions (development of regulations and relationships) and government functions (building capacity to manage and account for investments and outcomes) must be supported. Standardized approaches to management of similar resources are encouraged, provided that each Nation has the ability to determine where their investment priorities are and to access the technology to support their business case. Working collaboratively (federal, provincial and First Nations governments) to define these standards from the outset is very important, as long-term solutions need to consider the current reality of British Columbia First Nations but also, their vision of the future.

To satisfy the need for financial auditing in relation to investments at the Community and Nation levels, a regional data repository will be established, to house data that will be shared externally. These 5 regional data repositories, will link to a provincial data repository. The INAC portal will link to the repository and extract the data, as required, to confirm that funding is being spent according to plans; individual and family wellness plans, comprehensive community development plans, and Nation rebuilding plans.

⁴ <http://data.fnigc.ca/online>

Data Repository

Develop a data repository that can store community data that is relevant for external agencies (such as INAC, BC Government). The data repository could contain performance indicators and minimum data elements agreed upon by First Nations and the external agency. The repository would contain data converted from daily transactional data to temporal data showing performance indicator values over time.

By decoupling the data repository from the operational systems, the community administrators would be relieved of the effort of collecting and transforming data to produce INAC reports allowing them to concentrate on supporting their communities.

This architecture is based upon the standard Data Repository and Extract Transform and Load patterns.

Architecture Patterns

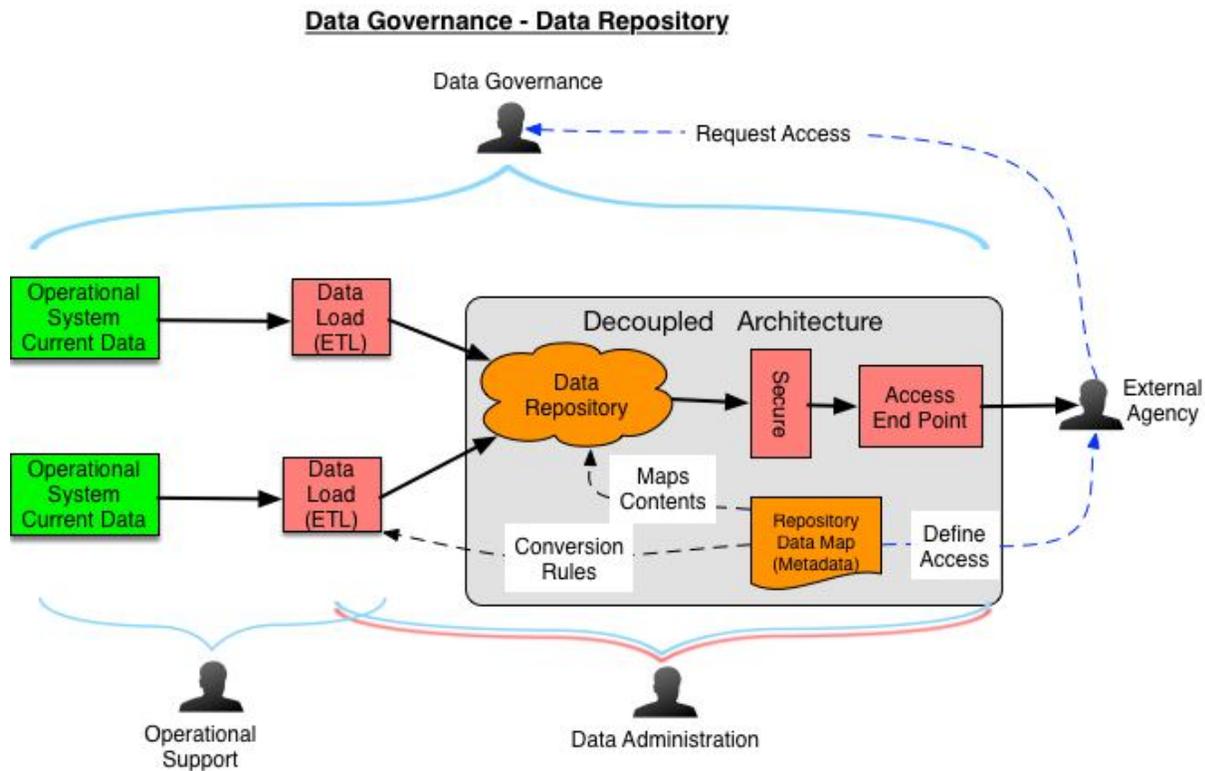
Data Repository Pattern

- To put it simply, it is an implementation of a brokering layer between the application and a data source. Neither party needs to be aware of the other to perform their respective job which allows us to have a decoupled architecture, which in turn helps in the scaling of the application without having hard dependencies.

ETL Pattern

- Extract-Transform-Load (ETL) is a process that is used to take information from one or more sources, normalize it in some way to some convenient schema, and then insert it into some other repository.
 - Data extraction - extracts data from homogeneous or heterogeneous data sources
 - Data transformation - transforms the data for storing it in the proper format or structure for the purposes of querying and analysis

- Data loading - loads it into the final target (database, operational data store, data mart, or data repository)



Current Operational Data

The operational data is used to support day to day operations internally in the community. This would include the transactional systems used by the community administrators managing daily operations.

Data Repository

The data store to hold all data values required to support automation of community reporting. These would include the performance indicators and minimum data elements as defined by First Nations and External agencies.

Data Load

This is the process of extracting and loading data from the operational system into the data repository. Any required data transformation is performed by this process. This process would be scheduled to run automatically at the appropriate times.

Repository Data Map

This is the documentation (Metadata) defining the contents of the data repository. The metadata will show the:

- meaning of the data,
- format of the data,
- source of the data,
- data relationships,
- data conversion rules,
- data mapping specification,
 - A Data Mapping Specification shows how data from one information system maps to data from another information system.

Conclusion

By profiling 6 First Nation demonstration sites, this pilot project highlights the need for a standardized approach to data collection and reporting, and the requirement for investments in IM/IT to support these approaches. The in-depth workflows for income assistance reporting, provided for 4 demonstration sites, reveal the variance in approaches First Nation communities have taken to administer the program. These workflows further demonstrate the burdensome task associated with reporting when communities are not supported with systems and human resources.

This project provides three solutions that can be adopted by communities to ease the effort of producing INAC reports. To align with INAC's reporting portal, communities can move towards using an integrated application. While this option saves time and resources, as evidenced by Penticton's workflow, there are many upfront costs associated with it. Not every community is able to implement an integrated application. Thus, this project provided an interim aid application to those communities who did not have any system, or human resources to support an integrated application.

These two options are short term solutions. While implementing the appropriate system is a necessity, investing in, and focusing on, First Nations data governance and reporting reform is a longer-term vision. This will help to improve the burdensome and constraining situation First Nation communities currently face. Incrementally, as plans are instituted, capacity built and data hubs established, agreed upon minimum data elements will be publicly available, similar to the [FNIGC online data portal](http://data.fnigc.ca/online) for on reserve survey data⁵. First Nations will no longer be required to fill out burdensome and irrelevant reports. Rather, external agencies will retrieve desired information via the data portal, and First Nations will report directly to their citizens as per the standards defined by them; reporting on what matters.

⁵ <http://data.fnigc.ca/online>

With the current government's focus on results-based management and evidence-based decision-making, great data is not an option. Getting the right data to the right place at the right time, succeeds or fails on how well that data can flow. Technology is essential and must be built into data solutions.

Demonstration Site Website Information

Gitksan Government Commission

<http://www.gitxsangc.com/>

Penticton Indian Band

<http://pib.ca/>

Seabird Island Band

<http://www.seabirdisland.ca/>

Heiltsuk Nation

<http://www.heiltsuknation.ca/>

Cowichan Tribes

<http://www.cowichantribes.com/>

Ktunaxa Nation

<http://www.ktunaxa.org/>