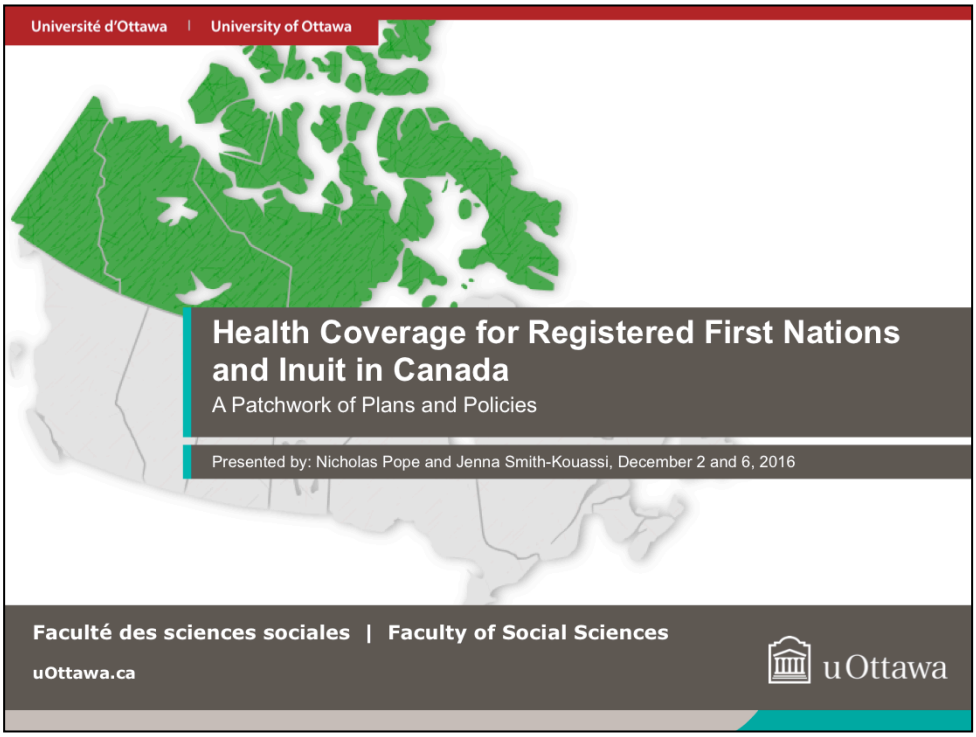
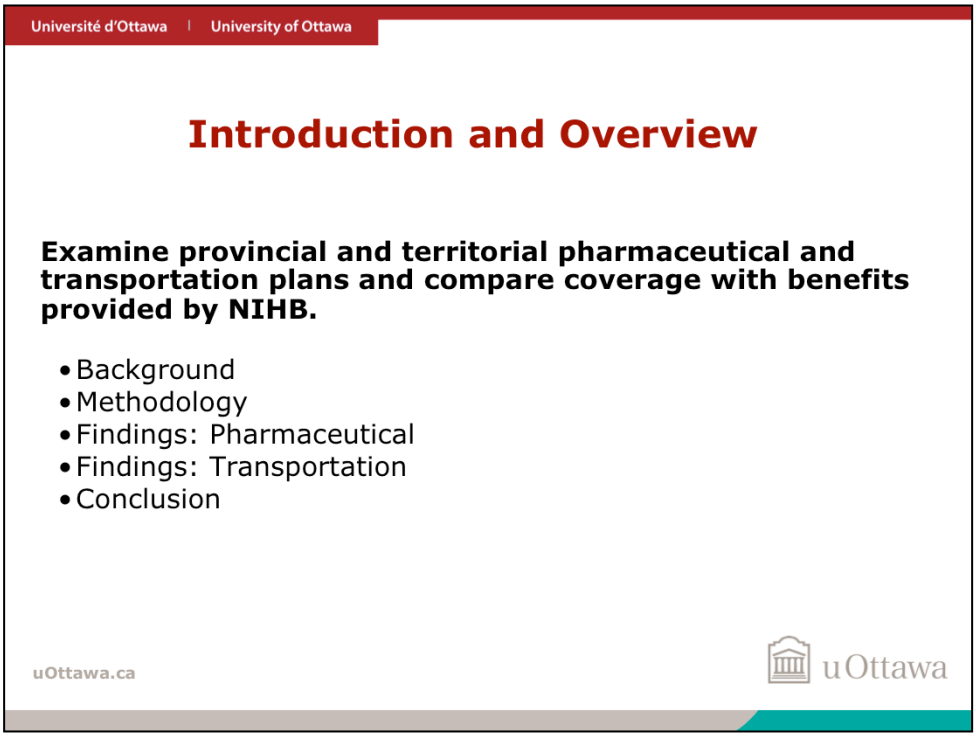
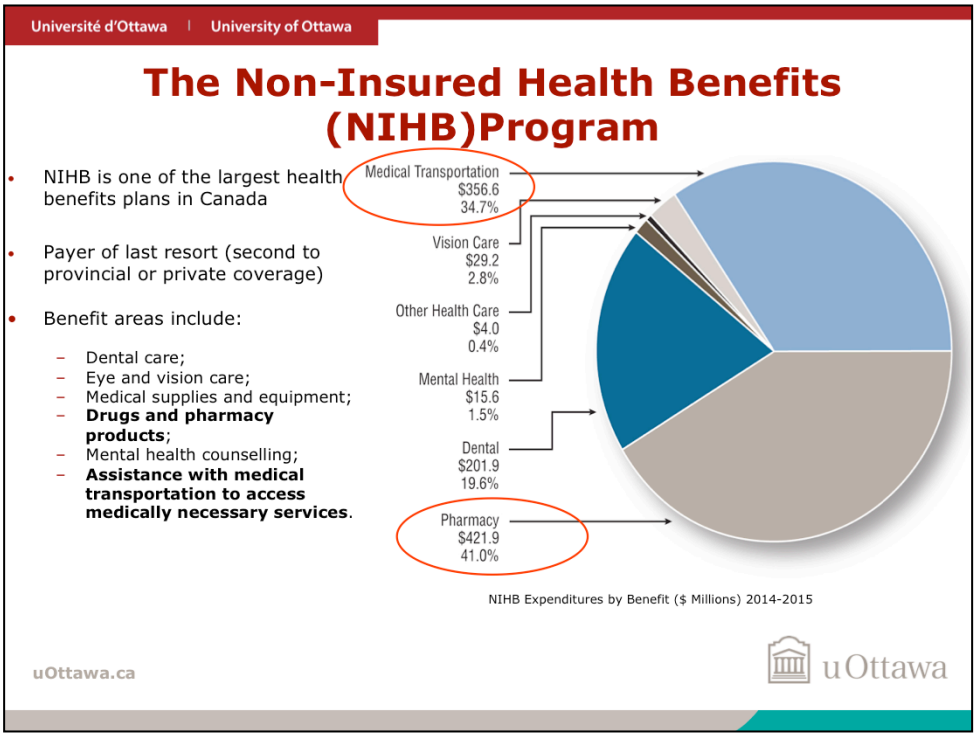




Our research and presentation takes a deeper look into the Canadian experience. Using NIHB as our point of reference and comparing with the provinces and territories, we're interested in the gaps and overlaps that exist in coverage for registered First Nations and recognized Inuit. Due to time and resource constraints, we chose to perform our research on two particular benefits areas: drugs and pharmacy products, and assistance with medical transportation to access medically necessary services.



NIHB is one of the largest plans in Canada, it provides registered First Nations and recognized Inuit with a limited range of medically necessary health-related goods and services not provided through private or provincial/territorial health insurance plans. These benefits complement provincial and territorial health care programs, such as physician and hospital care, as well as other First Nations and Inuit community-based programs and services.

Main Objective: Through the coverage of these benefits, Health Canada supports First Nations and Inuit in reaching an overall health status that is comparable with other Canadians.

If we look at this breakdown of benefits expenditure from 2014-2015 we see that drugs and pharmacy products accounted for $421.9 million dollars, which was 41% of the total expenditure

Medical transportation costs accounted for $356.6 million, or 34.7% of total expenditure.

Because of the substantial costs associated with these two benefit areas, they were the focus of our research and analysis.

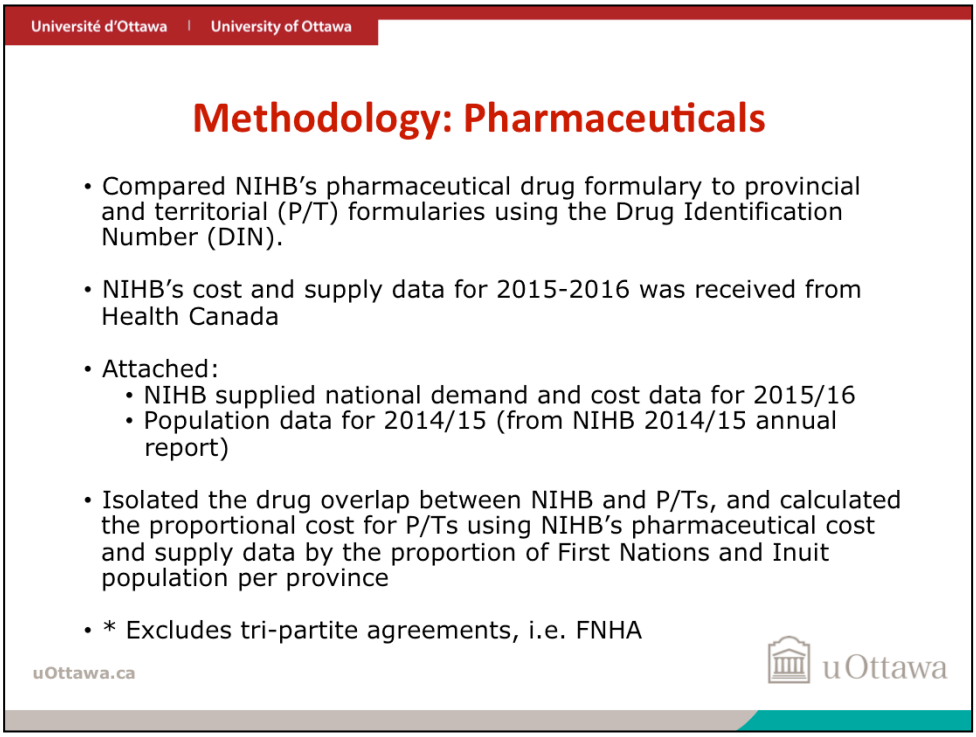
The NIHB Program covers prescription drugs and some over-the-counter products listed on the **NIHB Drug Benefit List** (DBL).

Provinces and territories are not mandated under the *Canada Health Act* to cover prescription drugs, but all provinces do have some form of program or plans in place to subsidize or offset costs of prescription drugs.

- All provinces have some form of "catastrophic" drug program in place to put a cap on out-of-pocket drug expenses;

- Others, such as Ontario and Saskatchewan, have targeted drug plans in place that cover certain populations, such as seniors and social assistance recipients, or those with certain diseases or requiring very specific medications;

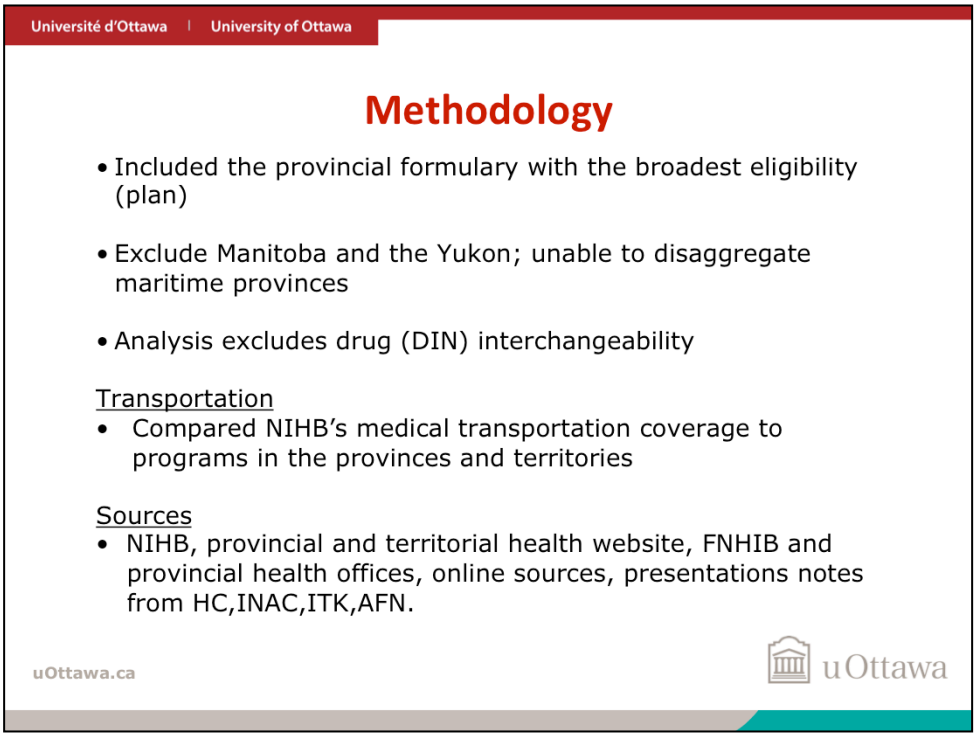
-Others (also) have government-sponsored drug plans in place - this is the case in Quebec and Alberta. These plans have premiums, co-pays and deductibles associated with them



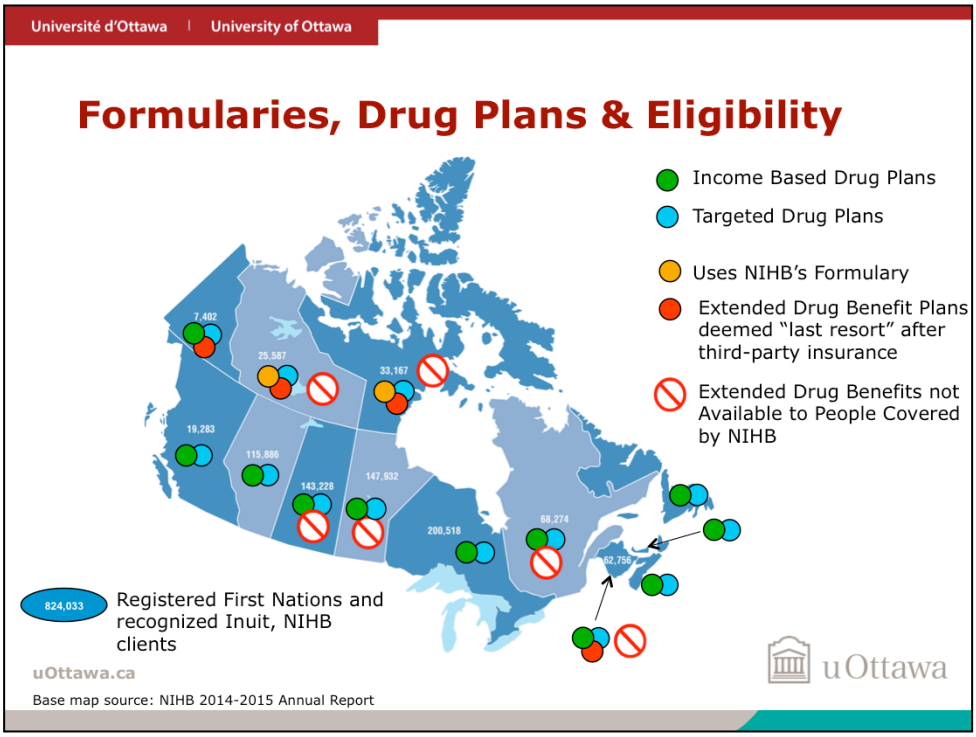
As discussed, Canadian health care is a patchwork of provincial and territorial systems which are further disaggregated in practice by sub-regional, health service provision agreements such as tri-partite agreements between First Nations and the federal, provincial, territorial governments. Our research focused on the provincial and territorial scale, and compared NIHB's drug formulary)list of drugs) to the drugs available through provincial and territorial health plans. The analysis does not include tri-partite agreements, such as the First Nations Health Authority in British Columbia, or Big Stone Health Commission in Alberta, as to our knowledge these agreements base their pharmaceutical coverage on the NIHB formulary.

We retrieved NIHB's formulary (drug list), and the broadest formulary from each provinces and territory. We used the drug identification number (DIN) as the variable to compare the formularies across jurisdictions. DINs are unique to every drug name/ manufacturer, dosage and form. For example, 100 mg of Tylenol liquid form has a different DIN from 100 mg of Tylenol in pill form. The DIN is randomly generated and is the same for all drugs in Canada. Formularies are commonly organized by drug category (i.e. Cardiovascular Drugs) with specific DINs listed below the category heading. We found BC's formulary early on in our search and were encouraged that it is in excel format and includes nearly every drug ever offered by Province (there are over 240,000 DINs on the formulary). It turns out however that BC is exceptional in terms of its formulary. We extracted most formularies from pdf documents, some over 300 pages long, that are organized by various formats across the country.

We used Stata (Stata Data Analysis and Statistical Software) to compare the drugs on



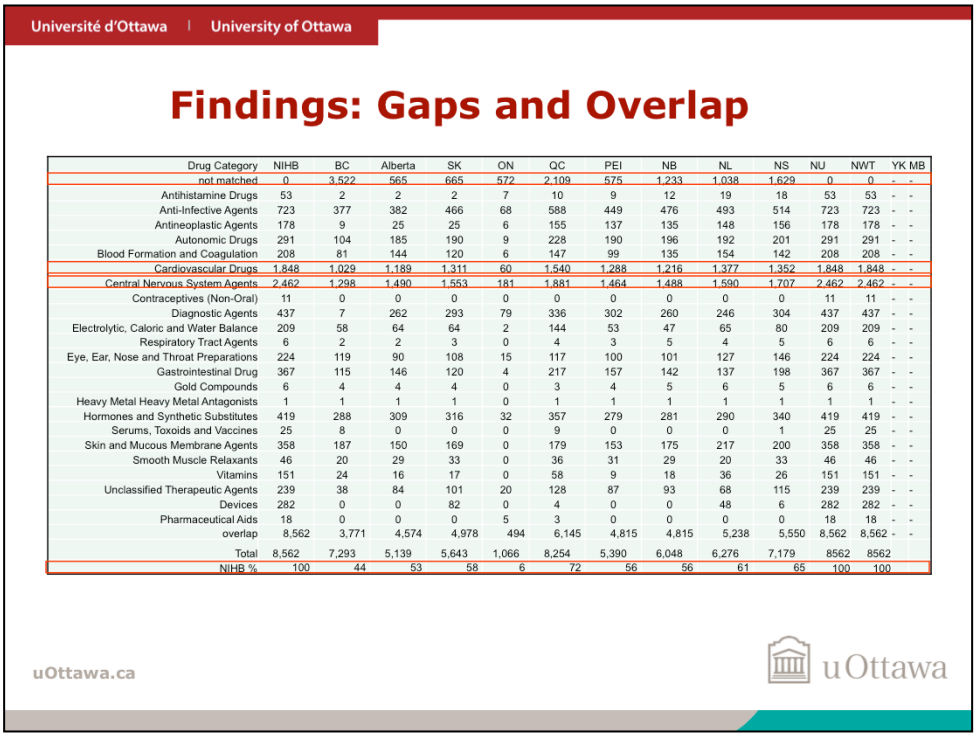
- The formularies do not cover all drugs available by each provider. For example, NIHB's formulary does not include exception status drugs, which are granted on a client by client basis according to certain criteria, and which constituted around 40% of NIHB's costs in 2015-2016. Likewise, the provincial and territorial formularies do not include all of the drugs offered in those jurisdictions. Aware of these limitations we sought the formulary from each jurisdiction that included the most drugs and broadest coverage (see next slide for details).
- Manitoba is the only province that does not include the DIN in their formulary; instead its formulary lists all drugs alphabetically by name. Despite repeated attempts, we were unable to get the list of DINs from Manitoba Health, so we had to drop Manitoba from the final analysis. We also dropped the Yukon because we were unconfident that the match results we got were accurate. Around 15% of Yukon DINs matched NIHB's list, as opposed to around 50% or more for all other provinces and territories. We were unable to verify the DINs and matches and therefore dropped Yukon.
- The client population data that we got from NIHB's 2014-2015 annual report treats the maritime provinces as a single region. Without the provincial figures were unable to run the final step of analysis (cost attribution) for those provinces.
- Interchangeability: Different drugs that treat the same conditions or symptoms are called interchangeable. This analysis does not consider drug interchangeability and is therefore unable to rule out the possibility that findings of "gaps" between NIHB and P/Ts are due to drug interchangeability, for example a drug in pill form on one formulary and in liquid form on another.
- Duplicates: as shortcoming of using STATA for this analysis is that we were only able to match information to a single record, in other words, where certain drugs are used in multiple categories we saved the first occurrence of the DIN and deleted



This map represents the first step of analysis: retrieving all formularies.

As mentioned, we selected the broadest formularies available by province and territory in order to capture the most drugs offered in each jurisdiction. This map displays NIHB's client population by region, drug plan eligibility and exclusions. The green and blue circles indicate the type of drug plans included in the formulary for that region, and the broad eligibility criteria for those plans. For example, income based plans are available to residents with low income, or in certain cases, as in BC, residents may opt-in to the provincial plan by paying a premium based on their income. Targeted drug plans cover a range of conditions and circumstances, such as age (i.e. senior), certain stages of stage of life, i.e. palliative care, and specific condition such as cystic fibrosis and HIV/AIDS. The orange circle indicates the two territories that base their extended health plan on NIHB's list of drugs and services. The red circle shows which provincial/territorial plans are supplementary to third-party coverage. The "restriction" symbol indicates regions that explicitly exclude "registered Indians", or "NIHB recipients", or "recipients of federal or provincial coverage" from their P/T plans.

The following is an overview of each province and territory, with sources for all of the information included in the map.



Drug Category	NIHB	BC	Alberta	SK	ON	QC	PEI	NB	NL	NS	NU	NWT	YK	MB
not matched	0	3,522	565	665	572	2,109	575	1,233	1,038	1,629	0	0	-	-
Antihistamine Drugs	53	2	2	2	7	10	9	12	19	18	53	53	-	-
Anti-Infective Agents	723	377	382	466	68	588	449	476	493	514	723	723	-	-
Antineoplastic Agents	178	9	25	25	6	155	137	135	148	156	178	178	-	-
Autonomic Drugs	291	104	185	190	9	228	190	196	192	201	291	291	-	-
Blood Formation and Coagulation	208	81	144	120	6	147	99	135	154	142	208	208	-	-
Cardiovascular Drugs	1,848	1,029	1,189	1,311	60	1,540	1,288	1,216	1,377	1,352	1,848	1,848	-	-
Central Nervous System Agents	2,462	1,298	1,490	1,553	181	1,881	1,464	1,488	1,590	1,707	2,462	2,462	-	-
Contraceptives (Non-Oral)	11	0	0	0	0	0	0	0	0	0	11	11	-	-
Diagnostic Agents	437	7	262	293	79	336	302	260	246	304	437	437	-	-
Electrolytic, Caloric and Water Balance	209	58	64	64	2	144	53	47	65	80	209	209	-	-
Respiratory Tract Agents	6	2	2	3	0	4	3	5	4	5	6	6	-	-
Eye, Ear, Nose and Throat Preparations	224	119	90	108	15	117	100	101	127	146	224	224	-	-
Gastrointestinal Drug	367	115	146	120	4	217	157	142	137	198	367	367	-	-
Gold Compounds	6	4	4	4	0	3	4	5	6	5	6	6	-	-
Heavy Metal Heavy Metal Antagonists	1	1	1	1	0	1	1	1	1	1	1	1	-	-
Hormones and Synthetic Substitutes	419	288	309	316	32	357	279	281	290	340	419	419	-	-
Serums, Toxoids and Vaccines	25	8	0	0	0	9	0	0	0	1	25	25	-	-
Skin and Mucous Membrane Agents	358	187	150	169	0	179	153	175	217	200	358	358	-	-
Smooth Muscle Relaxants	46	20	29	33	0	36	31	29	20	33	46	46	-	-
Vitamins	151	24	16	17	0	58	9	18	36	26	151	151	-	-
Unclassified Therapeutic Agents	239	38	84	101	20	128	87	93	68	115	239	239	-	-
Devices	282	0	0	82	0	4	0	0	48	6	282	282	-	-
Pharmaceutical Aids	18	0	0	0	5	3	0	0	0	0	18	18	-	-
overlap	8,562	3,771	4,574	4,978	494	6,145	4,815	4,815	5,238	5,550	8,562	8,562	-	-
Total	8,562	7,293	5,139	5,643	1,066	8,254	5,390	6,048	6,276	7,179	8562	8562		
NIHB %	100	44	53	58	6	72	56	56	61	65	100	100		

This table represents the second step of the analysis: comparing all formularies.

Highlights

Total number of DINs brought into database: 89,461

Total number of unique DINs, after duplicates and triplicates were removed: 16,097

Total number of unique NIHB DINs (after removing duplicates from their formulary): 8,562

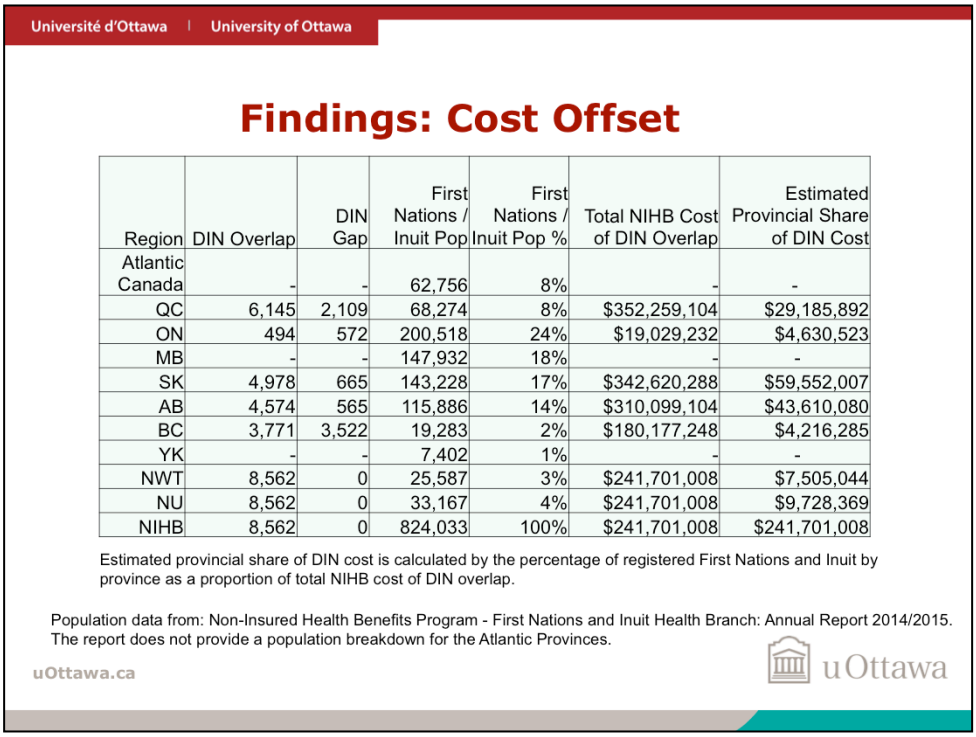
Top Categories for overlap: Cardiovascular Drugs and Central Nervous System Drugs

Biggest overlap: Quebec (72%), Nova Scotia (65%), Newfoundland (61%), Saskatchewan (56%)

Biggest gap: Quebec (2,109), BC (3,522), Nova Scotia (1,629)

Note: duplicates were removed after the first occurrence. For example, the first time a DIN appeared in the list of DIN's it was retained, however additional occurrences were removed. The reason for removing duplicates is that Stata only allows us to attach information (i.e. cost and population) to a single variable.

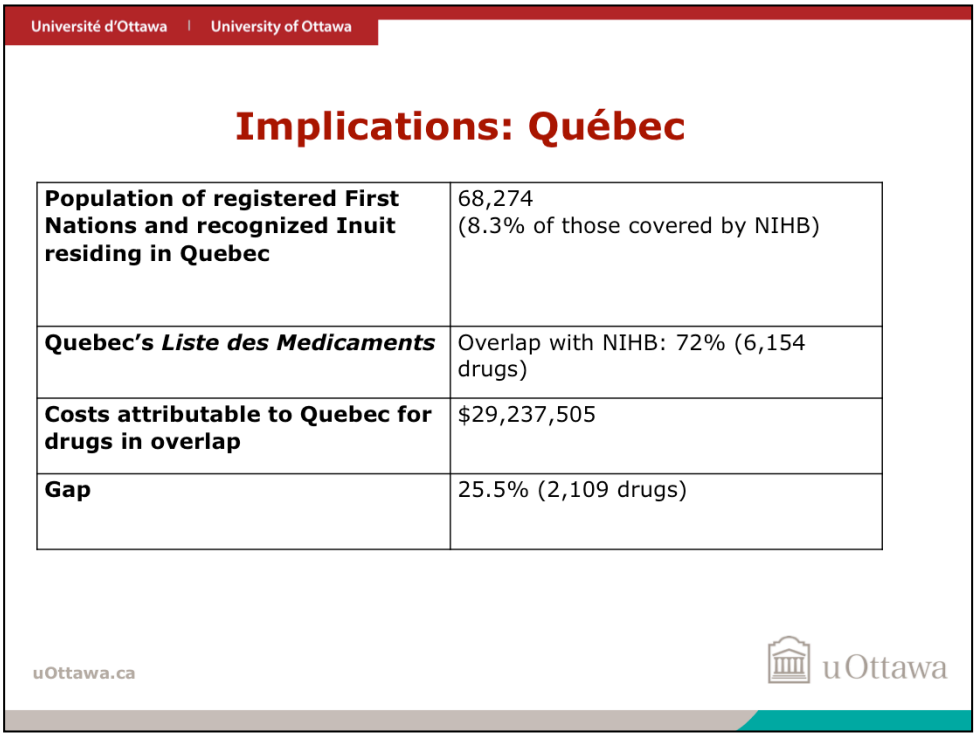
The overlap indicates drugs that are available through NIHB and a province or territory.



This table represents the third step of analysis: calculating cost of overlap based on population.

Using the cost data from 2015-2016, received from FNIHB, we were able to calculate the total cost of all drugs in the overlap between NIHB and P/Ts. Next, by applying NIHB's client population from 2014-2015, we calculated a proportion of the total cost to provinces based on the proportion of registered First Nations and recognized Inuit living there. The last column shows the cost attributable to drug overlap by province and territory. The total attributable cost is about $158 million. This can be interpreted as the amount offset by P/Ts onto the federal government, a cost savings to the provinces. Alternately, this could be interpreted as unnecessary costs to NIHB. The issue is complicated by the fact that certain jurisdictions explicitly exclude NIHB recipients from P/T coverage (slide 7). Due to the large size of the population and the large amount of overlapping drug coverage, the biggest potential offsets are attributable to Saskatchewan, Alberta, and Quebec. As we noted earlier, Saskatchewan and Quebec specifically exclude First Nations and Inuit from their health care plans, hence this is a true offset for those provinces.

Note about BC: As of 2013 NIHB transferred most of its BC clients to the FNHA, which coordinates health services for residents. Currently NIHB still provides health



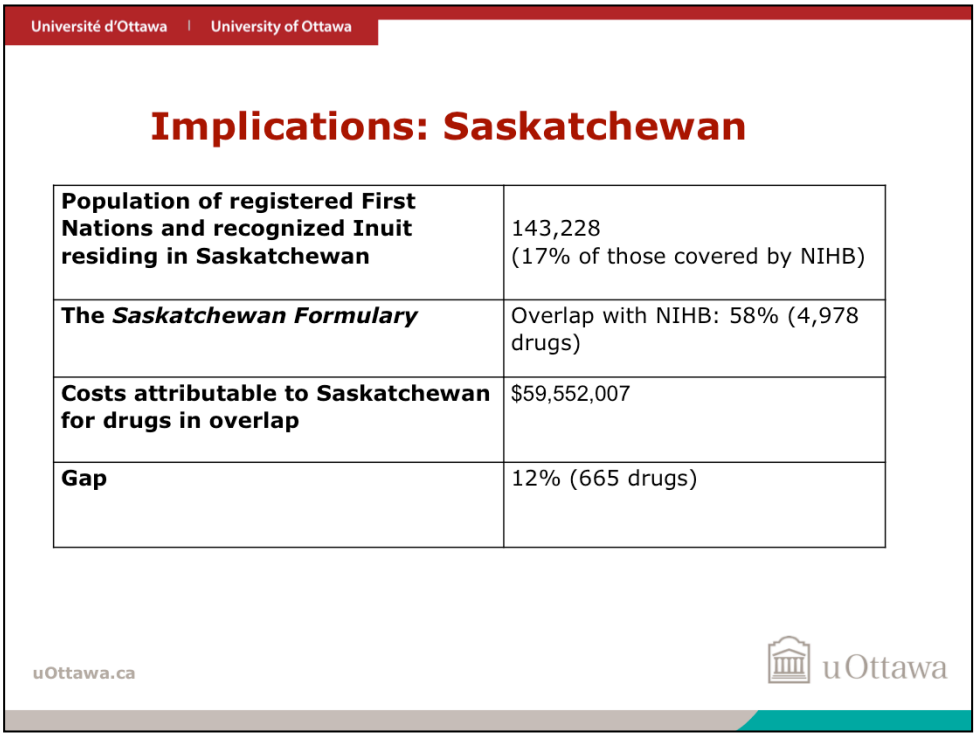
(2015) Quebec has a population of 8,259,500 people. According to NIHB's Annual Report (2014-2015), 68,274 (8.2%) of the population are either registered First Nations or recognized Inuit. This represents 8.3% of the status First Nation and Inuit population in Canada.

Quebec's Liste Des Medicaments contains approximately 8,200 drugs. 6,154 of the drugs appearing on Quebec's list also appear on NIHB's list. This means that 72% of the drugs offered by RAMQ are also offered by NIHB. This is the overlap. The gap represents the 2,109 drugs that are on Quebec's formulary but not on NIHB's.

According to our analysis, NIHB incurred a cost of approximately $29 million for the provision of drugs included in that overlap.

Quebec has a mandated system for those who don't have drug coverage from another source. The plan does have premiums, deductibles and co-pays associated with it, but seniors, children with parents enrolled in the plan, and social assistance recipients have coverage under the plan.

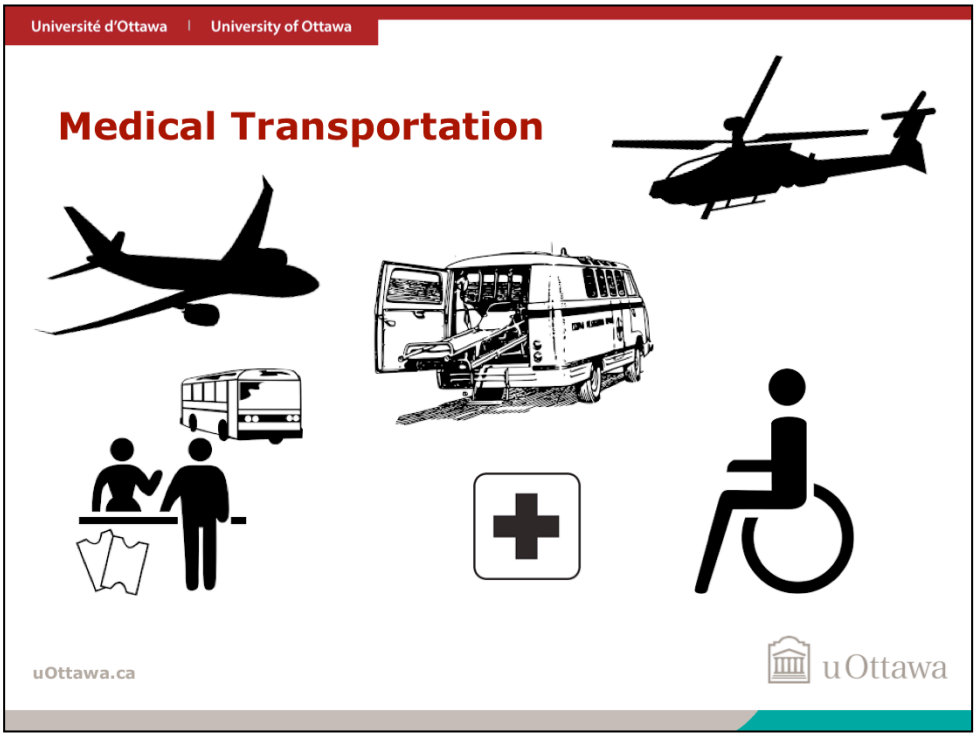
Quebec is among the provinces that explicitly exclude those covered by NIHB.



In Saskatchewan the population of registered first nations and Inuit eligible for NIHB is approximately 143,000, or 17% of the total population of those covered by NIHB (source: NIHB Annual Report (2014-2015)).

Our comparison of the Saskatchewan formulary with NIHB's drug list showed an overlap of approximately 58% (of the drugs listed on NIHB's list). The cost attributable to this overlap is nearly $60 million. 665 drugs appearing on Saskatchewan's formulary did not appear on NIHB's drug list.

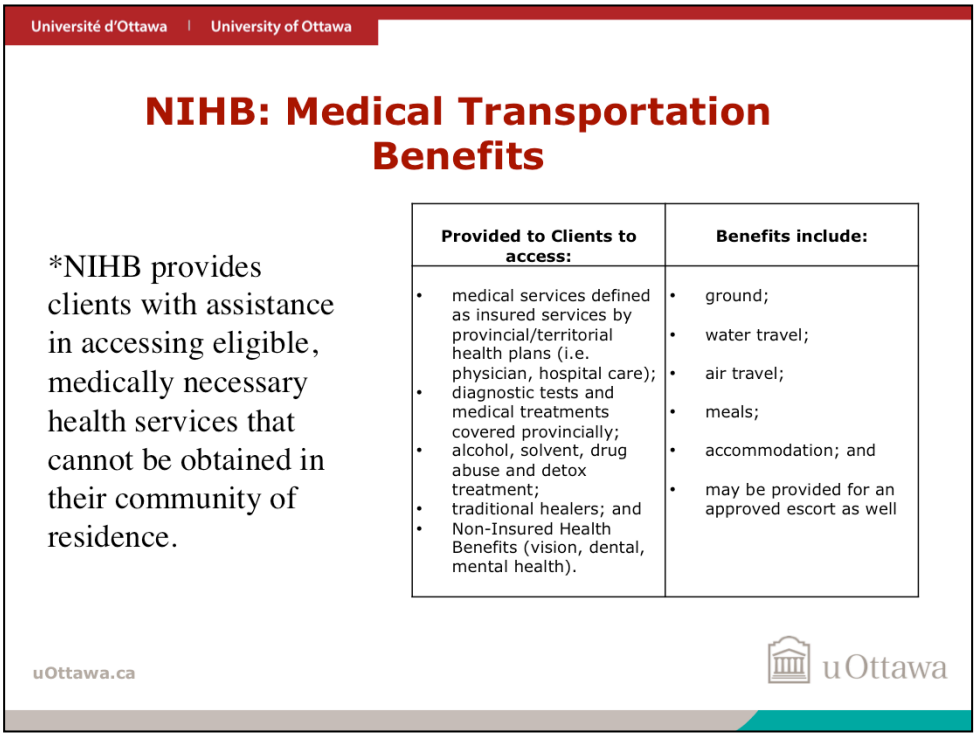
Saskatchewan excludes those covered by NIHB from provincial drug coverage.



Medical transportation accounted for nearly 35% of NIHB's expenditure at approximately S356 million.

Our focus on medical transportation consisted of two parts: first, we were interested in ambulance services in emergency situations. We wanted to know the differences in ambulance co-pays and whether certain populations were exempt from such co-pay arrangements.

The second part focused on provincial assistance provided to residents needing to leave their home community to access medically necessary services. Here we were interested in the specific programs provinces had in place (namely to assist rural residents).



Just to restate: Medical transportation accounted for $356.6 million, or 34.7% of total expenditure. We used NIHB as the baseline for medical transportation services, against which we compared the provinces and territories.

The Non-Insured Health Benefit (NIHB) Program provides assistance so beneficiaries can access eligible, medically necessary health services that cannot be obtained in the community of residence.

Medical transportation benefits may be provided for clients to access the following types of medically required health services:

medical services defined as insured services by provincial/territorial health plans (e.g., appointments with physician, hospital care);

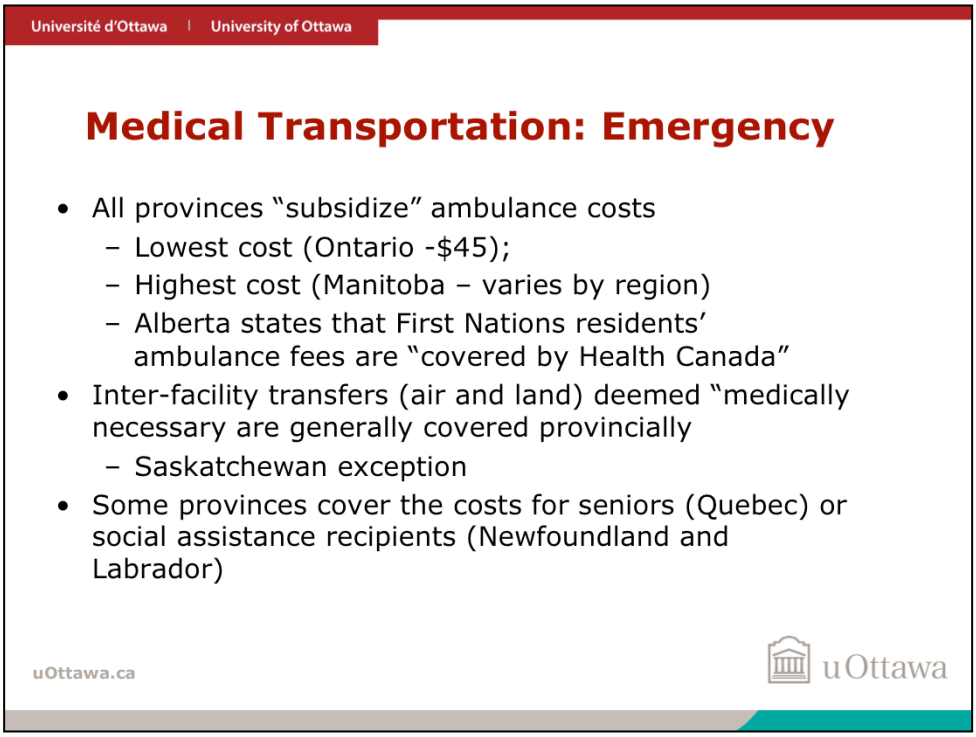
diagnostic tests and medical treatments covered by provincial/territorial health plans;

alcohol, solvent, drug abuse and detox treatment;

traditional healers; and

Non-Insured Health Benefits (vision, dental, mental health).

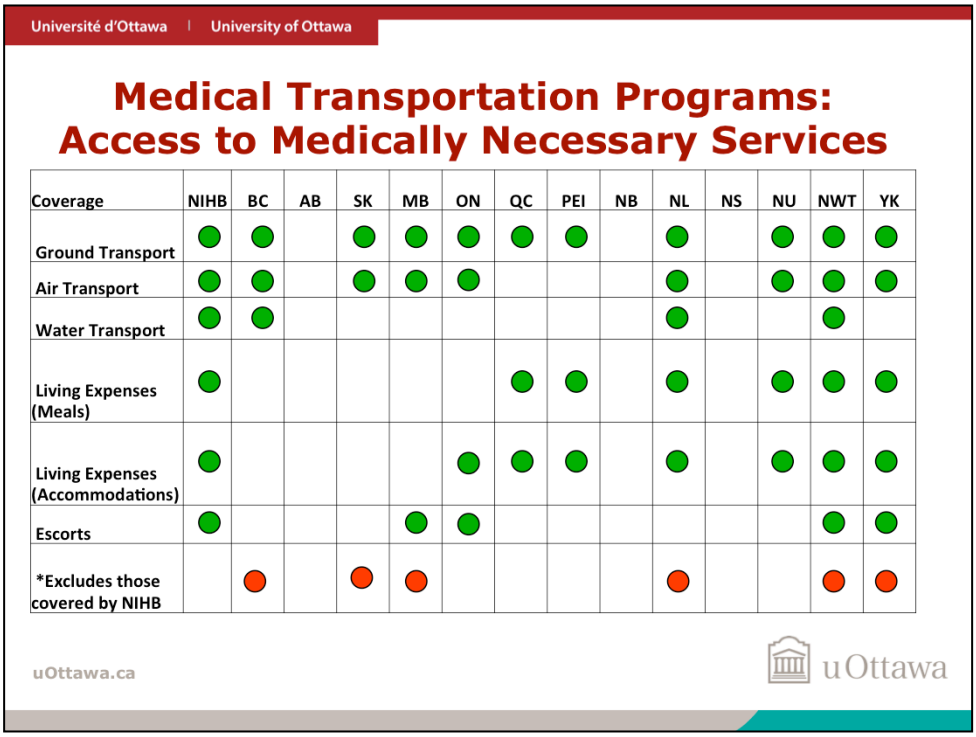
NIHB will assist with costs associated with: Ground travel; Water travel; Air Travel;



Ground Ambulance costs vary across provinces, although they all have co-pay arrangements. Ontario has the lowest co-pay for residents ($45); Manitoba currently has the highest ambulance costs – though Manitoba's new government has mandated a standardization, and gradual reduction of fees beginning with a maximum fee of $475 effective January 2017, and reducing to $250 by January of 2020. As it stands, even within the province, it varies from region to region.

Inter-facility transfers that are deemed "medically necessary" are generally covered provincially, as air "air lifts". Manitoba is a special case in that it explicitly excludes registered First Nations and recognized Inuit from such coverage.

Some provinces (such as Quebec) pay ambulance costs for seniors; others (Newfoundland) cover the costs for social assistance recipients



Coverage	NIHB	BC	AB	SK	MB	ON	QC	PEI	NB	NL	NS	NU	NWT	YK
Ground Transport	●	●		●	●	●	●	●		●		●	●	●
Air Transport	●	●		●	●	●				●		●	●	●
Water Transport	●	●								●			●	
Living Expenses (Meals)	●						●	●		●		●	●	●
Living Expenses (Accommodations)	●					●	●	●		●		●	●	●
Escorts	●				●	●							●	●
*Excludes those covered by NIHB		●		●	●					●			●	●

This table compares NIHB's program for accessing medically necessary services to provincial and territorial programs. Note: our research focused on specific programs intended to assist residents in accessing medically necessary services in non-urgent situations. This information is based on what is publicly available and seeks to provide an overview of the benefits listed.

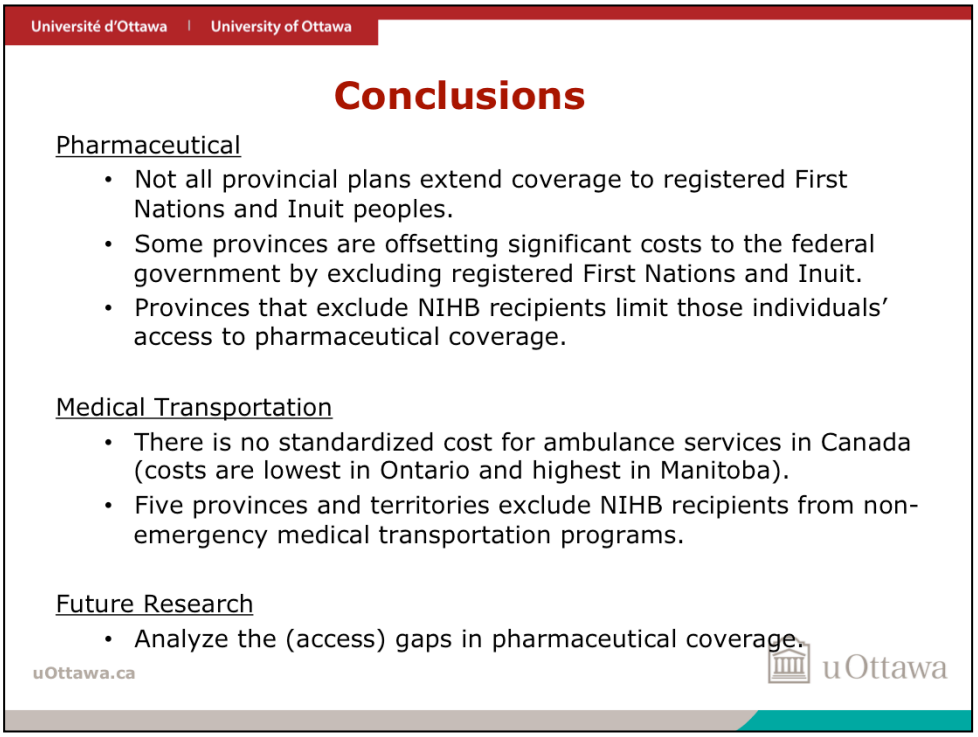
Below are the names and links to provincial and territorial programs represented in this table:

British Columbia: Travel Assistance Program

http://www2.gov.bc.ca/gov/content/health/accessing-health-care/tap-bc/travel-assistance-program-tap-bc

Alberta: N/A

The Rural Health Services Review Final Report March 2015, highlights the challenges posed to rural Albertans who lack access to transportation in order to access health care services. Section 3 (P.31) of the report presents the recommendations based on the findings and includes two specific to transportation: under the heading of Specialized



Pharmaceutical

One issue that became clear as our research progressed is that this is not only an issue of cost-savings, but also one of potential access. The question of cost sharing, transfers, and responsibility between jurisdictions (federal or provincial/territorial) is deeply embedded in our federalist system. This research found that approximately 37%, or $158 million, of NIHB's pharmaceutical drug costs could be eliminated based on its position as payer of last resort. On the other hand, several jurisdictions explicitly restrict NIHB clients from accessing provincial pharmaceutical coverage. Given these facts, the issue of cost and coverage of pharmaceutical drugs for registered First Nations and recognized Inuit clearly supersedes the question of who pays the bill; jurisdictional responsibilities need to be resolved in order to implement a national policy on drug coverage that will eliminate gaps and provide the best coverage for registered first nations and Inuit in Canada.

Transportation

Medical transportation is an issue of critical importance to all Canadians. Canadians living in rural or remote communities are especially vulnerable to barriers to accessing medical services. Transportation is a barrier for many First Nations and Inuit people in Canada to access a range of medically necessary services. NIHB provides water, air, and ground transport, and food and accommodation, including to escorts under certain

Questions?

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Nicholas Pope: npope005@uottawa.ca