

Supplement 1: Objectives and Timeline of the overarching *Understanding and Defining Quality of Care in the Emergency Department with First Nations Members in Alberta Study*

Objectives

1. To examine quantitative differences in ED visit characteristics and quality of care indicators between FN members and non-FN persons in Alberta.
2. To explore FN ED experiences of seeking and receiving care, racism and reconciliation, and healing, from FN patient and ED clinician perspectives.
3. To produce FN definitions of quality of care in the ED, and bring FN perspectives into dialogue with Western understandings of quality of care.

Timeline

Timing	Activity
December 2016-March 2017	First Project Discussions with AFNIGC
April 2017-Present	Monthly to Quarterly Steering Committee Meetings
Fall 2017 to Present	Presentations for Building Support for the Project and Knowledge Translation – including to the Assembly of Treaty Chiefs (Alberta), Indigenous healthcare and educational institutions, Alberta Health Services (including to leadership of all 5 zones and Clinical Operations Executive Committee), Canadian Association of Emergency Physicians National Grand Rounds, University emergency medicine rounds, AFNIGC Annual General Meetings, Academic Conferences.
February 2018	Provincial Engagement meeting to propose study to broad stakeholders (funding from Maskwacis Health Services, AFNIGC, AHS)
March 2018	CIHR Grant Funds Received
February 2019	Administrative Data Received and Statistical Analysis Begun
Fall 2019	Qualitative Provider and Health Director Interviews/Focus Groups begun
June 2019, October 2019, February 2021, September 2022, February 2024	Elder Meetings for Planning and Co-Interpretation
October 2020, July 2021, April 2022	Sharing Circles for Qualitative Data Collection (one per Treaty area)
June 2021	Published Descriptive Statistics in BMC Health Services Research
January 2022	Triage Analysis Published in CMAJ
June 2022	Published Results of Provider Interviews in BMC Health Services Research
June 2023	First Presentations of First Nations' Understanding of Quality of Care Definition Draft to Stakeholder Groups
Planned Publication	In-depth Qualitative Analysis of Sharing Circle and Health Director Interview/Focus Group Data
Planned Publication	Female Sex-Specific Descriptive Analyses
Planned Publication	A First Nations Definition of Quality Emergency Care

Appendix 1, as submitted by the authors. Appendix to: McLane P, Bill L, Healy B, et al. Leaving emergency departments without completing treatment among First Nations and non-First Nations patients in Alberta: a mixed-methods study. *CMAJ* 2024. doi: 10.1503/cmaj.231019.

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Supplement 2: Categorization of hospitals by a combination of geography and facility type.

The Large Metro category includes tertiary and regional hospitals in Edmonton and Calgary. Small Metro includes Edmonton and Calgary free standing EDs (no inpatient capacity), ambulatory care and urgent care. Only the cities proper were included in the Metro categories, while contiguous urban communities (e.g. Leduc, Airdrie) were included in the Large Community or Small Facilities Outside Metro categories, depending on their size. Our “Regional Outside Metro” category includes the five regional hospitals outside Edmonton and Calgary (Fort McMurray, Lethbridge, Grande Prairie, Red Deer, Medicine Hat). Large Community is a pre-existing AHS category defined as hospitals that offer ED, surgery, obstetrics, etc. but have less than 5000 inpatients per year. These are all outside Edmonton and Calgary. Small Facilities Outside Metro includes community hospitals that offer fewer services than large community hospitals, and generally have fewer inpatient admissions, as well as suburban and rural ambulatory care and urgent care facilities.

Supplement 3: Hospitals by Type by Alberta Health Services Zone

Row Labels	Calgary	Central	Edmonton	North	South	Row Totals
Large Metro	5	0	6	0	0	11
Small Metro	2	0	2	0	0	4
Regional Outside Metro	0	1	0	2	2	5
Large Community Outside Metro	2	10	1	11	4	28
Small Facilities Outside Metro	9	18	5	22	9	63
Column Totals	18	29	14	35	15	111

Note: Not all facilities were open during the entire study period.

Supplement 4: Additional detail on Qualitative Methods

All participants received study information letters and were compensated for their time. Compensation amounts varied by geography and following the protocols of FN partner organizations organizing engagements. In some cases, FN community members received mileage and accommodation support to attend in person gatherings. All participants provided written informed consent. Sharing circles opened with a presentation of the researchers, our interest in the topic, the purposes of the project, individual informed consent and collective First Nations data sovereignty. Descriptive statistics on leaving without completing care and other descriptive statistical results were presented to participants to inform discussion. Our qualitative interview and sharing circles questions focused on exploring differences in emergency care between First Nations and non-First Nations patients.

Interviews were guided by a semi-structured open-ended interview guide. Drawing on previous literature, PM and LB drafted the interview questions and made further refinements based on the comments of the Elder Advisory group and feedback throughout the interview process. The full provider interview guide has been previously published with another paper (see McLane et al., 2022). We provide it and the health director interview guide below. We provide the ppt template that guided our most recent sharing circle as a separate downloadable pdf.

Sharing circle discussion was conducted in rounds, with each round related to a graphic displaying a stage of the ED patient journey created by LB and validated by FN Elder Advisors. Participants took turns in sharing their experiences related to the four-page visual guide that explored participants' decision-making processes in choosing a specific ED; their experiences before, during, leaving, and after ED; as well as interactions with healthcare providers and the health system. In sharing circles, one graphic used to guide discussion focused on leaving the ED and contained the question "If you left the ED before being seen, what made you change your mind to leave?" In practice, questions embedded in the graphic were not discreetly asked and participants did not generally appear to distinguish whether they chose to leave before or after seeing the physician in sharing their experiences of leaving the ED.

Team members bring sociological, emergency medicine and Indigenous research methods to the analysis. LB is a Cree Registered Nurse, Indigenous Researcher and Traditional Practitioner/Knowledge Keeper. She is Executive Director of the Alberta First Nations Information Governance Centre (AFNIGC). PM is a PhD Sociologist and health services researcher of settler background employed by Alberta Health Services (AHS) and conducting independent research as Adjunct Associate Professor of Emergency Medicine, University of Alberta. KF is a Research Associate with expertise in community-based participatory research, Indigenous research methodologies, qualitative methodologies, and knowledge synthesis. LM was project coordinator in emergency medicine at the University of Alberta when contributing to the study and has a background conducting projects for Indigenous organizations. BH is a Blackfoot Registered Nurse with experience in emergency nursing and is Health Director of Blackfoot Confederacy Tribal Council. She was Executive Director of AFNIGC when this project began. TB, AB, EL and KJ are First Nations members and health services employees. CB is a Métis specialist physician and health services researcher with expertise in qualitative and quantitative methods. BRH is senior leader in the health system, Professor of Emergency Medicine, and practices emergency medicine. AC and KR are PhD prepared employees of the Alberta government and of settler background. They contribute quantitative methods and mental health expertise respectively. RJR is a PhD biostatistician of settler background. The majority of the team members have been working together on this project since 2017. Our different professional backgrounds and lived experiences collectively strengthen our analysis, and lend credibility to our findings. Additionally, First Nations partners and Elders co-interpreted and validated the results.

Supplement 5: Interview/Focus Group Guides

First Nations Emergency Department Quality of Care Project Health Director Interview/Focus Group Questions

1. Do you feel First Nations patients' expectations for care are met in the emergency department?
2. Do you feel First Nations patients' receive appropriate care in the emergency department?
3. What gaps in communication or care do you see happening when a member of your community is discharged from the ED?
 - Is the health centre involved in the care plan and recovery for members after they leave the ED?
 - Is there any communication between the ED and the health centre when a patient is discharged?
 - What would help members of your community in their recovery when they return home from the ED?
4. We'd like to explore understandings of racism. How do you define racism?
5. Do you think there are times racism impacts patient experiences in the emergency department?
6. What is your definition of reconciliation?
7. What would reconciliation look like in the emergency department?
8. What key factors would define quality of care for First Nations patients in emergency departments?

For this project we analyzed Alberta Health Services data on Emergency Department visits from 2012 to 2017 to compare differences in the numbers and reasons for ED visits between First Nations and non-First Nations people, and to look at some quality of care indicators.

9. We found that First Nations people live further from the ED than non-FN people, and that more FN people arrive by ambulance. Is this consistent with your experience and knowledge, and do you have any thoughts as to the reasons for these findings?
10. We also found that significantly more FN people leave without being seen by a doctor, and more leave before discharge. Is this consistent with your own experience and how might you explain these findings?
11. The data shows that more FN visits are triaged as less acute. Is this consistent with your own experience? Can you explain why this may be?

First Nations Emergency Department Quality of Care Project Clinician Interview Questions

Overall, the interviewer should pick up on themes of history, biases, stereotypes, generalizations, trust, communication, differences in power between patients and providers, distinct roles of physicians and nurses and how these roles impact how they can deliver care for FN patients.

1. Do you feel patients' expectations for care are met in the emergency department? - Prompt for specific examples of why or why not. What do you feel patients' expectations for care are in the ED?

2. Do you feel First Nations patients' expectations for care are met in the emergency department?

- Prompt for specific examples of why or why not, prompt for differences from non-FN patients. Prompt for expectations at different phases such as triage, interview/testing, discharge, follow-up.

3. Do you feel patients receive appropriate care in the emergency department? - Prompt for specific examples of why or why not.

4. Do you feel First Nations patients receive appropriate care in the emergency department? - -Prompt for specific examples of why or why not, prompt for differences from non-FN patients.

-Prompt for expectations at different phases such as triage, interview/testing, discharge, follow-up.

5. When there are multiple care options, are patients part of the decision making about their care in the emergency department? - Prompt for how this works, what kind of things do they get to decide?

6. Are First Nations patients part of the decision making about their emergency department care?

- Prompt for how this works, what kind of things do they get to decide? - Do you feel First Nations patients are invited to participate in decision making to the same degree as other patients?

- Do you perceive any difference in First Nations patients' engagement in decision making?

7. Are patients involved in the decision making about their care plan and recovery after leaving the emergency department?

- Prompt for how this works, what kind of things do they get to decide. How do differences in availability of care options impact after-care decisions?

- If the provider mentions things they to address barriers to follow up care, prompt for specific details.

8. Are First Nations patients involved in the decision making about their care plan and recovery after leaving the emergency department? - Prompt for how this works, what kind of things do they get to decide. How do differences in availability of care options impact after care decisions?

- If the provider mentions things they do to address barriers to follow up care, prompt for specific details.

9. Have you had cultural safety or sensitivity training about Indigenous peoples? - If yes, do you think having this training has benefited your patients?

10. Have you explored cultural differences of those who are different from you?

11. We'd like to explore understandings of racism. How would you define racism?

12. Do you think there are times racism impacts patient experiences in the emergency department?

- Ask for specific examples.

- If the provider mentions stereotypes, ask: What are the stereotypes or pre-expectations around FN patients that you see or hear?

- Have you seen those stereotypes impact how a patient is treated? Can you give an example?

13. What does reconciliation mean to you?

14. What would reconciliation look like in the emergency department?

For this project we analyzed Alberta Health Services data on Emergency Department visits from 2012 to 2017 to compare differences in the numbers and reasons for ED visits between First Nations and non-First Nations people, and to look at some quality of care indicators.

15. We found that First Nations people live further from the ED than non-First Nations people, and that more First Nations people arrive by ambulance. Is this consistent with your experience and knowledge, and do you have any thoughts as to the reasons for these findings?

16. We also found that significantly more FN people leave without being seen by a doctor, and leave more before discharge. Is this consistent with your own experience and how might you explain these findings?

17. The data shows that more FN visits are triaged as less acute. Is this consistent with your own experience? Can you explain why this may be?

Supplement 6: Characteristics of emergency department visits by First Nations population-membership and LWBS/AMA status

	FN n=1,099,424 (9.4%)				Non-FN n=10,586,863 (90.6%)			
	Completed Visit		LWBS/AMA		Completed Visit		LWBS/AMA	
Sex	n	%	n	%	n	%	n	%
Male	466,904	92.8%	36,269	7.2%	5,006,371	96.2%	196,235	3.8%
Female or “other”	558,290	93.6%	37,961	6.4%	5,192,147	96.4%	192,110	3.6%
Age (median, IQR)	30	[16.0, 46.0]	30	[20.0, 43.0]	36	[20.0, 57.0]	31	[20.0, 47.0]
Age								
<18 years	275,953	95.0%	14,534	5.0%	2,247,614	96.6%	80,059	3.4%
18-54 years	602,532	91.9%	52,975	8.1%	5,090,622	95.4%	244,689	4.6%
≥ 55 years	146,703	95.6%	6,721	4.4%	2,860,253	97.8%	63,591	2.2%
Missing	6		0		29		6	
Distance traveled to care, km (median, IQR)	7.00	[1.00, 24.00]	5.00	[2.00, 19.00]	4.00	[2.00, 8.00]	4.00	[2.00, 7.00]
≤5 km	430,746	93.1%	31,717	6.9%	5,310,051	96.4%	199,409	3.6%
>5 km	555,684	93.8%	36,899	6.2%	4,485,386	96.4%	166,389	3.6%
Missing	38,764	87.3%	5,614	12.7%	403,081	94.7%	22,547	5.3%
Income in area of residence, \$ (median, IQR)	\$42,944.0	[\$29,978.0, \$53,846.0]	\$42,523.0	[\$29,978.0, \$52,339.0]	\$51,696.0	[\$44,223.0, \$62,119.0]	\$51,312.0	[\$43,159.0, \$61,539.0]
Income in area of residence								
<\$42,000 \$	422,284	93.1%	31,499	6.9%	1,869,704	95.9%	78,973	4.1%
≥42,000 \$	572,240	93.9%	37,218	6.1%	7,937,692	96.5%	287,317	3.5%
Missing	30,670	84.8%	5,513	15.2%	391,122	94.7%	22,055	5.3%
Comorbidities								

None	691,006	93.0%	51,766	7.0%	7,273,883	96.0%	305,013	4.0%
1 or more	334,188	93.7%	22,464	6.3%	2,924,635	97.2%	83,332	2.8%
Myocardial Infarction	18,756	95.0%	991	5.0%	212,818	97.7%	4,858	2.3%
Congestive Heart Failure	20,409	96.0%	858	4.0%	306,186	98.4%	4,917	1.6%
Peripheral Vascular Disease	10,881	96.2%	428	3.8%	146,109	98.1%	2,890	1.9%
Cerebrovascular Disease	16,651	94.6%	942	5.4%	243,894	97.9%	5,344	2.1%
Dementia	4,341	96.3%	167	3.7%	121,094	98.6%	1,762	1.4%
Chronic Pulmonary Disease	163,614	94.2%	10,147	5.8%	1,121,047	96.9%	35,513	3.1%
Connective Tissue Disease-Rheumatic Disease	17,034	95.3%	845	4.7%	119,144	97.6%	2,965	2.4%
Peptic Ulcer Disease	22,850	93.2%	1,676	6.8%	120,780	96.8%	4,032	3.2%
Mild Liver Disease	25,146	88.6%	3,245	11.4%	94,417	94.4%	5,591	5.6%
Diabetes without complications	72,508	93.0%	5,421	7.0%	446,067	97.1%	13,207	2.9%
Diabetes with complications	51,968	95.5%	2,431	4.5%	427,945	97.9%	9,294	2.1%
Paraplegia and Hemiplegia	6,463	94.1%	405	5.9%	54,742	97.5%	1,431	2.5%
Renal Disease	19,604	95.0%	1,039	5.0%	204,971	98.0%	4,152	2.0%
Cancer	18,524	95.6%	859	4.4%	348,164	98.0%	7,235	2.0%
Moderate or Severe Liver Disease	11,579	92.1%	997	7.9%	43,035	96.0%	1,799	4.0%
Metastatic Carcinoma	6,067	96.2%	238	3.8%	118,638	98.4%	1,888	1.6%
AIDS/HIV	6,022	86.9%	910	13.1%	7,826	91.2%	755	8.8%

Ambulance arrival								
Yes ambulance	161,239	93.0%	12,225	7.0%	1,037,035	97.3%	29,249	2.7%
No ambulance	863,955	93.3%	62,005	6.7%	9,161,483	96.2%	359,096	3.8%
Triage								
CTAS 1-2	87,665	95.9%	3,774	4.1%	1,228,191	97.9%	25,767	2.1%
CTAS 3	284,838	92.9%	21,643	7.1%	3,505,710	96.1%	143,975	3.9%
CTAS 4-5	607,841	93.8%	40,503	6.2%	5,139,459	96.3%	196,369	3.7%
CTAS missing	4,4850	84.4%	8,310	15.6%	325,158	93.6%	22,234	6.4%
Time								
Day	457,841	93.7%	30,895	6.3%	5,158,864	97.0%	161,952	3.0%
Evening	447,475	93.3%	32,056	6.7%	3,855,625	95.7%	173,450	4.3%
Night	119,878	91.4%	11,279	8.6%	1,184,029	95.7%	52,943	4.3%
Facility type								
Tertiary Mixed	108,849	87.6%	15,372	12.4%	1,518,824	95.0%	79,370	5.0%
Regional	167,298	91.4%	15,757	8.6%	1,250,357	95.3%	61,004	4.7%
Large Community	337,372	94.5%	19,775	5.5%	2,075,795	97.3%	56,806	2.7%
Medium Community	216,223	95.3%	10,674	4.7%	1,396,732	97.2%	40,717	2.8%
Small Community	125,134	95.0%	6,569	5.0%	789,551	98.1%	15,040	1.9%
UCC	32,605	90.7%	3,357	9.3%	911,732	96.3%	34,545	3.7%
Ambulatory	37,713	93.3%	2,726	6.7%	493,219	95.7%	22,055	4.3%
Zone								
North	481,649	94.4%	28,341	5.6%	838,139	97.2%	24,276	2.8%
Edmonton	154,935	88.8%	19,580	11.2%	3,000,347	96.6%	106,243	3.4%
Central	147,164	93.8%	9,760	6.2%	1,593,857	97.2%	45,282	2.8%
Calgary	133,606	93.2%	9,771	6.8%	3,000,347	96.6%	106,243	3.4%
South	101,909	94.1%	6,368	5.9%	838,139	97.2%	24,276	2.8%
Missing	5,931	93.5%	410	6.5%	314436	96.1%	12717	3.9%
Facility/geography combination as used in analysis								

Large Metro	188,046	89.1%	22,987	10.9%	3,281,132	95.4%	158,178	4.6%
Small Metro	38,475	89.4%	4,577	10.6%	717,936	95.4%	34,294	4.6%
Regional Outside Metro	88,101	91.5%	8,142	8.5%	1,250,357	95.4%	61,004	4.7%
Large Community	337,372	94.5%	19,775	5.5%	2,075,795	97.3%	56,806	2.7%
Small Facility Outside Metro	373,200	95.2%	18,749	4.8%	2,873,298	97.4%	78,063	2.6%

Supplement 7: Characteristics of patients and emergency department visits by First Nations population-membership and LWBS status

	FN n=1,099,424 (9.4%)				Non-FN n=10,586,863 (90.6%)			
	Visits other than LWBS		LWBS		Visits Other than LWBS		LWBS	
Sex	n	%	n	%	n	%	n	%
Male	479,332	95.3%	23,841	4.7%	5,056,281	97.2%	146,325	2.8%
Female or “other”	571,402	95.8%	24,849	4.2%	5,240,114	97.3%	144,143	2.7%
Age (median, IQR)	30	(16, 46)	30	(20, 43)	36	(20, 57)	30	(19, 46)
Age								
<18 years	280848	96.7%	9,639	3.3%	2,262,961	97.2%	64,712	2.8%
18-54 years	620504	94.7%	35,003	5.3%	5,153,814	96.6%	181,497	3.4%
≥ 55 years	149376	97.4%	4,048	2.6%	2,879,591	98.5%	44,253	1.5%
Missing	6		0		29		6	
Distance traveled to care, km (median, IQR)	7	(1, 24)	5	(2, 19)	4	(2, 8)	4	(2, 7)
≤5 km	440,981	95.4%	21,482	4.6%	5,364,536	97.4	144,924	2.6%
>5 km	569,906	96.2%	22,677	3.8%	4,522,889	97.2%	128,886	2.8%
Missing	39,847	89.8%	4,531	10.2%	408,970	96.1%	16,658	3.9%
Income in area of residence, \$ (median, IQR)	42,944	(29,978, 53,833)	42,850	(33,120, 52,445)	51,686	(44,220, 62,098)	51,612	(43,035, 62,444)
Income in area of residence								

<\$42,000 \$	584,540	95.9%	24,918	4.1%	8,010,392	97.4%	214,617	2.6%
≥42,000 \$	434,469	95.7%	19,314	4.3%	1,889,181	96.9%	59,496	3.1%
Missing	31,725	87.7%	4458	12.3%	396,822	96.0%	16,355	4.0%
Comorbidities								
None	708,562	95.4%	34,210	4.6%	7,345,837	96.9%	233,059	3.1%
1 or more	342,172	95.9%	14,480	4.1%	2,950,558	98.1%	57,409	1.9%
Comorbidities (categorical)								
AIDS/HIV	6,022	86.9%	910	13.1%	7,826	91.2%	755	8.8%
Cancer	18,524	95.6%	859	4.4%	348,164	98.0%	7,235	2.0%
Cerebrovascular Disease	16,651	94.6%	942	5.4%	243,894	97.9%	5,344	2.1%
Chronic Pulmonary Disease	163,614	94.2%	10,147	5.8%	1,121,047	96.9%	35,513	3.1%
Congestive Heart Failure	20,409	96.0%	858	4.0%	306,186	98.4%	4,917	1.6%
Connective Tissue Disease-Rheumatic Disease	17,034	95.3%	845	4.7%	119,144	97.6%	2,965	2.4%
Dementia	4,341	96.3%	167	3.7%	121,094	98.6%	1,762	1.4%
Diabetes with complications	51,968	95.5%	2,431	4.5%	427,945	97.9%	9,294	2.1%
Diabetes without complications	72,508	93.0%	5,421	7.0%	446,067	97.1%	13,207	2.9%
Metastatic Carcinoma	6,067	96.2%	238	3.8%	118,638	98.4%	1,888	1.6%
Mild Liver Disease	25,146	88.6%	3,245	11.4%	94,417	94.4%	5,591	5.6%
Moderate or Severe Liver Disease	11,579	92.1%	997	7.9%	43,035	96.0%	1,799	4.0%
Myocardial Infarction	18,756	95.0%	991	5.0%	212,818	97.7%	4,858	2.3%
Paraplegia and Hemiplegia	6,463	94.1%	405	5.9%	54,742	97.5%	1,431	2.5%
Peptic Ulcer Disease	22,850	93.2%	1,676	6.8%	120,780	96.8%	4,032	3.2%

Peripheral Vascular Disease	10,881	96.2%	428	3.8%	146,109	98.1%	2,890	1.9%
Renal Disease	19,604	95.0%	1,039	5.0%	204,971	98.0%	4,152	2.0%
Ambulance arrival								
Yes ambulance	166,327	95.9%	7137	4.1%	1,047,033	98.2%	19,251	1.8%
No ambulance	884,407	94.5%	41,553	4.5%	9,249,362	97.1%	271,217	2.9%
Triage								
CTAS 1-2	89,508	97.9%	1,931	2.1%	1238321	98.8%	15,637	1.2%
CTAS 3	291,690	95.2%	14,791	4.8%	3,538,627	97.0%	111,058	3.0%
CTAS 4-5	623,286	96.1%	25,058	3.9%	5,189,459	97.3%	146,369	2.7%
CTAS missing	46,250	87.0%	6,910	13.0%	329,988	95.0%	17,404	5.0%
Time								
Day	469,459	96.1%	19,277	3.9%	5,206,332	97.8%	114,484	2.2%
Evening	457,296	95.4%	22,235	4.6%	3,892,196	96.6%	136,879	3.4%
Night	123,979	94.5%	7,178	5.5%	1,197,867	96.8%	39,105	3.2%
Facility type								
Tertiary Mixed	111,916	90.1%	12,305	9.9%	1,533,940	96.0%	64,254	4.0%
Regional	171,116	93.5%	11,939	6.5%	3,041,859	96.5%	110,618	3.5%
Large Community	346,958	97.1%	10,189	2.9%	2,102,910	98.6%	29,691	1.4%
Medium Community	220,361	97.1%	6,536	2.9%	1,409,665	98.1%	27,784	1.9%
Small Community	129,043	98.0%	2,660	2.0%	796,578	99.0%	8,013	1.0%
UCC	32,917	91.5%	3,045	8.5%	914,411	96.6%	31,866	3.4%
Ambulatory	38,423	95.0%	2,016	5.0%	497,032	96.5%	18,242	3.5%
Zone								
North	491,865	96.4%	18,125	3.6%	2,151,849	98.0%	43,905	2.0%
Edmonton	159,404	91.3%	15,111	8.7%	2,350,795	95.7%	105,017	4.3%
Central	152,987	97.5%	3,937	2.5%	1,613,381	98.4%	25,758	1.6%
Calgary	135,438	94.5%	7,939	5.5%	3,016,581	97.1%	90,009	2.9%
South	104,983	97.0%	3,294	3.0%	845,642	98.1%	16,773	1.9%
Missing	6,057	95.5%	284	4.5%	318,147	97.2%	9,006	2.8%

Facility/geography combination as used in analysis								
Large Metro	193,086	91.5%	17,947	8.5%	3,314,061	96.4%	125,249	3.6%
Small Metro	39,095	90.8%	3,957	9.2%	721,838	96.0%	30,392	4.0%
Regional Outside Metro	89,946	93.5%	6,297	6.5%	1,261,738	96.2%	49,623	3.8%
Large Community	346,958	97.1%	10,189	2.9%	2,102,910	98.6%	29,691	1.4%
Small Facility Outside Metro	381,649	97.4%	10,300	2.6%	2,895,848	98.1%	55,513	1.9%

Supplement 8: Characteristics of patients and emergency department visits by First Nations population-membership and AMA status

	FN n=1,099,424 (9.4%)				Non-FN n=10,586,863 (90.6%)			
	Visits other than AMA		AMA		Visits other than AMA		AMA	
Sex	n	%	n	%	n	%	n	%
Male	490,745	97.5%	12,428	2.5%	5,152,696	99.0%	49,910	1.0%
Female or “other”	583,139	97.8%	13,112	2.2%	5,336,290	99.1%	47,967	0.9%
Age (median, IQR)	30	(16, 46)	30	(20, 44)	36	(20, 57)	34	(22, 51)
Age								
<18 years	285,592	98.3%	4,895	1.7%	2,312,326	99.3%	15,347	0.7%
18-54 years	637,535	97.3%	17,972	2.7%	5,272,119	98.8%	63,192	1.2%
≥ 55 years	150,751	98.3%	2,673	1.7%	2,904,506	99.3%	19,338	0.7%
Missing	6		0		35		0	
Distance traveled to care, km (median, IQR)	6	(1, 24)	8	(2, 19)	4	(2, 8)	3	(2, 7)
≤5 km	452,228	97.8%	10,235	2.2%	5,454,975	99.0%	54,485	1.0%
>5 km	578,361	97.6%	14,222	2.4%	4,614,272	99.2%	37,503	0.8%
Missing	43,295	97.6%	1,083	2.4%	419,739	98.6%	5,889	1.4%
Income in area of residence, \$ (median, IQR)	42,944	(29,978, 53,833)	42,021	(22,990, 51,107)	51,691	(44,184, 62,119)	50,476	(43,442, 59,188)
Income in area of residence								
<\$42,000 \$	441,598	97.3%	12,185	2.7%	1,929,200	99.0%	19,477	1.0%
≥42,000 \$	597,158	98.0%	12,300	2.0%	8,152,309	99.1%	72,700	0.9%

Missing	35,128	97.1%	1,055	2.9%	407,477	98.6%	5,700	1.4%
Comorbidities								
None	725,216	97.6%	17,556	2.4%	7,506,942	99.1%	71,954	0.9%
1 or more	348,668	97.8%	7,984	2.2%	2,982,044	99.1%	25,923	0.9%
Comorbidities (categorical)								
AIDS/HIV	6,289	90.7%	643	9.3%	8,049	93.8%	532	6.2%
Cancer	18,850	97.3%	533	2.7%	350,525	98.6%	4,874	1.4%
Cerebrovascular Disease	16,986	96.5%	607	3.5%	245,678	98.6%	3,560	1.4%
Chronic Pulmonary Disease	167,281	96.3%	6480	3.7%	1,132,041	97.9%	24,519	2.1%
Congestive Heart Failure	20,800	97.8%	467	2.2%	307,977	99.0%	3,126	1.0%
Connective Tissue Disease-Rheumatic Disease	17,358	97.1%	521	2.9%	120,110	98.4%	1,999	1.6%
Dementia	4,420	98.0%	88	2.0%	121,632	99.0%	1,224	1.0%
Diabetes with complications	52,941	97.3%	1458	2.7%	431,215	98.6%	6,024	1.4%
Diabetes without complications	74,348	95.4%	3581	4.6%	450,071	98.0%	9,203	2.0%
Metastatic Carcinoma	6,154	97.6%	151	2.4%	119,239	98.9%	1,287	1.1%
Mild Liver Disease	26,112	92.0%	2279	8.0%	96,078	96.1%	3,930	3.9%
Moderate or Severe Liver Disease	11,969	95.2%	607	4.8%	43,621	97.3%	1,213	2.7%
Myocardial Infarction	19,226	97.4%	521	2.6%	214,648	98.6%	3028	1.4%
Paraplegia and Hemiplegia	6,583	95.9%	285	4.1%	55,171	98.2%	1,002	1.8%
Peptic Ulcer Disease	23,498	95.8%	1028	4.2%	122,106	97.8%	2,706	2.2%

Peripheral Vascular Disease	11,068	97.9%	241	2.1%	147,069	98.7%	1,930	1.3%
Renal Disease	20,047	97.1%	596	2.9%	206,403	98.7%	2,720	1.3%
Ambulance arrival								
Yes ambulance	168,376	97.1%	5,088	2.9%	1,056,286	99.1%	9,998	0.9%
No ambulance	905,508	97.8%	20,452	2.2%	9,432,700	99.1%	87,879	0.9 %
Triage								
CTAS 1-2	89,596	98%	1843	2.0%	1,243,828	99.2%	10,130	0.80%
CTAS 3	299,629	97.8%	6,852	2.2%	3,616,768	99.1%	32,917	0.90%
CTAS 4-5	632,899	97.6%	15,445	2.4%	5,285,828	99.1%	50,000	0.90%
CTAS missing	51,760	97.4%	1,400	2.6%	342,562	98.6%	4,830	1.40%
Time								
Day	477,118	97.6%	11,618	2.4%	5,273,348	99.1%	47,468	0.9%
Evening	469,710	98.0%	9,821	2.0%	3,992,504	99.1%	36,571	0.9%
Night	127,056	96.9%	4,101	3.1%	1,223,134	98.9%	13,838	1.1%
Facility type								
Tertiary Mixed	121,154	97.5%	3,067	2.5%	1,583,078	99.1%	15,116	0.9%
Regional	179,237	97.9%	3,818	2.1%	3,123,283	99.1%	29,194	0.9%
Large Community	347,561	97.3%	9,586	2.7%	2,105,486	98.7%	27,115	1.3%
Medium Community	222,759	98.2%	4,138	1.8%	1,424,516	99.1%	12,933	0.9%
Small Community	127,794	97.0%	3,909	3.0%	797,564	99.1%	7,027	0.9%
UCC	35,650	90.7%	312	9.3%	943,598	99.7%	2,679	0.3%
Ambulatory	39,729	98.2%	710	1.8%	511,461	99.3%	3,813	0.7%
Zone								
North	499,774	98.0%	10,216	2.0%	2,173,023	99.0%	22,731	1.0%
Edmonton	170,046	97.4%	4,469	2.6%	2,427,638	98.9%	28,174	1.1%
Central	151,101	96.3%	5,823	3.7%	1,619,615	98.8%	19,524	1.2%
Calgary	141,545	98.7%	1,832	1.3%	3,090,356	99.5%	16,234	0.5%
South	105,203	97.2%	3,074	2.8%	854,912	99.1%	7,503	0.9%
Missing	6,215	98.0%	126	2.0%	323,442	96.1%	3,711	3.9%

Facility/geography combination as used in analysis								
Large Metro	205,993	97.6%	5,040	2.4%	3,406,381	99.0%	32,929	1.0%
Small Metro	42,432	98.6%	620	1.4%	748,328	99.5%	3,902	0.5%
Regional Outside Metro	94,398	98.1%	1,845	1.9%	1,299,980	99.1%	11,381	0.9%
Large Community	347,561	97.3%	9,586	2.7%	2,105,486	98.7%	27,115	1.3%
Small Facility Outside Metro	383,500	97.8%	8,449	2.2%	2,928,811	99.2%	22,550	0.8%

Supplement 9: Proportion of patients LWBS/AMA by FN population-membership for each disease category and condition model

	FN				Non FN			
	Completed visit		LWBS/AMA		Completed visit		LWBS/AMA	
	n	%	n	%	n	%	n	%
Episode Disease Category								
Trauma and Injury	175,365	94.0%	11,197	6.0%	1,995,125	97.2%	58,574	2.9%
Infection	198,438	97.7%	4,607	2.3%	1,626,454	98.4%	26,166	1.6%
Obstetrics & Gynecology	37,088	95.5%	1,769	4.6%	290,178	96.9%	9,441	3.2%
Mental Health	29,885	93.6%	2,053	6.4%	235,055	95.9%	10,175	4.2%
Substance Use	39,096	89.1%	4,799	10.9%	88,907	91.0%	8,775	9.0%
Conditions								
Long Bone Fracture, unspecified	12,925	99.1%	124	1.0%	163,113	99.8%	416	0.3%
Acute Respiratory Infection, Unspecified	40,981	99.6%	179	0.4%	284,008	99.8%	685	0.2%
Spontaneous Abortion	6,649	97.6%	166	2.4%	67,885	98.9%	754	1.1%
Anxiety disorder, unspecified	9,268	91.6%	850	8.4%	52,931	94.6%	3,053	5.5%
Opioid Related Visit	2,560	91.8%	229	8.2%	12,777	92.3%	1,064	7.7%

Supplement 10: Proportion of patients LWBS by FN population-membership for each disease category and condition model

	FN				Non FN			
	Visits other than LWBS		LWBS		Visits other than LWBS		LWBS	
	n	%	n	%	n	%	n	%
Episode Disease Category								
Trauma and Injury	179,302	96.1%	7,260	3.9%	2,008,555	97.8%	45,117	2.2%
Infection	200,331	98.7%	2,714	1.3%	1,633,132	98.8%	19,488	1.2%
Obstetrics & Gynecology	37,770	97.2%	1,087	2.8%	292,765	97.7%	6,854	2.3%
Mental Health	30,694	96.1%	1,244	3.9%	238,428	97.2%	6,802	2.8%
Substance Use	41,184	93.8%	2,711	6.2%	92,256	94.4%	5,426	5.6%
Conditions								
Long Bone Fracture, unspecified	13,022	99.8%	27	0.2%	163,405	99.9%	124	0.1%
Acute Respiratory Infection, Unspecified	41,121	99.9%	39	0.1%	284,472	99.9%	221	0.1%
Spontaneous Abortion	6,753	99.1%	62	0.9%	68,240	99.5%	369	0.5%
Anxiety disorder, unspecified	9,574	94.6%	544	5.4%	53,730	96.0%	2,254	4.0%
Opioid Related Visit	2,704	97.0%	85	3.1%	13,315	96.2%	526	3.8%

Supplement 11: Proportion of patients LAMA by FN population-membership for each disease category and condition model

	FN				Non-FN			
	Visits other than AMA		AMA		Visits other than AMA		AMA	
	n	%	n	%	n	%	n	%
Episode Disease Category								
Trauma and Injury	182,625	97.9%	3,937	2.1%	2,040,242	99.3%	13430	0.7%
Infection	201,152	99.1%	1,893	0.9%	1,645,942	99.6%	6678	0.4%
Obstetrics & Gynecology	38,175	98.2%	682	1.8%	297,032	99.1%	2587	0.9%
Mental Health	31,129	97.5%	809	2.5%	241,857	98.6%	3373	1.4%
Substance Use	41,807	95.2%	2,088	4.8%	94,333	96.6%	3349	3.4%
Conditions								
Long Bone Fracture, unspecified	12,952	99.3%	97	0.7%	163,237	99.8%	292	0.2%
Acute Respiratory Infection, Unspecified	41,020	99.7%	140	0.3%	284,229	99.8%	464	0.2%
Spontaneous Abortion	6,711	98.5%	104	1.5%	68,224	99.4%	385	0.6%
Anxiety disorder, unspecified	9,812	97.0%	306	3.0%	55,185	98.6%	799	1.4%
Opioid Related Visit	2,645	94.8%	144	5.2%	13,303	96.1%	538	3.9%