Continuity of Care With Family Medicine Physicians: Why It Matters

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Outline

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- Methodology
- Findings & Conclusions

Introduction

Importance of Patient-Provider Relationship

Interactions with FPs/other front-line health care providers = First point of contact with health care system

Seeing same provider & developing ongoing relationship **leads to:**

- Effective communication
- Patient satisfaction
- Improved health outcomes
- Reductions in ED use
- Reductions in hospitalizations

This study focuses on the relationship between continuity of care and the use of avoidable hospital services for ambulatory care sensitive conditions (ACSCs) and family practice sensitive conditions (FPSCs).

Defining Continuity of Care

- Information continuity – information transfer across team members

- Management continuity – Coordination of care between different providers

- **Relational Continuity – Ongoing relationship between a patient and a health care provider**
  - This study focuses on relational continuity with a family medicine physician

Defining Ambulatory Care Sensitive Conditions

- Conditions for which hospitalizations are largely preventable by ambulatory care.*
  - Grand mal status and other epileptic convulsions
  - Chronic obstructive pulmonary diseases
  - Asthma
  - Diabetes
  - Heart failure
  - Pulmonary edema
  - Hypertension
  - Angina

* Identified based on definition by: J. Billings, L. Zeitel, J. Lukomnik, T.S. Carey, A.E. Blank and L. Newan., "Impact of socioeconomic status on hospital use in New York City," *Health Affairs* 12, 1 (1993): pp.162-173

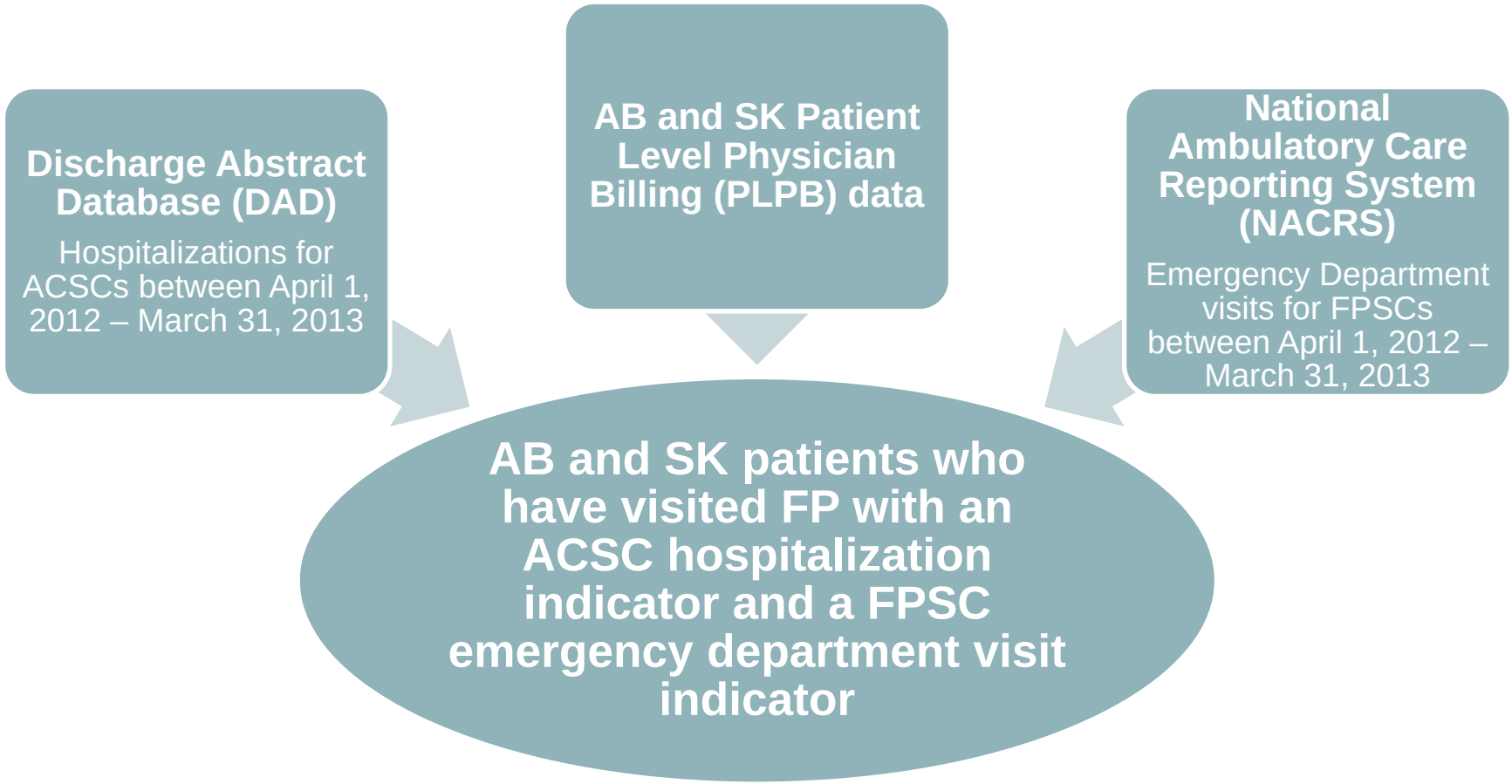
Defining Family Practice Sensitive Conditions

- Unscheduled Emergency Department (ED) visits for health conditions that may be appropriately managed at a family medicine physician's office.
  - All primary diagnoses that had a probability of inpatient admission or transfer of less than 1% provincially and were not injuries or traumas*
  - Includes 165 conditions
- Indicator was developed to capture unnecessary emergency department use
  - Whereas ACSCs capture unnecessary hospital admissions

* methodology produced by Alberta Health Services

Methodology

Data Sources



Canadian MIS Database (CMDB)
Cost estimates for ACSCs and FPSCs between April 1, 2012 – March 31, 2013

Measuring Continuity of Care

- Usual Provider Continuity (UPC) Index

$$UPC = \frac{Number\ of\ visits\ with\ usual\ FP}{Total\ number\ of\ visits\ to\ FPs}$$

- For predictive Analysis, UPC index score grouped into:
  - Low (0.0 to < 0.4)
  - Moderate (0.4 to < 0.8)
  - High (0.8 to 1.0)

- Exclusion:
  - Patients with only one visit to a family medicine physician

Overview of Analysis

- Continuity of Care
  - Descriptive statistics, identifying patient cohorts more/less likely to have strong attachments to a family medicine physician
- Demographic profile of patients hospitalized for an ACSC and visiting emergency departments for a FPSC
- Identify predictors of hospitalizations for ACSCs
- Identify predictors of emergency department visits*

* Logistic regression limited to AB for FPSC Emergency Department visits.

Limitations

- Based on fee-for-service billings which accounts for:
  - 62.8% of medical billings for FPs in SK
  - 86.0% of medical billings for all physicians in AB*
- Data limitations for Saskatchewan coverage
  - NACRS ED data was only available for 5 hospitals, all of which are located in urban areas
  - These five hospitals are located in only two of thirteen Regional Health Authorities
    - The five hospitals cover an estimated 43% of all ED visits in SK**

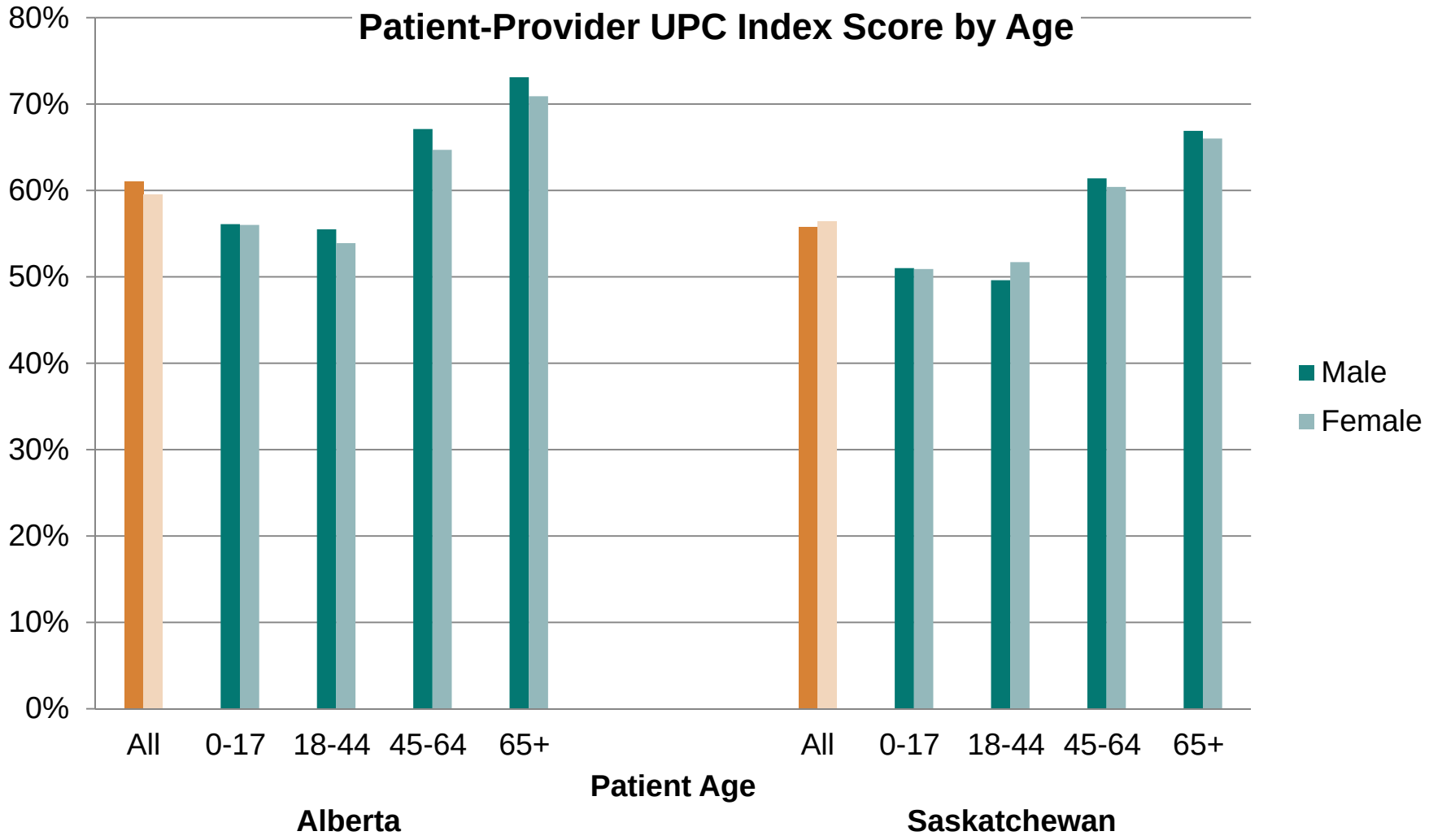
* Do not receive breakdowns by payment mode at the specialty level. Only provides total dollars.
** Source: *www.cihi.ca/web/resource/en/ed_quickstat_10072014_en.xlsx*.

Limitations

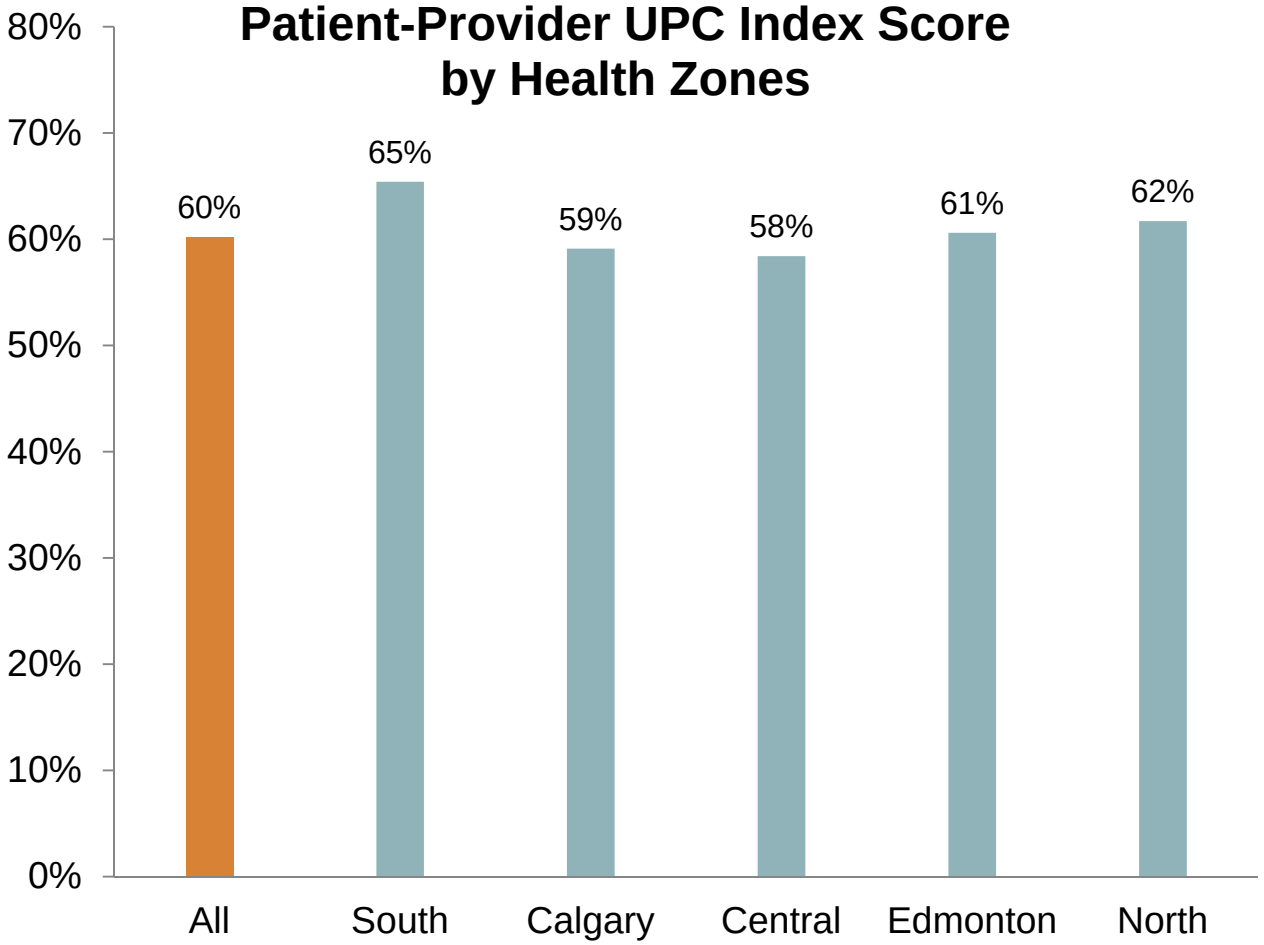
- Measures continuity of care based on visits to a particular physician, not a clinic/health team
  - Do not have information on how the practice is organized
- From the perspective of administrative data
  - Does not include patient perspective re: personal health
  - Patient unable to verify their primary physician and does not measure the length of relationship with said physician
- Continuity of care measured over multiple years
  - Physician and patient movement would impact UPC index score

Findings & Conclusions

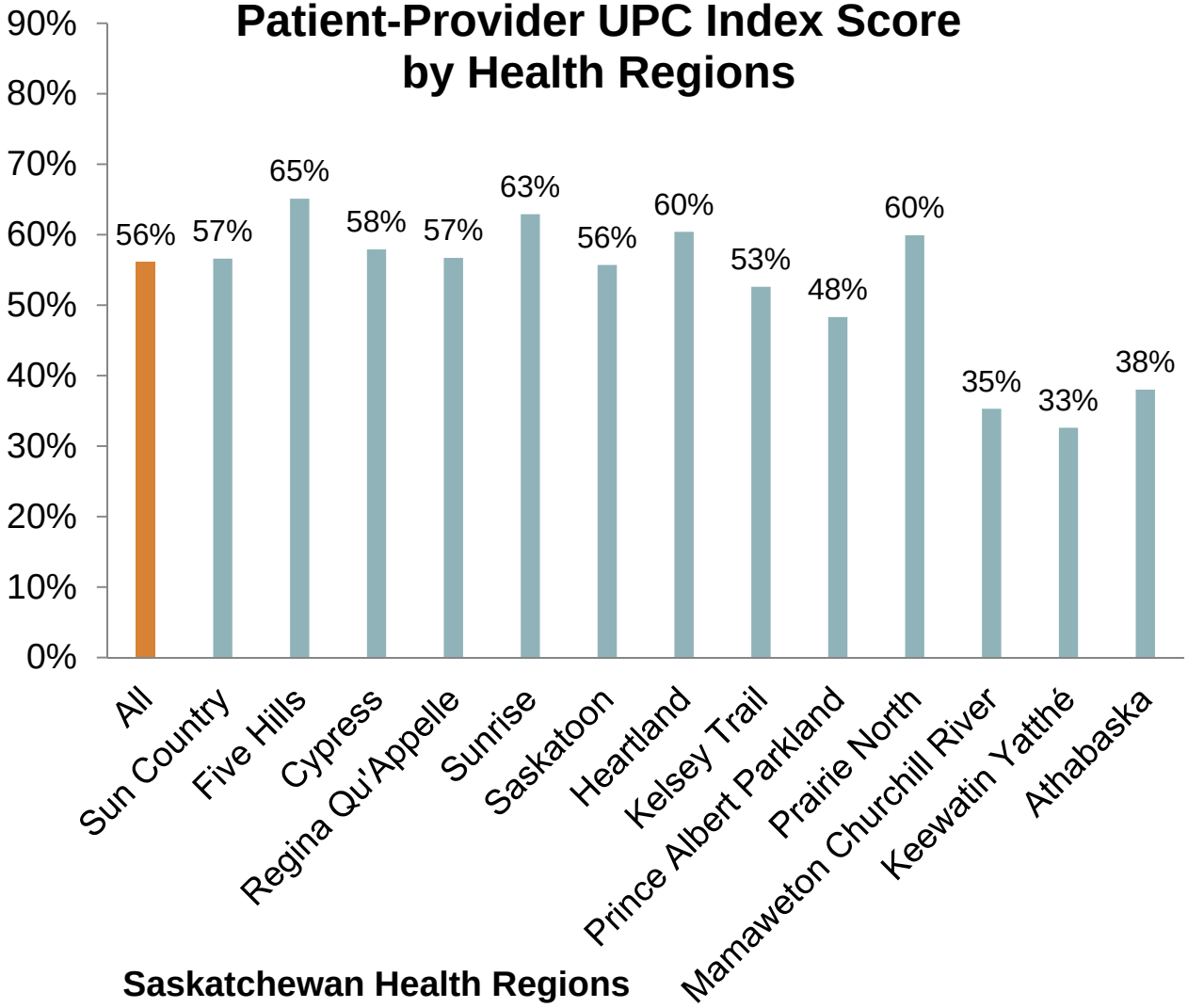
Older Patients Have Stronger Attachments to Their Family Medicine Physician

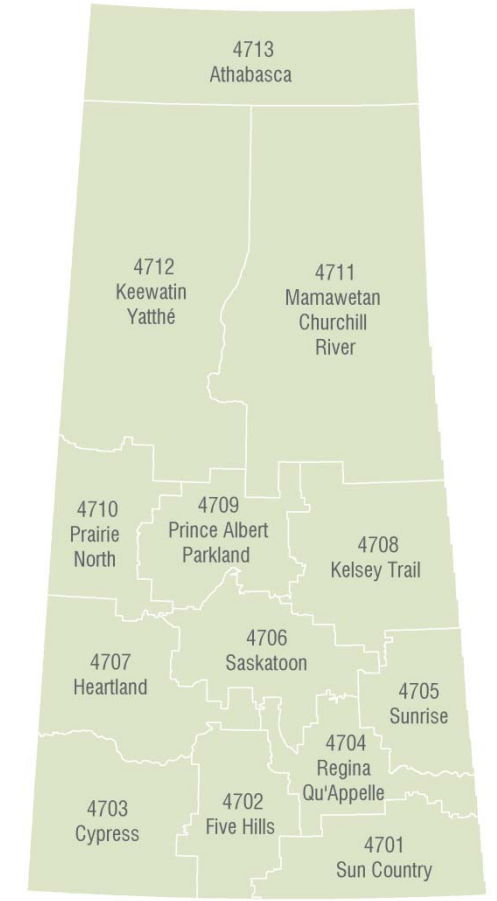


Continuity of Care Relatively Stable Across Alberta

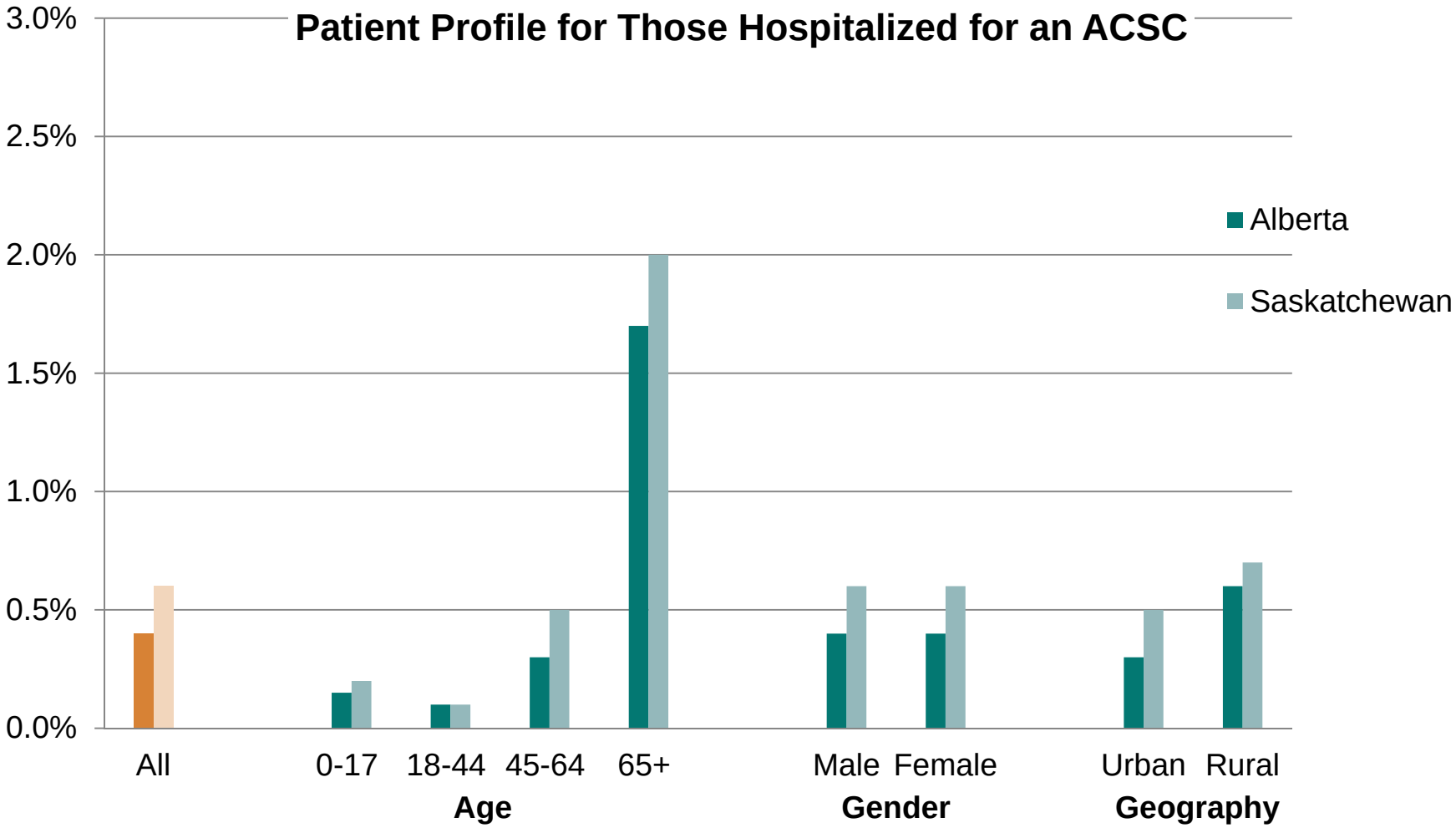


Residents in Northern Saskatchewan Least Likely to Receive Care from Same Physician





Older Patients Most Likely to be Hospitalized for an ACSC



Increased Continuity of Care Decreases The Odds of Hospitalization for ACSC Conditions

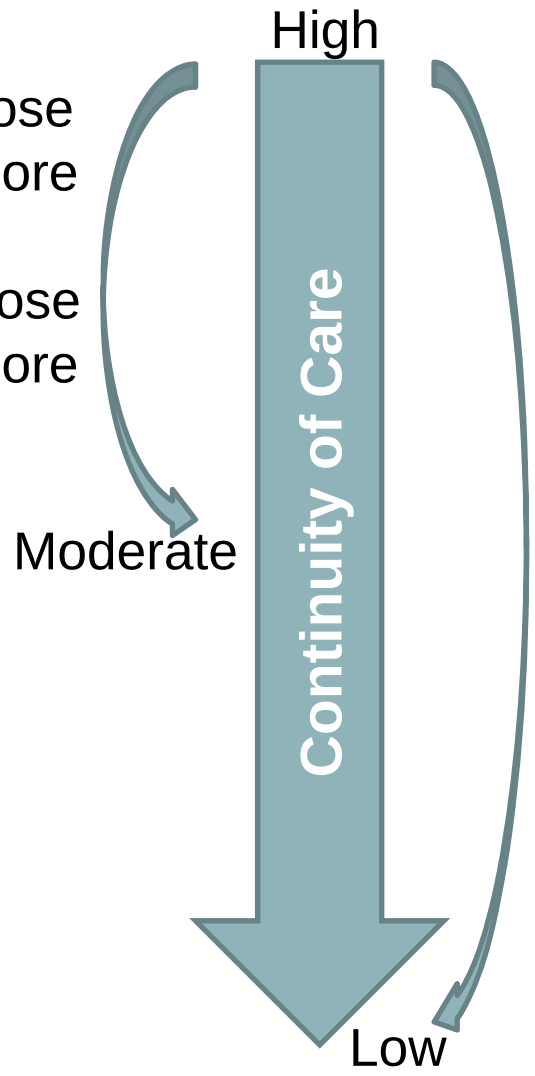
Explanatory Variable	Alberta		Saskatchewan	
	Odds Ratio	95% CI	Odds Ratio	95% CI
UPC Moderate vs. High*	1.105	1.064 – 1.148	1.238	1.163 – 1.318
UPC Low vs. High*	1.291	1.22 – 1.365	1.731	1.604 – 1.869
Gender Male vs. Female*	1.147	1.108 – 1.187	1.159	1.1 – 1.221
Age 45-64 vs. 18-44*	2.4	2.243 – 2.569	2.333	2.094 – 2.598
Age 65+ vs. 18-44*	8.437	7.905 – 9.004	6.43	5.8 – 7.129
Geography Rural vs. Urban*	1.607	1.548 – 1.668	1.193	1.132 – 1.258
Presence of ACSC Yes vs. No*	4.853	4.635 – 5.082	6.202	5.708 – 6.739

p<= 0.001 for all variables
* Denotes the reference category

In Summary, The Odds of Being Hospitalized for an ACSC Were

11% greater in AB for those with a moderate UPC score

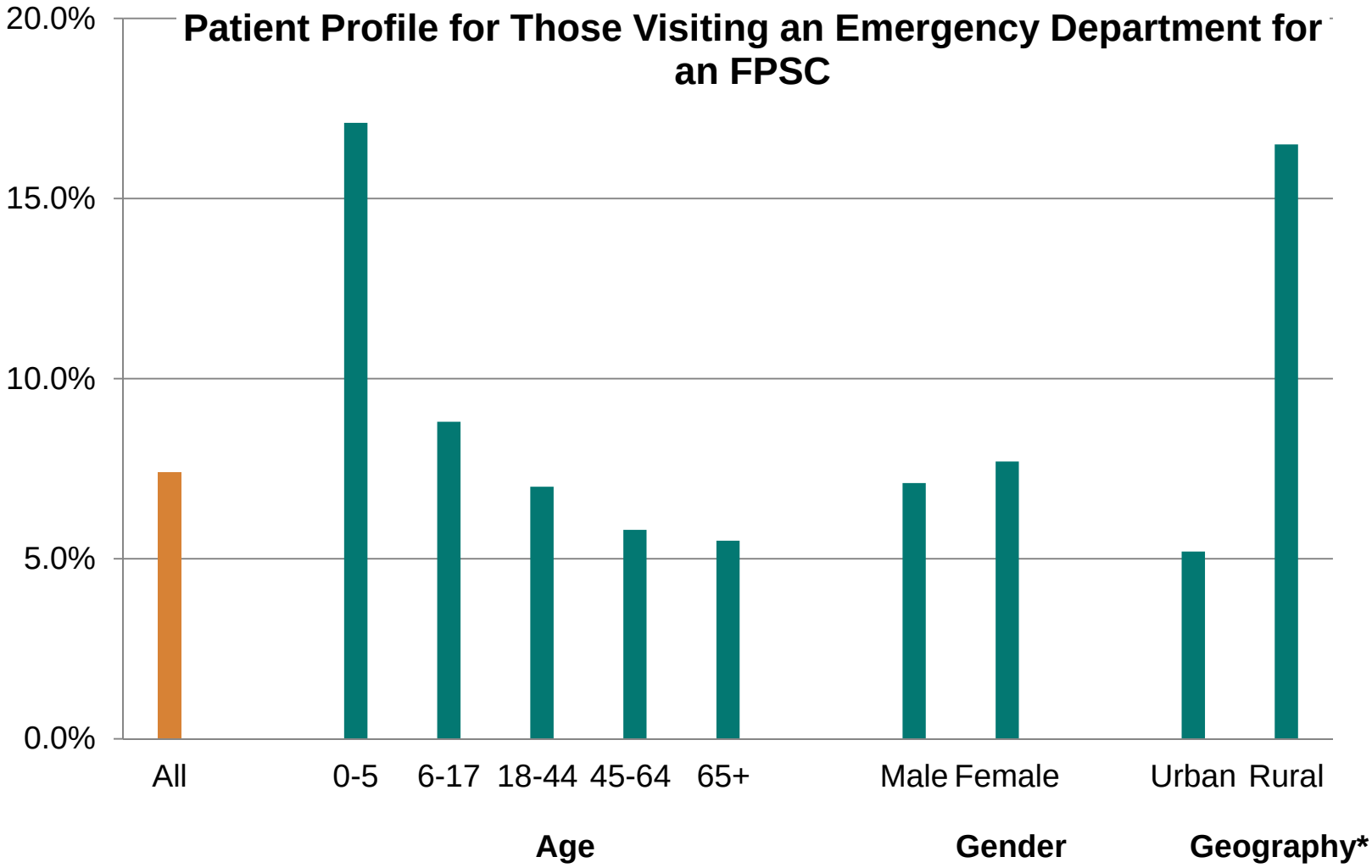
24% greater in SK for those with a moderate UPC score



29% greater in AB for those with a low UPC score

73% greater in SK for those with a low UPC score

Younger Patients & Rural Patients Most Likely to Visit an Emergency Department for an FPSC



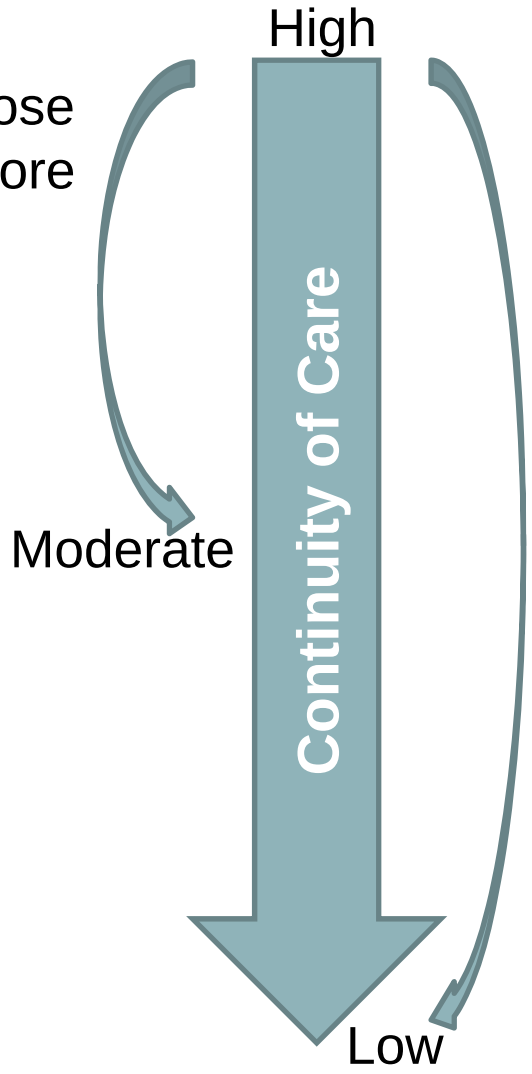
Increased Continuity of Care Decreases The Odds of Emergency Department Visits for FPSCs for Alberta

Explanatory Variable	Odds Ratio	95% Confidence Intervals
UPC Moderate vs. High*	1.209	1.19 – 1.223
UPC Low vs. High*	1.428	1.41 – 1.448
Gender Female vs. Male*	1.147	1.14 – 1.158
Age 45-64 vs. 65+*	1.123	1.11 – 1.139
Age 18-44 vs. 65+*	1.377	1.36 – 1.397
Geography Rural vs. Urban*	3.965	3.93 – 4.004

p<= 0.001 for all variables, except UPC: Moderate vs. High*, where p = 0.0186
* Denotes the reference category

In Summary, The Odds of Visiting and Emergency Department for a FPSC Were

21% greater in AB for those with a moderate UPC score



43% greater in AB for those with a low UPC score

Impact of Using Hospital Services for ACSCs and FPSCs – Opportunity Costs (2012/13)

- 21,295 hospitalizations for ACSCs in AB
- 9,278 hospitalizations for ACSCs in SK

- 576,703 unscheduled visits to emergency departments for FPSCs in AB

Potential to reduce hospital and emergency department use

Impact of Using Hospital Services for ACSCs and FPSCs – Financial Costs (2012/13)

- Hospital costs estimated at:
  - $229,811,545 for ACSCs in AB (avg $10,792/stay)
  - $71,469,337 for ACSCs in SK (avg $7,753/stay)
  - $120,593,142 for FPSCs in AB (avg $209/stay)

- Family Physicians bill:
  - $35.91 in AB for a patient visit
  - $33.20 in SK for a patient visit

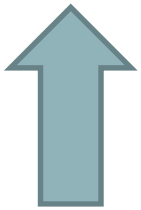
Visiting FPs may be more cost effective than using hospital-based services

In Summary, Report Reinforces Importance of Improving Relational Continuity of Care

- UPC index scores were:
  - 60.2% in AB
  - 56.2% in SK

UPC scores increased with age

- In line with literature:



relational continuity of care

hospitalizations for ACSCs
ED visits for FPSCs

- Seeing an FP may be more cost-effective way to treat ACSCs and FPSCs