International Perspectives on Minimum Data Sets for Care Homes

John P. Hirdes, PhD FCAHS

School of Public Health Sciences

University of Waterloo

Agenda

- Value of international collaboration
- Overview of interRAI systems
- Lessons learned from quality initiatives in Canada

What is the value of international comparisons?

- Who is #1 in the world?
  - Little clinical value, but politicians like it to **brag**/**complain**
- Identify opportunities for improvement
  - Understand own performance
  - See what is possible
- Focus quality initiatives
- Learn from others
  - Avoid reinventing wheels or pursuing practices that fail
  - Novel approaches or perspectives come from outside (see Granovetter)

UNIVERSITY OF WATERLOO
FACULTY OF APPLIED HEALTH SCIENCES
School of Public Health and Health Systems

interRAI™
CANADA

interRAI

- Who
  - International, not-for-profit network of ~140 researchers, clinicians, and policy experts
  - 30+ years experience in health services and clinical research

- What?
  - Comprehensive assessment of strengths, preferences, and needs of vulnerable populations

- How?
  - Multinational collaborative research
    - develop, implement and evaluate instruments and their related applications
    - transform data → evidence → informed decisions

UNIVERSITY OF WATERLOO
FACULTY OF APPLIED HEALTH SCIENCES
School of Public Health and Health Systems

interRAI™
CANADA

interRAI Countries

Europe
Iceland, Norway, Sweden, Denmark, Finland, Netherlands, France, Germany, Switzerland, UK, Italy, Spain, Czech Republic, Poland, Estonia, Belgium, Lithuania, Ireland, **Austria**

North America
Canada, US
Mexico

**Central/
South America**
Brazil, Chile
Ecuador, Belize

Pacific Rim
Japan, China,
Hong Kong SAR, Taiwan,
South Korea,
Australia, New Zealand
Singapore

Africa
South Africa, Rwanda, Kenya
**Nigeria, Uganda, Benin,
Egypt, Tanzania, Ethiopia, Namibia**

South Asia & Middle East
India, Israel, Lebanon, Qatar

interRAI Networks

- **interRAI Network for Integrated Care and Aging (iNICA)** Chair: Anja Declerq
  - Instruments: Home Care, Long Term Care Facilities, Palliative Care, Check Up (Primary Care), Contact Assessment, Quality of Life, Self-reported Carer Needs
- **interRAI Network for Mental Health (iNMH)** Chair John Hirdes
  - Instruments: Mental Health, Community Mental Health, Emergency Screener for Psychiatry, Brief Mental Health Screener (Police), Self-reported Assessment for Mental Health, Intellectual Disability, Quality of Life Mental Health and Addictions
- **interRAI Network for Acute Care (iNAC)** Chair: Len Gray
  - Instruments: Acute Care & AC-CGA, Emergency Department, Post Acute Care-Rehab, Community Rehabilitation Assessment
- **interRAI Network for Child/Adolescent Health (iNCAH)** Chair: Shannon Stewart
  - Instruments: Child/Youth Mental Health, ChYMH-Developmental Disability, Pediatric Home Care, Emergency Screener Psychiatry for Children/Youth, Quality of Life
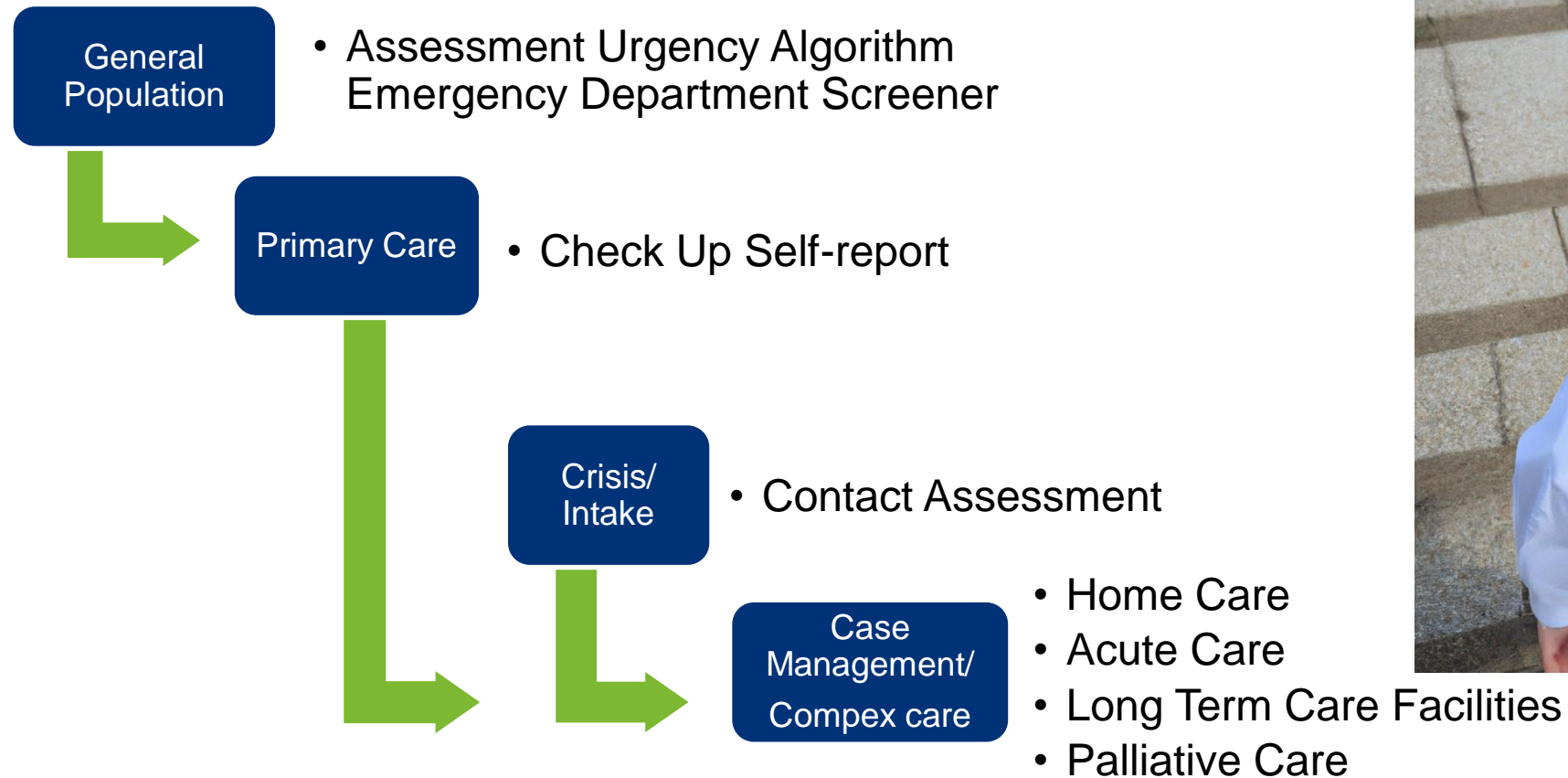
UNIVERSITY OF WATERLOO
FACULTY OF APPLIED HEALTH SCIENCES
School of Public Health and Health Systems

interRAI™
CANADA

Use of interRAI Instruments in Canada

- 🔴 RAI 2.0/ interRAI Long Term Care Facilities
- 🟦 RAI-Home Care
- ⭐ RAI-Mental Health
- 🔺 interRAI Community Mental Health
- 🔶 interRAI Emergency Screener for Psychiatry
- ⬟ interRAI Brief Mental Health Screener
- ✦ interRAI Child/Youth Mental Health
- ✴ interRAI Intellectual Disability
- 💗 interRAI Palliative Care
- ➕ interRAI Acute Care/Emergency Department
- ⚡ interRAI Contact Assessment
- ⌒ interRAI Community Health Assessment
- 🙂 interRAI Subjective Quality of Life

- 20+ million assessments
- 6+ million unique individuals
- 600K+ new assessments/year
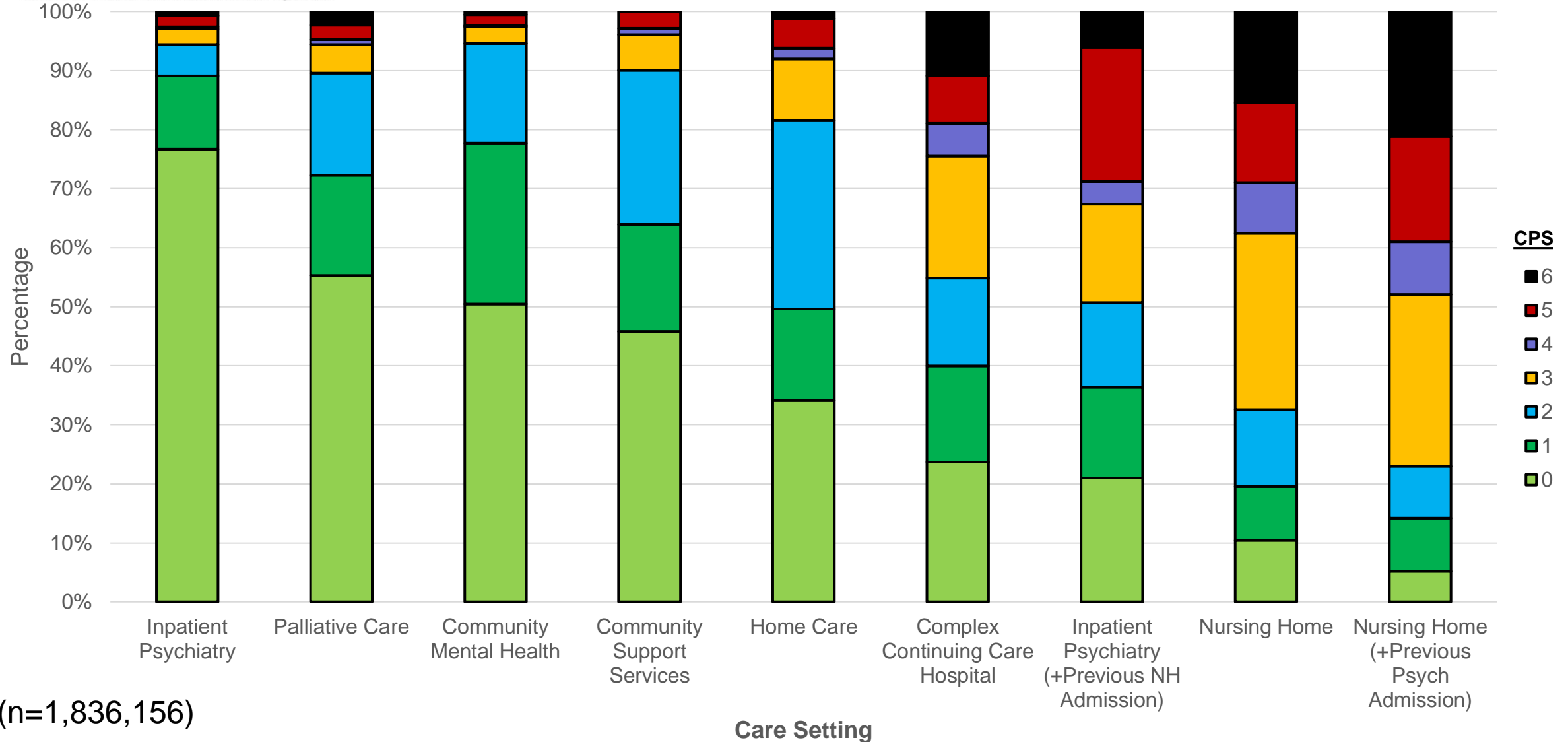- About 7 billion data points
- Longitudinal & linkable

Solid symbols refer to implentations that have been mandated by government
Hollow symbols refer to research, pilot studies, or implementation planning underway

www.interrai.org

interRAI's Stepped Approach
to Screening and Assessment of Older Adults

General Population

- Assessment Urgency Algorithm Emergency Department Screener

Primary Care

- Check Up Self-report

Crisis/ Intake

- Contact Assessment

Case Management/ Compex care

- Home Care
- Acute Care
- Long Term Care Facilities
- Palliative Care

Cognitive Performance Scale by Care Setting, Canada

(n=1,836,156)

UNIVERSITY OF WATERLOO
FACULTY OF APPLIED HEALTH SCIENCES
School of Public Health and Health Systems

interRAI™
CANADA

Core Applications of interRAI's Assessment Instruments:
One assessment … multiple applications

Case-mix/funding
Single Point Entry

Care Plan

Resource Allocation

Evaluation
Best Practices
Risk Management
Emergency Preparedness

Assessment

Balance incentives

Outcome Measures

Quality Indicators

Patient Safety
Quality Improvement
Public Accountability
Accreditation

www.interrai.org

UNIVERSITY OF WATERLOO
FACULTY OF APPLIED HEALTH SCIENCES
School of Public Health and Health Systems

interRAI™
CANADA

interRAI Mental Health
Clinical Assessment Protocols (CAPs)

Collaborative care planning protocols using shared decision-making to support recovery based on person's strengths, preferences and needs

UNIVERSITY OF WATERLOO
FACULTY OF APPLIED HEALTH SCIENCES
School of Public Health and Health Systems

interRAI™
CANADA
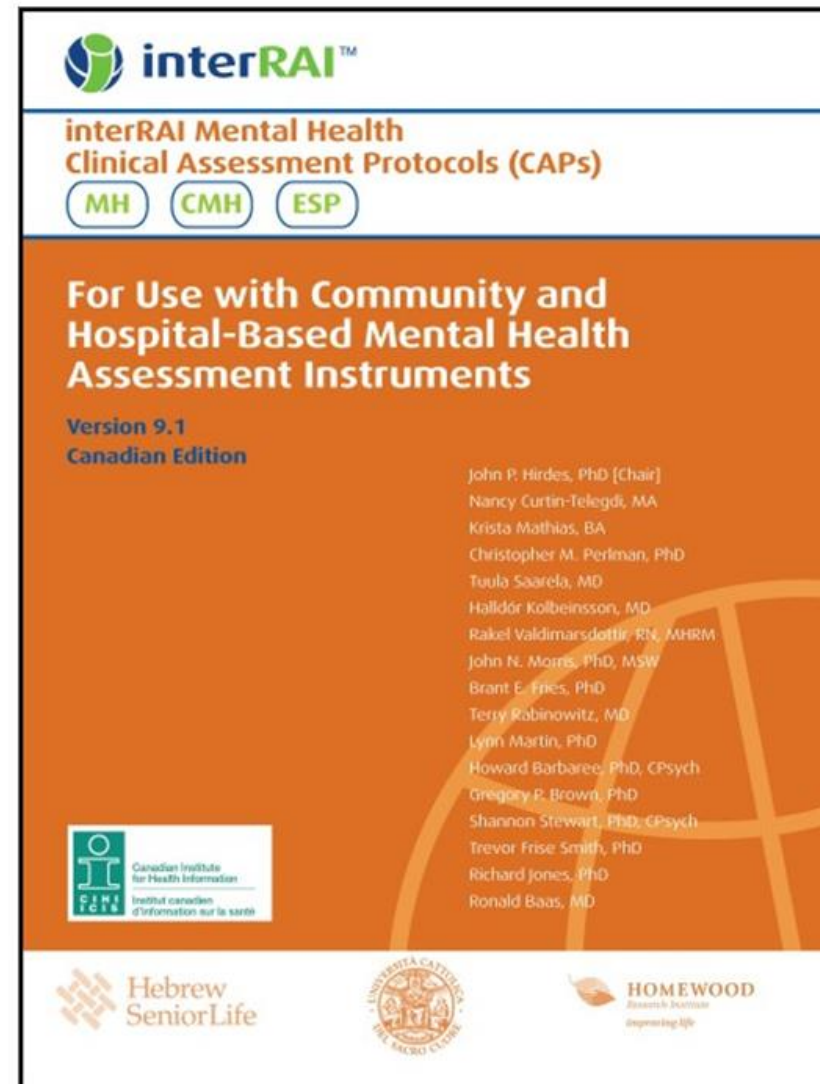
In a perfect world, a successful QI intervention would look like this…
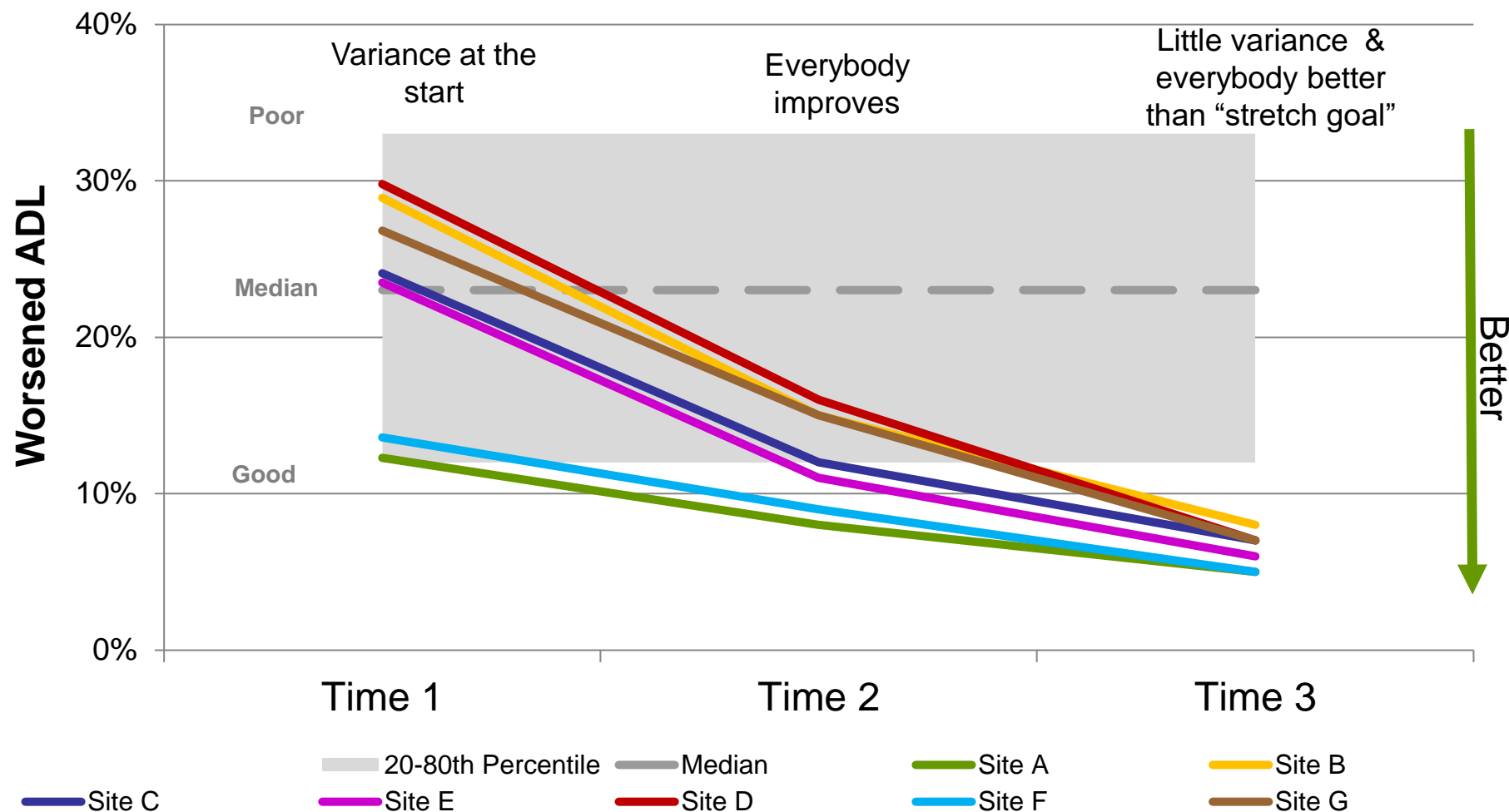
Prevalence of Daily Use of Various Types of Restraints in Providence Centre and 13 Toronto Chronic Hospitals, 1995

%

100
80
60
40
20
0

Providence | Hosp A | Hosp B | Hosp C | Hosp D | Hosp E | Hosp F | Hosp G | Hosp H | Hosp I | Hosp J | Hosp K | Hosp L

■ Limb   □ Trunk   ■ Chair   □ Any
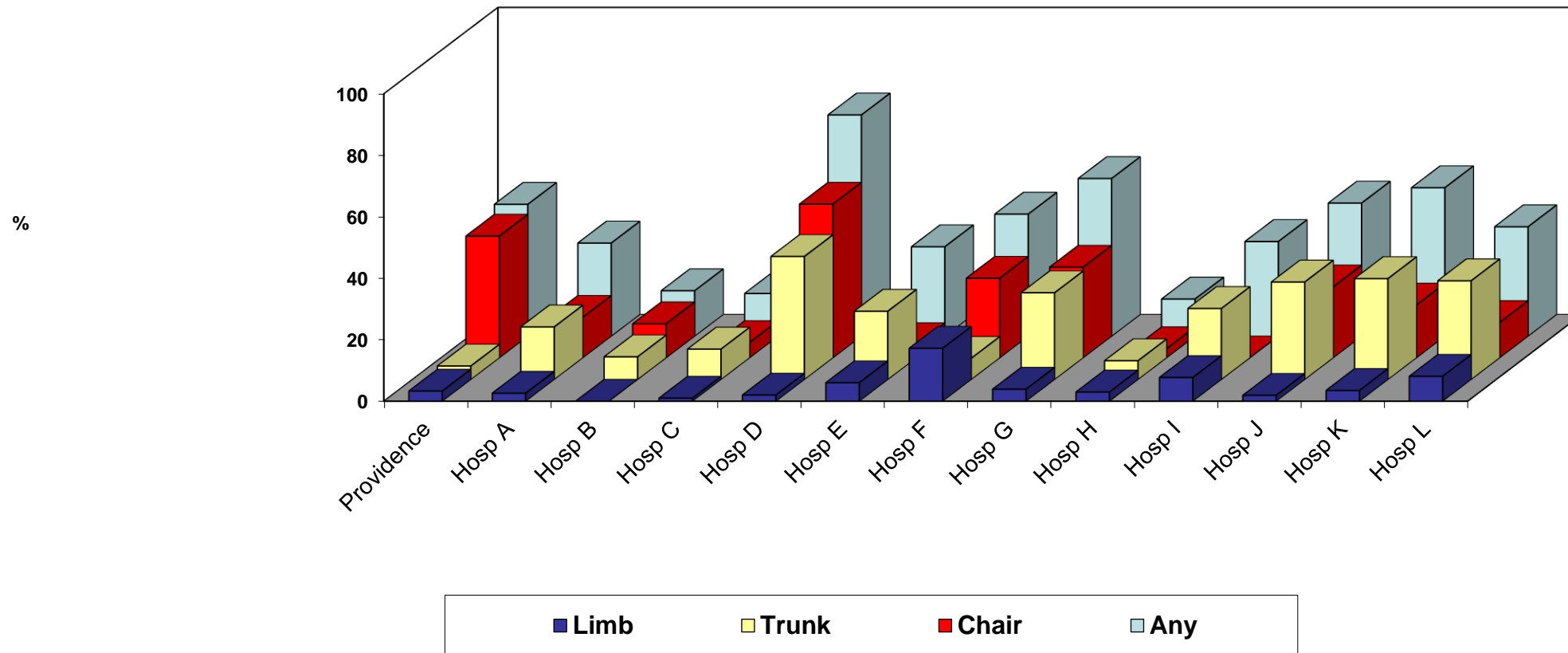
Adjusted Odds Ratio (Age, Sex, ADL, CPS) of Restraint Use (Trunk, Limb or Chair) by Facility, Toronto, 1995
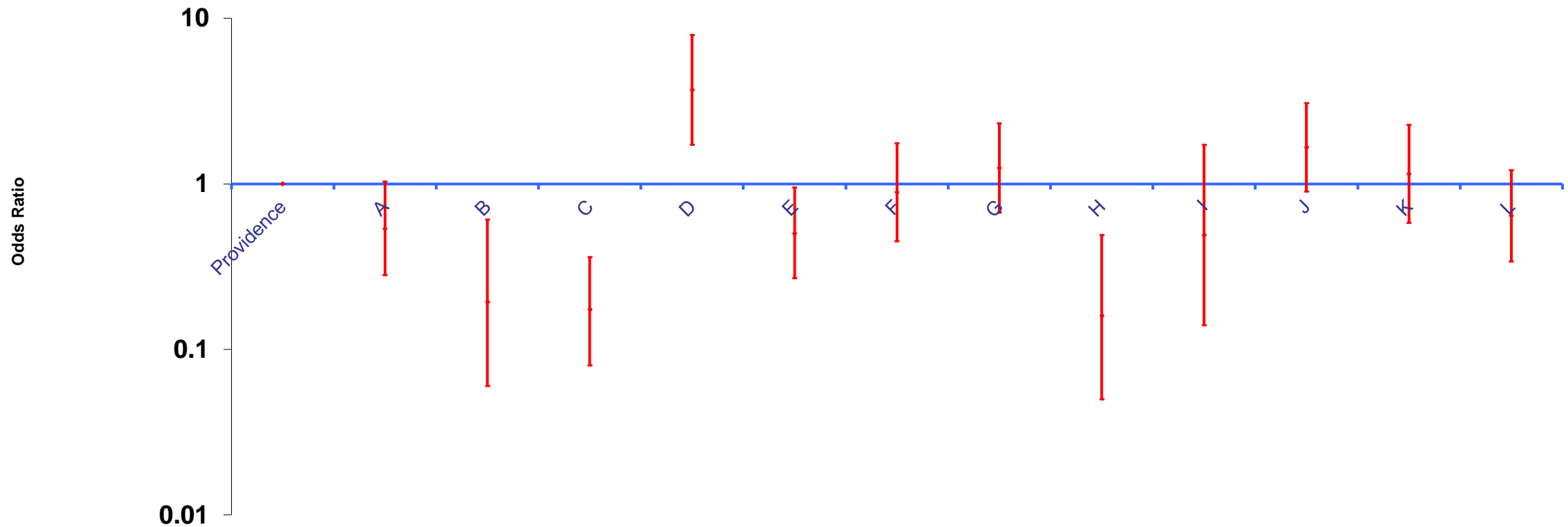
Prevalence of Daily Use of Various Types of Restraints in Long Term Care Facilities in 5 interRAI Countries
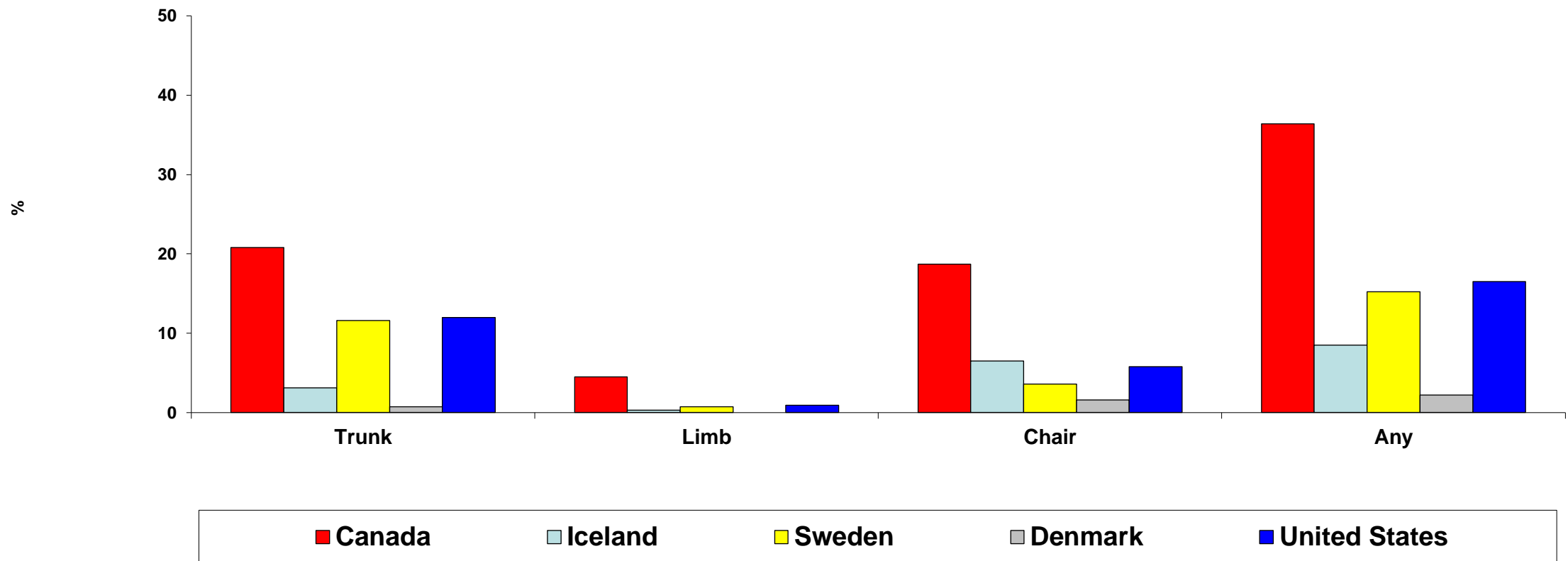
Figure 3.6. **Restraint use among nursing home residents without neurological conditions, by province, Canada, 1996-2010**
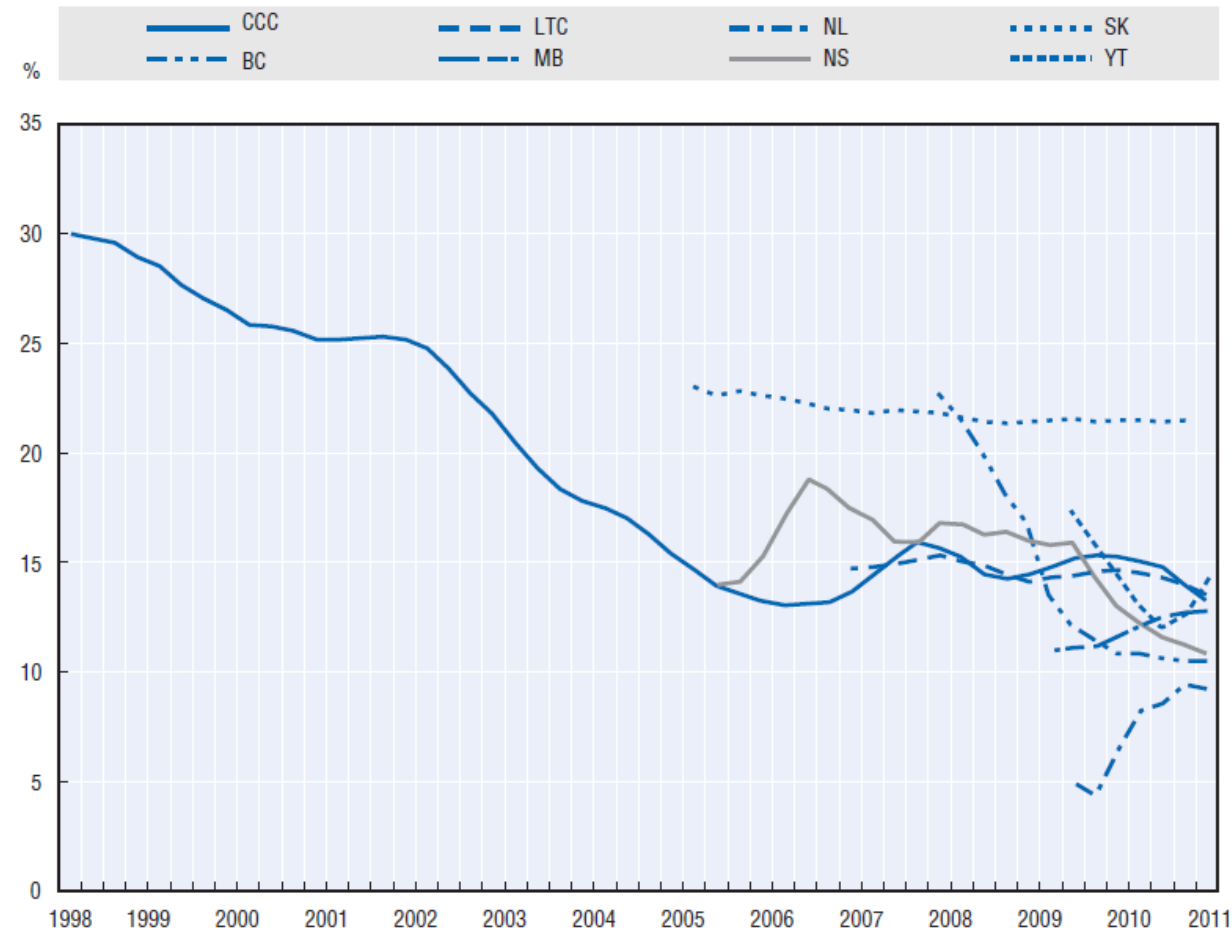
Note: BC: British Columbia; CCC: Ontario Complex Continuing Care Hospitals; LTC: Ontario nursing homes; MB: Manitoba; NL: Newfoundland and Labrador; NS: Nova Scotia; SK: Saskatchewan; YT: Yukon Territory.

Source: Canadian data set available from InterRAI.org.

Interactive Map: Restraint Use in Long-Term Care (Percentage), 2017–2018

Data Export

Hover over data points for additional information or select data points to access health region, hospital and long-term care organization results, when available. Contextual information is displayed below the map, based on your selection. More information can be found on the Resources Page of the Indicator Library.

Above average   Same as average   Below average   No assessment
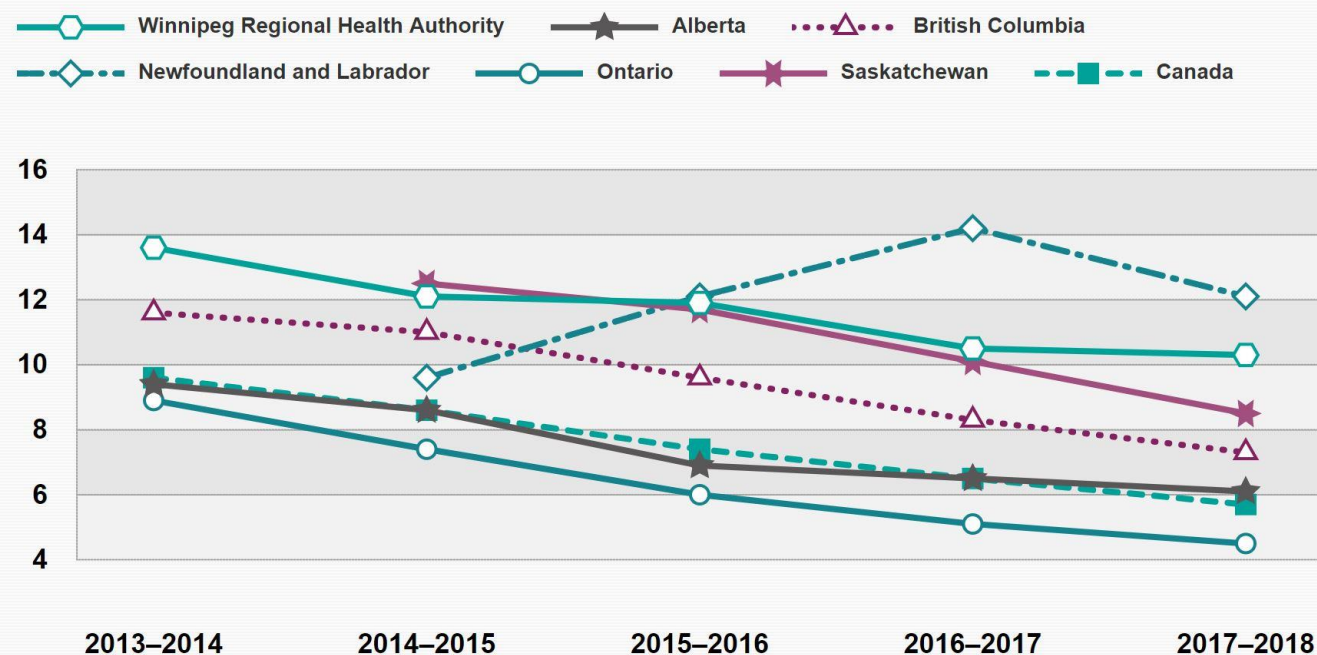
Risk Adjusted Rates of Restraint Use in New Brunswick Homes

Canadian rate: 5.2

20th Percentile

Median

80th Percentile

UNIVERSITY OF WATERLOO
FACULTY OF APPLIED HEALTH SCIENCES
School of Public Health and Health Systems

interRAI™
CANADA

www.interrai.org
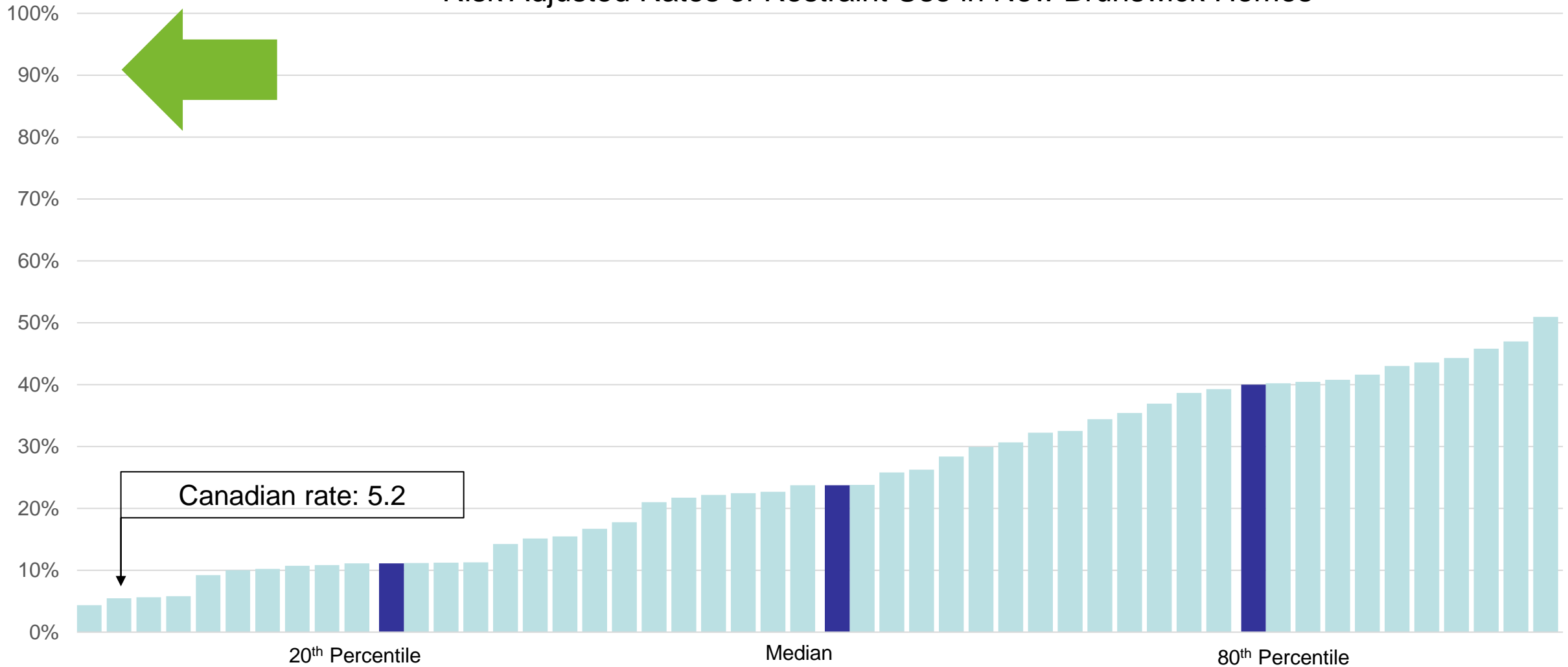
Common reactions to quality reports

- "My residents are different"
- "We measure it in a different way"
- "We can't trust the data"
- "We can't change"

- "Let's do something about it!"

Do methods matter?

UNIVERSITY OF WATERLOO
FACULTY OF APPLIED HEALTH SCIENCES
School of Public Health and Health Systems

interRAI™
CANADA
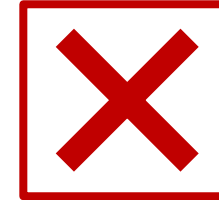
Media Coverage on a Quality Issue:
Toronto Star Story on Antipsychotic Use in LTC

News / Canada

Use of antipsychotics soaring at Ontario nursing homes

Powerful, potentially lethal drugs are used off-label to control behaviour among dementia patients at alarming rates in some homes

Tweet 264   +1 12   reddit this!   + save to mystar
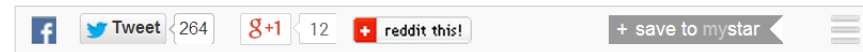
By: David Bruser News Reporter, Jesse McLean Investigative News reporter, Andrew Bailey Data Analyst, Published on Tue Apr 15 2014

Ontario nursing homes are drugging helpless seniors at an alarming rate with powerful antipsychotic drugs, despite warnings that the medications can kill elderly patients suffering from dementia.

A Star investigation has found that some long-term care homes, often struggling with staffing shortages, are routinely doling out these risky drugs to calm and "restrain" wandering, agitated and sometimes aggressive patients. At more than 40 homes across the province, roughly half the residents are on the drugs. At close to 300 homes, more than a third of the residents are on the drugs.

www.interrai.org
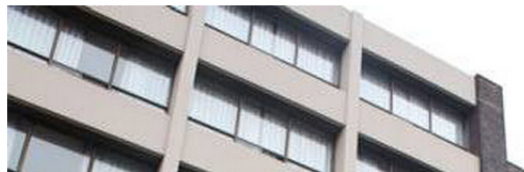
Toronto Star Reporting System

Antipsychotic drug use in nursing homes

[Please click here for a full explainer on this data](#)

| Search for nursing home | Alphabetical list of nursing homes | Nursing homes by city |

The following chart shows Ontario nursing home facilities, sorted by the percentage of residents being prescribed antipsychotic drugs (highest to lowest). The red line shows the average of all facilities (33.63%). Hover over bars for details and links to inspection reports.

Published on Sun May 04 2014

Why does it take a newspaper to provide Ontarians with important government data on the nursing homes that house many of our most vulnerable seniors?

Why isn't this being done by the government itself? Or by the nursing home industry, independent health-care organizations, or university researchers?

Eden House Nursing Home
Richmond Terrace
Sumac Lodge
Miramichi Lodge
Fairvern Nursing Home
Residence Prescott Et Rus..

Components of a QI

Numerator → Residents receiving antipsychotic on any of last 7 days

Denominator → Anyone with valid assessment; however, don't use admission assessment
- STAR PROBABLY USED ALL

Covariates → characteristics that increase (or decrease) the probability of use
- NOT CONSIDERED BY STAR

Exclusions → conditions where antipsychotic use is justified
- NOT EXCLUDED BY STAR (but excluded by CMH)

Stratification → facility population-level risk adjustment
- NOT CONSIDERED BY STAR

47 DRG01 – Percent of Residents on antipsychotics without a diagnosis of psychosis

NUMERATOR:
Residents receiving antipsychotics (O4a>0) on target assessment.

DENOMINATOR:
All residents with a valid target assessment.

COVARIATE(S):
Motor Agitation
Moderate/impaired decision making problem
Long term memory problem
Cognitive Performance Scale
Combination Alzheimers Disease/Other Dementia
Age less than 65

EXCLUSION(S):
All Medicare Assessments coded in AA8B
Admission Assessment at the Target Assessment
Residents satisfying any of the following conditions are excluded:
A psychiatric disorder is indicated by ICD9 diagnosis code on the target assessment or most recent full assessment: I3a through I3e = 295.00-295.95 or 297.00-298.9.
Schizophrenia is indicated on the target assessment or most recent full assessment by I1gg = checked or the value of I1gg is missing.
Tourette syndrome is indicated by ICD9 diagnosis code on the target assessment or most recent full assessment: I3a through I3e=307.23.
Huntington's syndrome is indicated by ICD9 diagnosis code on the target assessment or most recent full assessment: I3a through I3e=333.4.
Hallucinations are present on the target assessment only: J1i = checked (value 1) or the value of J1i is missing.
The value of O4a is missing on the target assessment.
9. Resident has end-stage disease (J5c = checked) or the status of end-stage disease is unknown (J5c = missing) on the target assessment.
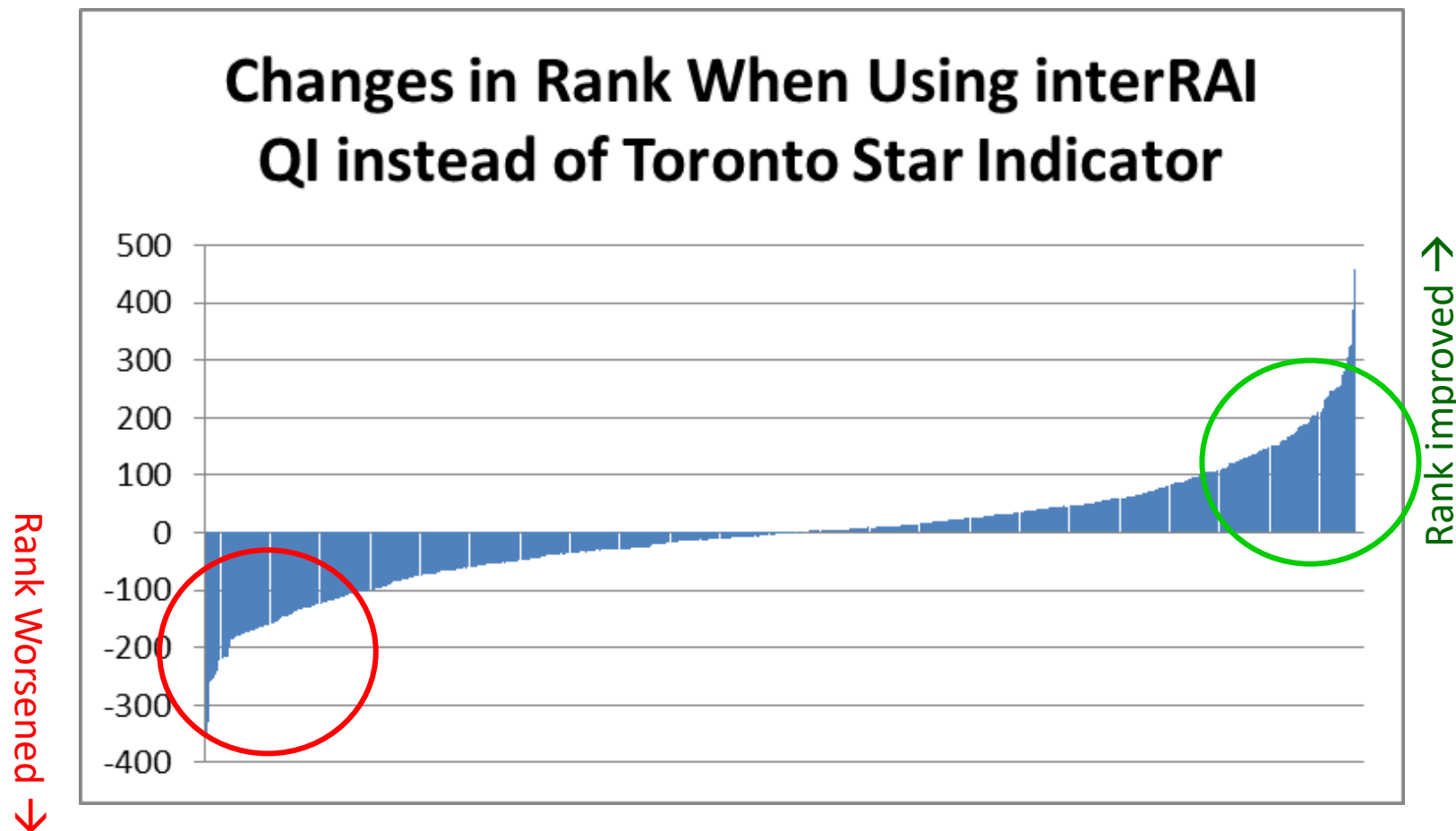The resident is receiving hospice care (P1ao = checked) or hospice status is unknown (P1ao = missing) on the target assessment.

STRATIFICATION:
CMI

Do Methodological Issues Matter?

Changes in Rank When Using interRAI QI instead of Toronto Star Indicator

Changes in inappropriate anti-psychotic use through collaborative interventions
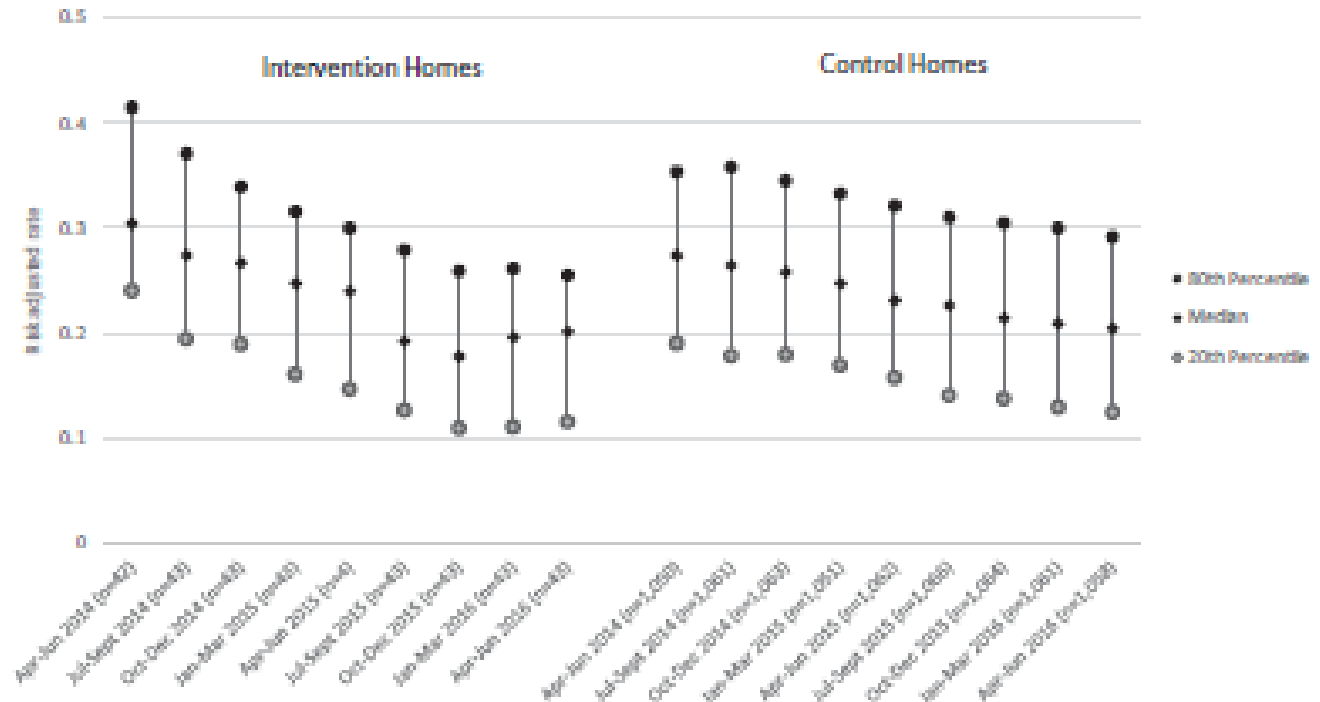

Fig. 1. Proportion of residents in intervention and control homes triggering risk adjusted quality indicator for potentially inappropriate antipsychotic use.

Historical Trends of Antipsychotic Medications received by assessed residents, by Facility type and year
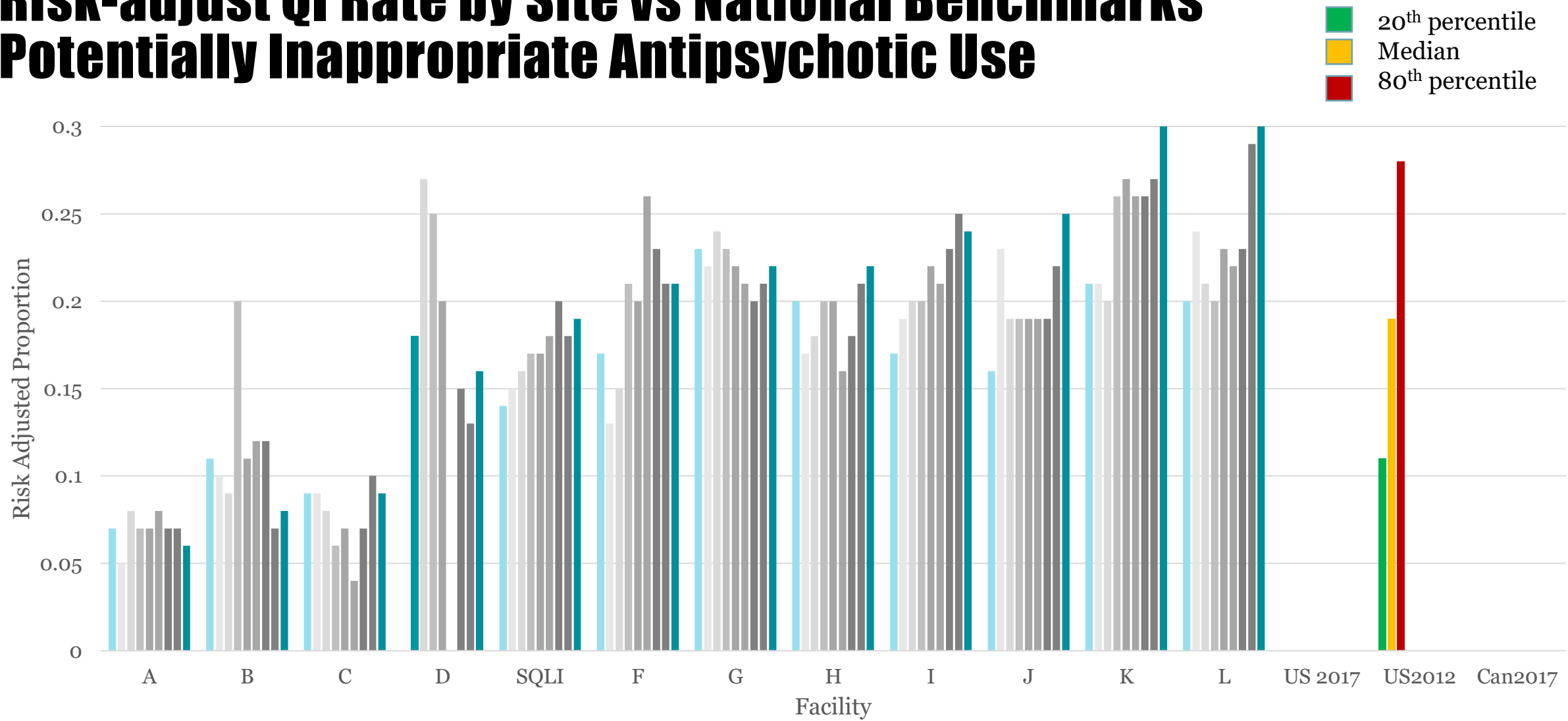
Risk-adjust QI Rate by Site vs National Benchmarks Potentially Inappropriate Antipsychotic Use

Risk-adjust QI Rate by Site vs National Benchmarks Potentially Inappropriate Antipsychotic Use

Risk-adjust QI Rate by Site vs National Benchmarks Potentially Inappropriate Antipsychotic Use

Legend:
- 20th percentile (green)
- Median (yellow)
- 80th percentile (red)

Y-axis: Risk Adjusted Proportion (0, 0.05, 0.1, 0.15, 0.2, 0.25, 0.3)

X-axis: Facility (A, B, C, D, SQLI, F, G, H, I, J, K, L, US 2017, US2012, Can2017)

Good

interRAI™

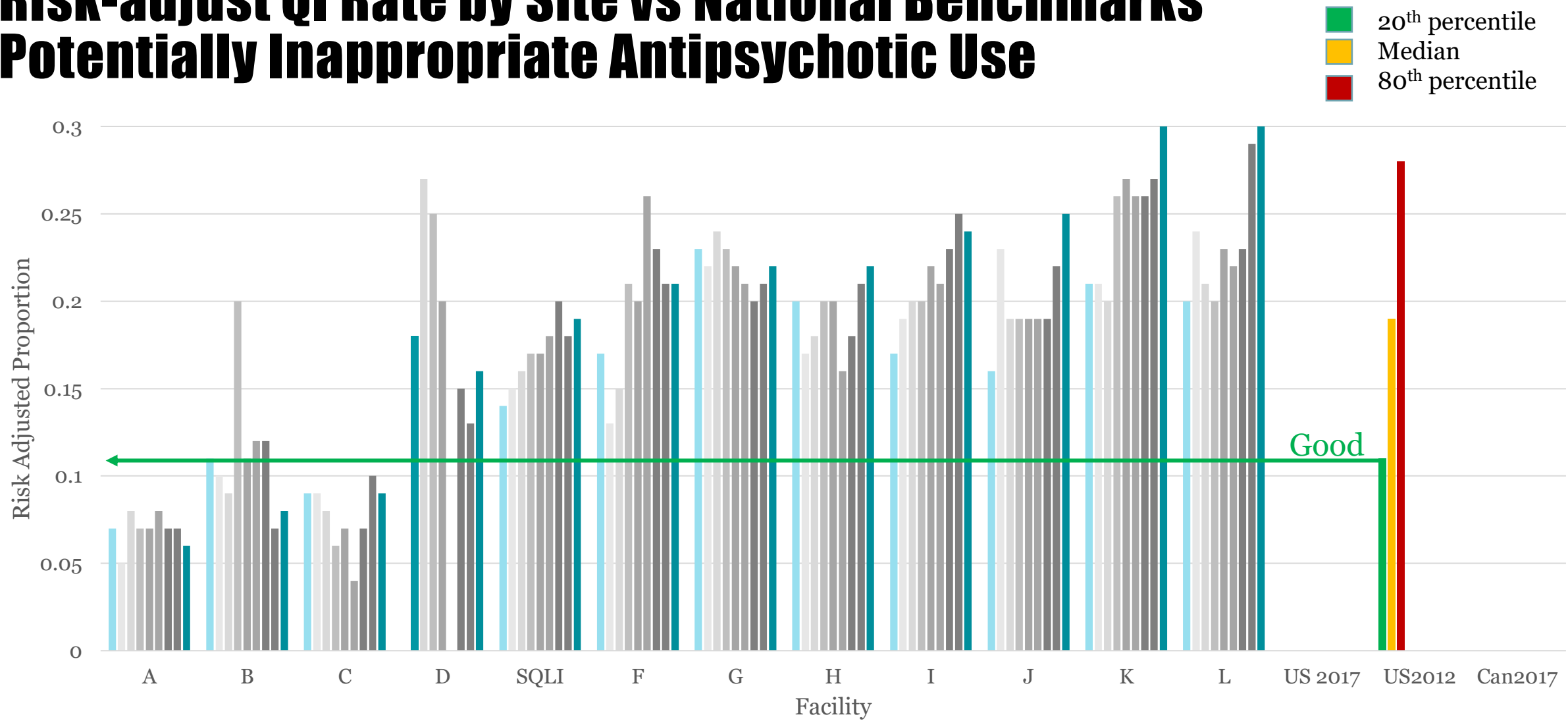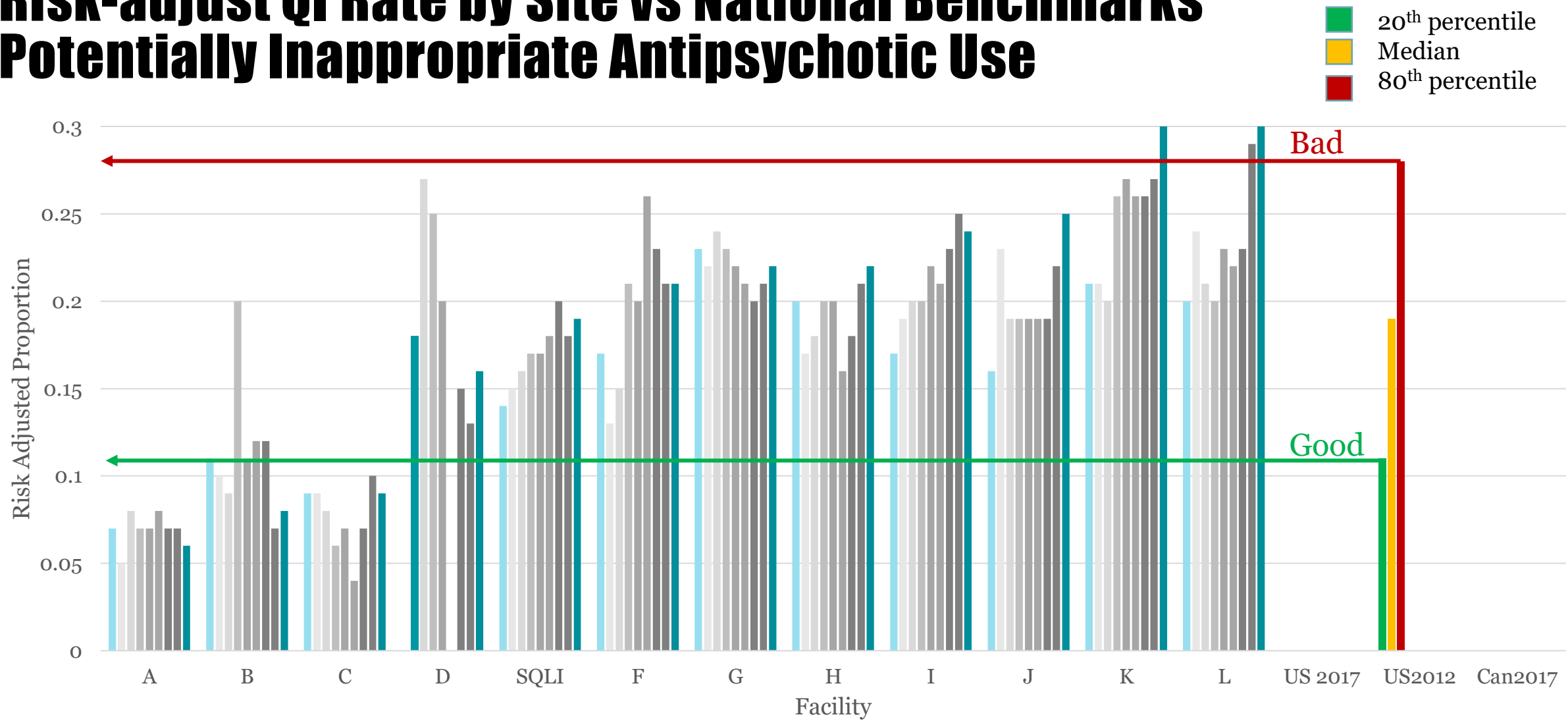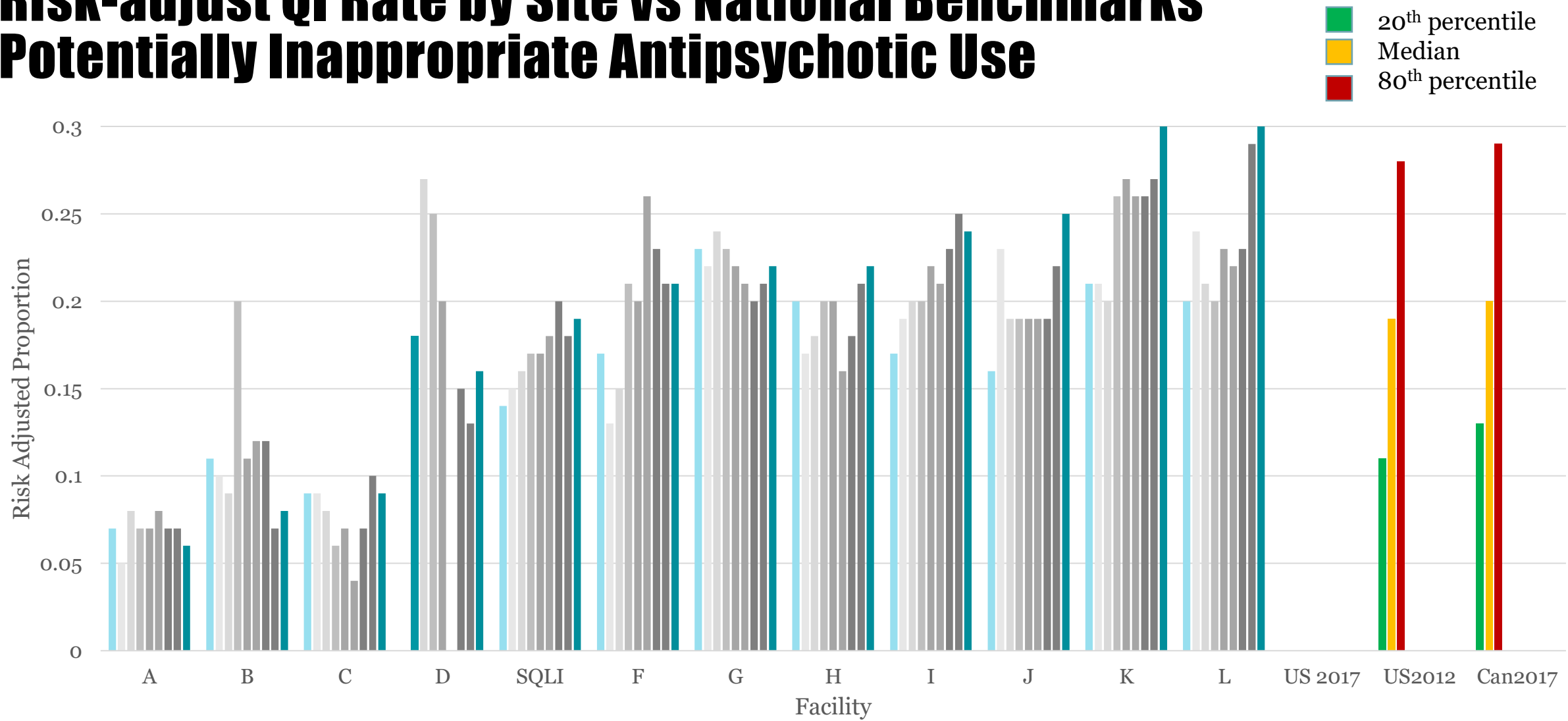UNIVERSITY OF WATERLOO | FACULTY OF HEALTH

Risk-adjust QI Rate by Site vs National Benchmarks Potentially Inappropriate Antipsychotic Use

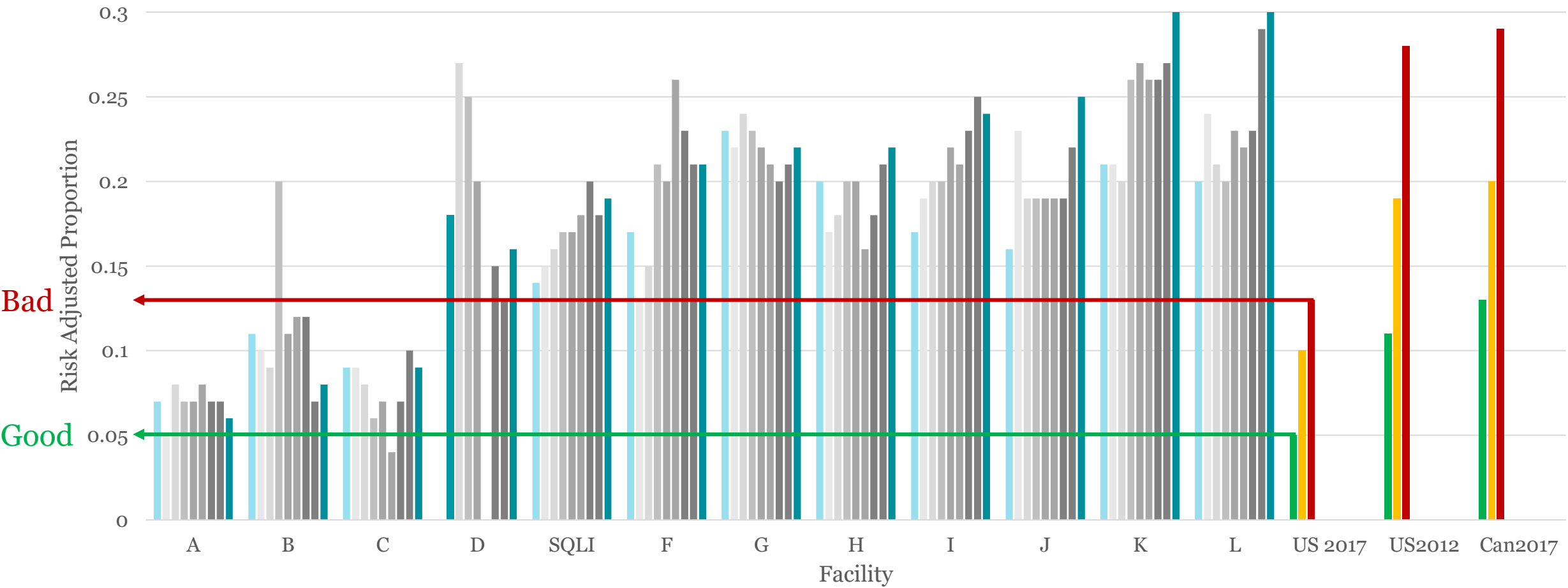# Risk-adjust QI Rate by Site vs National Benchmarks Potentially Inappropriate Antipsychotic Use

Legend:
- 20th percentile (green)
- Median (yellow)
- 80th percentile (red)

Y-axis: Risk Adjusted Proportion
X-axis: Facility (A, B, C, D, SQLI, F, G, H, I, J, K, L, US 2017, US2012, Can2017)

Risk-adjust QI Rate by Site vs National Benchmarks Potentially Inappropriate Antipsychotic Use

Legend:
- 20th percentile
- Median
- 80th percentile

Y-axis: Risk Adjusted Proportion (0 to 0.3)
X-axis: Facility (A, B, C, D, SQLI, F, G, H, I, J, K, L, US 2017, US2012, Can2017)

Bad — 0.13 (red line)
Good — 0.05 (green line)

interRAI™

UNIVERSITY OF WATERLOO | FACULTY OF HEALTH

Thank you

Questions/Comments?