TESTING PERFORMANCE MEASURES IDENTIFIES GAPS IN JUVENILE IDIOPATHIC ARTHRITIS (JIA) CARE

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BACKGROUND

- The Arthritis Alliance of Canada (AAC)[1] recently developed six system-level performance measures for inflammatory arthritis.
- The measures capture timely access to rheumatology care and treatment.
- This project is part of a larger study to test the feasibility of reporting on the measures in different data sources (see also abstract THU0646 on RA).
- Juvenile Idiopathic Arthritis (JIA) is the most prevalent type of inflammatory arthritis in pediatric populations and timely diagnosis, treatment, and ongoing care are associated with improved outcomes.

OBJECTIVES

Test the following AAC JIA Performance Measures (PMs) in JIA:

1. Percentage of patients with new onset JIA with at least one visit to a pediatric rheumatologist in the first year of diagnosis.
2. Percentage of patients with JIA under rheumatology care seen in follow-up by a pediatric rheumatologist at least once per year.

METHODS

Validated JIA case algorithms[2] were used to identify cases from provincial health administrative databases in the Canadian province of Manitoba (Manitoba Population Research Data Repository at the Manitoba Centre for Health Policy) in patients <16 years with ≥6 months of health insurance coverage between 01/04/2005 and 31/03/2015:

Case algorithm: 1 hospitalization separation with an International Classification of Disease (ICD)-10-CA code for JIA (M05.X, M06.X, M08.X, M45.X) or ≥2 physician billing claims (ICD-9 codes 714.x or 720.x) for JIA ≥8 weeks apart within 2 years.

Pediatric rheumatologists: A physician was identified as a pediatric rheumatologist if he/she had ≥25 visits for individuals ≤ 16 years of age in a year and at least 50% of those visits were for JIA. This identified 5 physicians in the province.

PM1: A 3-year washout period prior to the first JIA code was used to estimate the percentage of incident JIA patients with ≥1 visit to a pediatric rheumatologist within the 1st year. Due to the washout period, PM1 is reported between 2008-2015.

PM2: Patients were considered "under rheumatology care" once seen at least twice by a pediatric rheumatologist and for the remainder of follow-up. PM2 was computed by comparing observed and expected yearly follow-up visits from the 1st eligible year (2006). The proportion of patients with gaps in care of >12 and >14 months between consecutive rheumatology visits was also calculated.

RESULTS

Sample: 194 incident cases of JIA were diagnosed between 01/04/2008 and 03/31/2015
Median age: 9.1 years (Q1 5.5, Q3 12.8), 71% female.

Table 1. Number of incident JIA cases who saw a pediatric rheumatologist within the first year

Fiscal Years[1]	JIA incident cases	Percentage seen by a pediatric rheumatologist within a year
2008/2010	50	80%
2010/2012	54	81%
2012/2014	55	78%
2014/2015	35	51%

[1] Some years combined due to small sample sizes, n<5

Table 2. Proportion of JIA follow-up visits by a pediatric rheumatologist using fixed 12-month intervals

	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15
Observed	63	62	74	94	82	72	70	66	68
Expected	76	81	101	120	114	116	123	116	118
Percent	83%	77%	73%	78%	72%	62%	57%	57%	58%

Table 3. Number of gaps in JIA rheumatology care using either a 12 month or a 14 month interval

Number of Gaps	>12 months	>14 months
0	94 (37%)	157 (62%)
1	133 (52%)	86 (34%)
2+	28 (11%)	12 (5%)

Table 4. Percentage of gaps in JIA rheumatology care by length of follow-up in years

Length of follow-up in years (N)	Number of gaps >12 months		Number of gaps >14 months	
	0	**1+**	**0**	**1+**
1-2 (89)	52%	48%	81%	19%
3 (31)	26%	74%	48%	52%
4 (33)	27%	73%	52%	48%
5 (19)	32%	68%	63%	37%
6 (28)	32%	68%	50%	50%
7 (25)	40%	60%	60%	40%
8-9 (30)	20%	80%	40%	60%

CONCLUSIONS

- This is the first time that the AAC PMs have been operationalized and tested in JIA.
- There appear to be gaps in the proportion of incident cases of JIA seen by pediatric rheumatologists in Manitoba, especially in latter years. This may be explained by changes in the pediatric rheumatology workforce during this period.
- While the proportion of JIA patients seen yearly also appears to have declined over time, this may be due to having more patients in the cohort with longer available follow-up who are more likely to have gaps between pediatric rheumatology visits as opposed to a calendar year effect.
- Further study is warranted to examine these possible gaps and their clinical implications on patient outcomes.

LIMITATIONS

- Due to small sample sizes, some PMs had to be reported over more than 1 year.
- The absence of a pediatric rheumatologist identifier in the administrative dataset was a challenge that required developing an algorithm to identify probable pediatric rheumatologists.
- The use of a 14 month gap period may be more clinically realistic given billing and booking practices but it is not reportable on a yearly basis.

REFERENCES

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