

Comprehensive preventive care assessments for adults with intellectual and developmental disabilities

Part 1: How do we know if it is happening?

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Abstract

Objective To determine how best to measure the provision of comprehensive preventive care assessment of adults with intellectual and developmental disabilities (IDD).

Design Cross-sectional study.

Setting Ontario.

Participants Adults with IDD between 40 and 64 years of age in 2013 and 2014.

Main outcome measures *Health examination* was defined using the Ontario Health Insurance Plan billing data fee code A003 (with diagnostic code 917 or 319) or fee code K131, and the Primary Care Quality Composite Score (PCQS), a measure combining 7 different screening maneuvers (lipid, glucose, breast cancer, cervical cancer, colorectal cancer, eye, and hemoglobin A_{1c} screening), was identified using administrative health data.

Results A total of 28 825 adults with IDD were identified in 2013 and 2014. Overall, 12.1% of adults with IDD received a health examination; 51.2% received a high (≥ 0.6) PCQS. Male patients were more likely to have received all of their eligible screening maneuvers if they had had a health examination compared with female patients (odds ratio of 5.73 vs 3.99, respectively).

Conclusion Less than 60% of adults with IDD appear to be receiving comprehensive preventive care. Future studies assessing the quality of preventive care received by adults with IDD should combine health examination billing codes and the PCQS.

Editor's key points

▸ Adults with intellectual and developmental disabilities (IDD) face health disparities. Studies have supported the use of health examinations as an appropriate and effective method to ensure age- and sex-specific screening is done in this population, and the 2018 Canadian guidelines for primary care of adults with IDD affirm the critical role of preventive care in reducing the health inequities experienced by patients with IDD.

▸ This study aimed to determine how best to measure the provision of comprehensive preventive care assessments to adults with IDD using administrative health data. This was done by examining the relationship between physician billing for a health examination or a personal health visit and patients receiving a high Primary Care Quality Composite Score.

▸ The results of this study demonstrate that adults with IDD, especially male patients, who are receiving health examinations are more likely to be up to date with all recommended screening. More patients were identified as receiving good-quality preventive care when both physician billing data and completion of eligible screen maneuvers were combined.

Points de repère du rédacteur

► Les personnes qui ont des déficiences intellectuelles et développementales (DID) risquent de faire face à des disparités sur le plan de la santé. Certaines études indiquent que l'examen de santé est une méthode efficace et appropriée pour s'assurer qu'on fait un dépistage qui tient compte de l'âge et du sexe chez ces personnes, et les directives canadiennes de 2018 pour les soins primaires de ces adultes réaffirment le rôle critique de la prophylaxie pour réduire les iniquités sur le plan de la santé que vivent ces personnes.

► Cette étude voulait déterminer, à l'aide de données sanitaires administratives, la meilleure façon d'évaluer les soins prophylactiques que reçoivent les adultes qui ont des DID. Pour ce faire, on a vérifié la relation qui existe entre la facturation du médecin pour un examen de santé ou pour une simple consultation et un résultat élevé du patient au *Primary Care Quality Composite Score*.

► Les résultats de cette étude montrent que lorsqu'ils sont l'objet d'examen de santé, les adultes qui ont des DID, surtout les hommes, sont plus susceptibles d'être à jour en ce qui concerne l'ensemble des dépistages recommandés. On a par ailleurs observé qu'en combinant la facturation du médecin et l'administration des dépistages recommandés, on trouvait que plus de patients recevaient des soins prophylactiques de qualité.

Évaluation des soins prophylactiques que reçoivent les adultes qui ont des déficiences intellectuelles ou développementales

Première partie: Comment pouvons-nous être sûrs qu'ils les reçoivent?

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Résumé

Objectif Déterminer la meilleure façon d'évaluer l'ensemble des soins prophylactiques que reçoivent les adultes ayant des déficiences intellectuelles et développementales (DID).

Type d'étude Une étude transversale.

Contexte L'Ontario.

Participants Des adultes ayant des DID qui avaient entre 40 et 64 ans en 2013 et 2014.

Principaux paramètres à l'étude On s'est servi des données du code de facturation A003 de l'*Ontario Health Insurance Plan* (avec les codes de diagnostic 917 ou 319) ou de son code de facturation K131 pour définir le terme Health examination; et de données sanitaires administratives pour définir le *Primary Care Quality Composite Score (PCQS)*, qui combine 7 modes différents de dépistage (portant sur les lipides, le glucose, le cancer du sein, le cancer du col, le cancer colorectal, la vision et l'hémoglobine_{1c}).

Résultats Un total de 28 825 adultes ayant des DID ont été identifiés en 2013 et 2014. Dans l'ensemble, 21,1 % d'entre eux ont eu un examen de santé; 51,2 % ont obtenu un score élevé ($\geq 0,6$) au PCQS. Les hommes étaient plus susceptibles que les femmes d'avoir reçu toutes les formes admissibles de dépistage lorsqu'ils avaient eu un examen de santé (rapport de cotes 5,73 c. 3,99, respectivement).

Conclusion Il semble que moins de 60 % des adultes qui ont des DID reçoivent des soins prophylactiques complets. Les études futures évaluant la qualité des soins prophylactiques dont bénéficient les adultes ayant des DID devraient utiliser les codes de facturation pour examens de santé en combinaison avec le PCQS.

— Methods —

In 2006, a group of Canadians, having recognized the health disparities faced by adults with intellectual and developmental disabilities (IDD), developed consensus guidelines for the primary care of adults with IDD.¹ Studies in Australia² and Wales³ have supported the use of health examinations as an appropriate and effective method to ensure age- and sex-specific screening is done in this population. In keeping with these findings, the Canadian consensus guidelines were revised in 2011. The revision recommended the following:

[Physicians should] apply age- and sex-specific guidelines for preventive health care as for adults in the general population. Perform an annual comprehensive preventive care assessment including physical examination and use guidelines and tools adapted for adults with [I]DD.⁴

Annual examination is no longer the current recommended practice for the apparently healthy general population.⁵ In the April 2018 issue of *Canadian Family Physician*, the IDD guideline group reaffirms the critical role of preventive care in reducing the continued inequities in health experienced by this subset of Canadians (page 254).⁶

But how can we know if guideline-recommended care is practised? Historically, age- and sex-specific preventive care maneuvers were performed during an annual medical examination. The Ontario Health Insurance Plan provides different codes that physicians can use to be compensated for having performed such an examination, including A003 (general assessment) and, since January 1, 2013, K131 (periodic health visit). These billing codes do not, however, guarantee that key age- and sex-specific preventive care maneuvers were performed during those visits. A better indicator of the quality of preventive care is provided by determining the completion of recommended age- and sex-specific screening. Physician-billing data have been assessed and validated as one source with which to monitor care provision in many Canadian provinces, including Ontario.⁷⁻¹¹ Most of these indicators have been used separately, but recently composite indicators to assess overall quality of primary care delivery have also been developed.^{11,12} The Primary Care Quality Composite Score (PCQS) developed by Dahrouge et al¹² combines 7 screening maneuvers that are identified as either up to date or not. A score is created based on the proportion of eligible maneuvers that are up to date.

The objective of this study was to determine how best to measure the provision of comprehensive preventive care assessments to adults with IDD using administrative health data. This was done by examining the relationship between physician billing for a health examination or a personal health visit and patients receiving a high PCQS.

Study population

The study population was a subset of the IDD study group used in previous work.¹³ It comprised community-dwelling adults with IDD between 40 and 64 years of age living in Ontario in 2013 and 2014. The group is based on the Health Care Access Research and Developmental Disabilities cohort,¹⁴ which was created by linking administrative health data held at the Institute for Clinical Evaluative Sciences (ICES) with disability income support data from the Ontario Ministry of Community and Social Services. The study population was restricted to those 40 to 64 years of age because the PCQS focuses on maneuvers recommended after age 40.

Outcomes

Health examination. *Health examination* was defined using Ontario Health Insurance Plan fee code A003 with diagnostic code 917 (apparently healthy adults) or 319 (adults with IDD). Starting January 1, 2013, the fee code for the health examination for apparently healthy adults was changed to K131. If an individual received either A003 (with diagnostic code 917 or 319) or fee code K131 between April 1 and March 31 of the fiscal year, they were considered to have had a health examination. **Table 1** provides further definition of these codes.¹⁵

The PCQS. To calculate the PCQS for an individual, various administrative health data sets held at ICES are used to code all eligible screening maneuvers listed in **Table 2** as either up to date or not. For example, a 50-year-old man would be considered up to date with lipid screening if he had had a lipid test that year or within the previous 5 years. He would not be considered up to date with his glucose screening if it had been 4 years since his last glucose test. The PCQS was categorized into clinically meaningful categories:

- 0 meant no eligible screening was completed;
- between 0 and 0.6 meant that fewer than 2 eligible screening maneuvers were completed;
- 0.6 to less than 1 meant that 2 or more eligible screening maneuvers were completed; and
- 1 meant all eligible screening maneuvers were completed.

These categories were further collapsed into high and low PCQS; a high PCQS was a score of 0.6 or greater.

Statistical analyses

Data sets were linked using unique encoded identifiers and analyzed at ICES. All analyses were conducted using SAS, version 9.4. The proportion of adults with IDD who received a high PCQS, a health examination, a high PCQS or a health examination, and a high PCQS and a health examination were plotted by sex. Logistic regression was then used to determine the odds of

Table 1. Definitions of OHIP health examination fee codes

OHIP FEE CODE	DEFINITION*
A003	A general assessment: a family practice service provided somewhere other than the patient's home that includes a full history (including medical, family, and social history) and, except for breast, genital, or rectal examination where refused or not medically indicated, an examination of all body parts
A003 with diagnostic code 917	A general assessment billable annually for a health examination of an adolescent or adult (< 65 y)
A003 with diagnostic code 319	A general assessment for a person with IDD
K131 (in use after January 1, 2013)	A periodic health visit: a general assessment of an individual who has no apparent physical or mental illness and which takes place after the second birthday. It might include instructions to the patient or parents regarding health care

IDD—intellectual and developmental disability, OHIP—Ontario Health Insurance Plan.

*All definitions are from the Ontario Ministry of Health and Long Term Care *Resource Manual for Physicians*.¹⁵

Table 2. Components and eligibility requirements for the PCQS

SCREENING	ELIGIBILITY	INELIGIBILITY	GUIDELINES
Lipid	Men > 40 y	With diabetes	Every 5 y
	Women > 50 y		
	Patients with diabetes > 40 y	Without diabetes	
Glucose	Men and women > 40 y	With diabetes	Every 3 y
Cervical cancer	Women 20-69 y	Previous diagnosis of cervical, ovarian, or endometrial cancer, or hysterectomy	Every 3 y
Breast cancer	Women 50-69 y	Previous diagnosis of breast cancer	Every 2 y
Colorectal cancer	Men and women 50-74 y	Previous diagnosis of colorectal cancer, or colectomy or colorectal exclusion	FOBT every 2 y, sigmoidoscopy every 5 y, or colonoscopy every 10 y
Eye examination	Patients with diabetes > 40 y	Without diabetes	2 tests every 2 y
HbA _{1c}	Patients with diabetes > 40 y	Without diabetes	4 tests every 2 y

FOBT fecal occult blood test, HbA_{1c}—hemoglobin A_{1c}, PCQS—Primary Care Quality Composite Score.

having a health examination for each PCQS level by sex. Those without IDD were excluded from the analysis presented here.

Ethics approval

Ethics approval was received from the Queen's University Health Sciences Research Ethics Board, and access to data was approved by an ICES review. No personal identifiers were included in the data, and cell counts of 5 or less have been suppressed.

— Results —

A total of 28825 adults with IDD were identified in the 2013 to 2014 fiscal year; 54.4% were male and 45.6% were female. The mean (SD) age was 50.83 (6.61) years for male patients and 50.86 (6.61) years for female patients.

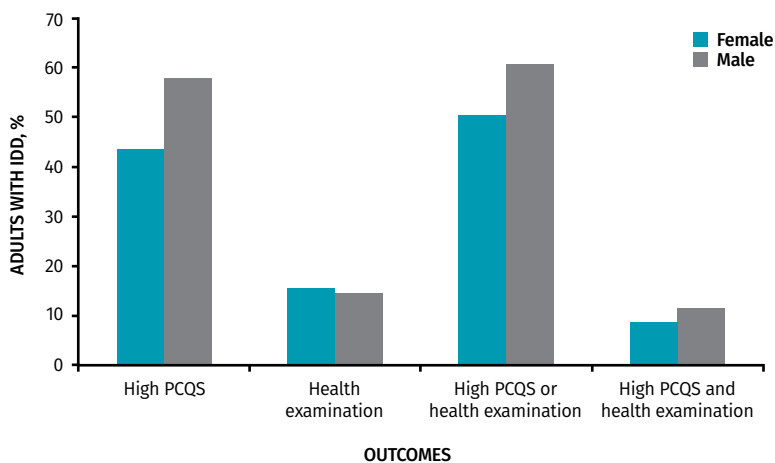
Overall 12.1% of adults with IDD received a health examination and 51.2% received a high (≥ 0.6) PCQS; 56% of adults with IDD either had a high PCQS or had had a health examination, or both. **Figure 1** shows the proportion for each outcome by sex.

Figure 2 shows the odds of having a health examination for each PCQS category. Adults with IDD who had had a health examination were more likely to have had all or most of their screening maneuvers completed (PCQS ≥ 0.6) than those who did not have a health examination were. Male patients were more likely to have received all of their eligible screening maneuvers if they had had a health examination compared with female patients (odds ratio of 5.73 vs 3.99, respectively).

— Discussion —

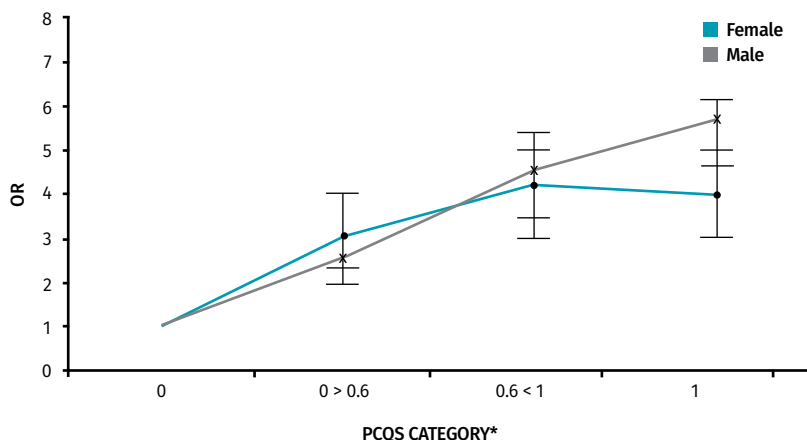
While relatively simple, these analyses help fill an important gap in the literature by providing insight into how to use administrative data to determine if adults with IDD are receiving age- and sex-specific screening. The results of the logistic regression demonstrate that adults with IDD, especially male patients, who are receiving health examinations are more likely to be up to date with all recommended screening. An extension of this study using the same data has demonstrated that a health examination is strongly associated with receiving

Figure 1. Proportion of adults with IDD who achieved each outcome by sex in fiscal year 2013 to 2014



IDD—intellectual and developmental disability, PCQS—Primary Care Quality Composite Score.

Figure 2. Odds of having a health examination by PCQS category for adults with IDD by sex in fiscal year 2013 to 2014



IDD—intellectual and developmental disability, OR—odds ratio, PCQS—Primary Care Quality Composite Score. *A PCQS ≥ 0.6 is considered high and represents ≥ 2 eligible screening maneuvers having been completed.

comprehensive preventive care in the general population as well.¹³ Females with IDD who received a health examination were more likely to have received most as opposed to all of their eligible screening. This is most likely owing to the fact that females with IDD are less likely to have had a Papanicolaou test or mammography, therefore limiting their ability to receive all of their eligible screening maneuvers.¹⁶ This finding is in keeping with past research demonstrating the benefits of a dedicated visit to attend to the preventive care needs of the population with IDD. A 2006 Welsh study revealed the ability of the health check to identify previously undiagnosed health problems among adults

with IDD.³ Subsequently, a cluster randomized trial in Australia demonstrated that structured comprehensive health assessments in adults with IDD led to the early identification of health issues and prevention of more complex difficulties.²

The results in **Figure 1** support combining indicators to identify who is receiving comprehensive preventive care; using specific physician visit billings or screening maneuvers alone would likely result in a proportion of the population being misclassified as not receiving comprehensive preventive care. Only 12.1% of adults with IDD were identified as having a health examination and 51.2% were identified as having a high PCQS, whereas

56.0% were identified when the 2 measures were combined. That is an increase of 1386 people who were in all likelihood receiving good-quality primary care who would have been misclassified.

Limitations

The analyses presented here are relatively simple and descriptive in nature. Further, this study relied on administrative data collected in Ontario, and might not be generalizable to other parts of Canada.

Conclusion

Regardless of how it is measured, according to administrative health data, less than 60% of adults with IDD appear to be receiving comprehensive preventive care. The strong association noted between having a higher PCQS and having received a health examination suggests that recommending regular health checks for this population could improve the overall quality of the preventive care they receive through primary care. Future studies assessing the quality of preventive care received by adults with IDD should combine health examination billing codes and the PCQS.

Ms Smith was a master's student in the Department of Public Health Sciences at Queen's University in Kingston, Ont, at the time of the study and is a methodologist at the Institute for Clinical Evaluative Sciences at the University of Ottawa in Ontario and the Ottawa Hospital Research Institute. **Dr Ouellette-Kuntz** is an epidemiologist and Professor in the Department of Public Health Sciences and the Institute for Clinical Evaluative Science at Queen's University. **Dr Green** is Professor in the Department of Public Health Sciences and the Department of Family Medicine, Head of the Department of Family Medicine, Senior Adjunct Scientist at the Institute for Clinical Evaluative Sciences, past Director of the Centre for Health Services and Policy Research, and Associate Director of the Centre for Studies in Primary Care, all at Queen's University.

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Contributors

Ms Smith completed the analyses and wrote the article. **Drs Ouellette-Kuntz** and **Green** assisted with analyses and writing the article and were the lead author's supervisors for this project.

Competing interests

None declared

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