EP News: Quality Improvement and Outcomes: Defining and Measuring Atrial Fibrillation Quality Indicators in Canada

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Defining and measuring atrial fibrillation quality indicators

Understanding the quality of atrial fibrillation (AF) care delivery is critically important for identifying care gaps, targeting improvement efforts, and guiding resource allocation. In this effort, several professional societies have defined a series of AF quality indicators (QIs) that can be used to monitor adherence to evidence-based processes and AF-related outcomes. In Canada, this effort has been led by the Canadian Cardiovascular Society (CCS). On behalf of the CCS AF QI Working Group, in this issue of *Heart Rhythm Journal,* we summarize our process for defining and measuring AF QIs, present 2 recent publications reporting national data on key AF Qis, and discuss challenges encountered and future directions.

In 2016, the Working Group published an initial report identifying and defining priority QIs in 3 distinct categories: *access to care, treatment, and outcomes* (Can J Cardiol 2016;32:1566, PMID 27297003). An iterative process resulted in the selection of 3 priority QIs: (1) proportion of AF patients at high risk for stroke receiving an oral anticoagulant; (2) annual rate of stroke; and (3) annual rate of major hemorrhage. A feasibility assessment followed, which determined that none of the QIs as defined could be adequately measured with existing data sources. In particular, Canada lacks a nationally standardized data collection system for ambulatory care and prescription medications. Since this initial effort, the Working Group reconvened, confirming the relevance of the 3 original QIs and added 2 QIs (CJC Open 2019;1:198, PMID 32159107): (4) proportion of patients with nonvalvular atrial fibrillation (NVAF) in whom stroke risk was quantified; and (5) annual rate of incident heart failure (HF) hospitalization. An environmental scan determined the 5 QIs could be measured in a limited capacity using a national inpatient care database.

Trends in rates of incident AF/AFL hospitalizations, stroke risk, and mortality

Sandhu et al (Can J Cardiol 2021;37:310–318, PMID 32360794) examined trends in incident NVAF hospitalizations, stroke-risk profiles, and associated in-hospital mortality between 2006 and 2015. A total of 578,947 patients were hospitalized with incident NVAF in any diagnostic field. Median age was 77 years (interquartile range 68–84), 82% were ≥65 years, 54% were men, and 69% had a CHA2DS2-Vasc score ≥3. The overall age- and sex-standardized rate of NVAF hospitalization was 315 per 100,000 population and declined by 2% per year ($P < .001$). The majority of patients were at high risk for stroke, without significant trends in risk level. The average adjusted in-hospital mortality was 8.80 per 100 patients (95% confidence interval [CI] 8.80–8.81), with a 2% annual decline in rate over the study period ($P < .001$). *The authors conclude that further investigations are needed evaluating whether changes in AF risk factors, emergency department practice patterns, admission standards, and extent of outpatient AF care may contribute to declining hospitalization rates. Determining risk of stroke for patients with AF, a priority QI, demonstrates the majority of patients are at high risk. Hospitalization provides an important opportunity to initiate oral anticoagulant therapy or document reasons for contraindication.*

Ten-year trends in stroke, major bleeding, and HF

Wilton et al (CJC Open, https://doi.org/10.1016/j.cjco.2021.01.003) examined trends in 1-year incidence of stroke/systemic embolism (SSE), major bleeding, and HF for patients discharged after a first hospitalization with incident NVAF. The study period and cohort characteristics were similar to the study by Sandhu et al. Within 1 year of discharge, 3.5% were hospitalized for SSE, 1.6% for major bleeding, and 8.6% for new HF. Over the study period, risk-adjusted yearly rates of incident SSE (risk ratio 0.99l 95% CI 0.98–0.99; $P = .002$) and HF (risk ratio 0.99; 95% CI 0.99–1.00; $P = .001$) declined by ≤1% absolute, while major bleeding remained unchanged (risk ratio 1.00; 95% CI 0.99–1.00; $P = .28$). *The authors conclude that efforts to study process-based QIs, with increased focus on HF prevention, are needed.*

These publications illustrate incremental progress in our ability to assess the quality of AF care in Canada. However, important challenges in the meaningful measurement of QIs remain, particularly with the collection and sharing of relevant data across provincial boundaries, and a lack of resources for quality measurement and improvement. The CCS continues to press Canada's federal government to better fund cardiovascular QI measurement and reporting.

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