

Applying the Triple Aim to the Quality Agenda for Anticoagulation Care

Deborah Cohen, MA, PhD Candidate

The Institute for Healthcare Improvement's Triple Aim Framework has been gaining ground since its launch in 2008 as an innovative vision for health system reform. The framework articulates a set of goals in which health system costs and healthcare quality must be balanced against the needs of the population and improved health outcomes for all.¹ Since its inception, this balanced approach to health and healthcare has been a source of debate, striking a nerve amongst healthcare leaders, clinicians providing care, and the patients whose healthcare needs must be met.² Is it truly feasible to reduce costs while improving the patient care experience? Can we move away from the deeply ingrained biomedical model to an evolved one that espouses the principles of population health and health equity?

Since 2008, a groundswell of health organizations in the United States and Canada have been taking up the vision of the Triple Aim with increasing momentum.^{2,3} To provide guidance to organizations pursuing the balanced Triple Aim approach, Berwick et al¹ identified three preconditions for success. First, Berwick et al¹ called upon the need for the "existence of an 'integrator', able to focus and coordinate services to help the population on all three dimensions at once." A successful integrator is positioned within the healthcare system to help make connections between communities and their community resources, between patients and their providers of care, and amongst insular health organizations to ensure a successful continuum of care. Second, the population of concern must be defined. As Berwick et al¹ pointed out, "a population need not be geographic"; instead a population or subpopulation is often

best defined as a group of individuals with a specific set of needs that must be addressed in order to provide the highest quality care. Third, Berwick et al¹ suggested that budget constraints and clear policy levers must be identified that insist upon principles of health equity. It is the fundamental goal of equity that becomes a lens for understanding quality and access to care to ensure the optimal patient experience.

Over the last decade, these three Triple Aim preconditions—the role of the successful integrator, the defined population, and equitable care—have been examined in the anticoagulation therapy and management research. The literature, however, remains somewhat unbalanced in favor of the first two preconditions while leaving the issue of equity relatively unexplored. A considerable body of research has focused on optimal 'integrative' models for oral anticoagulant management, by exploring cost effectiveness, quality of care, and patient outcomes for anticoagulation services in physician offices, in dedicated anticoagulation clinics, and in patient self management.^{4–6} A second stream of research has focused on defining the appropriate patient population for oral anticoagulation therapy based on specific clinical needs.^{7,8} This research has demonstrated that oral anticoagulants are highly efficacious for patients with conditions such as valvular heart disease, atrial fibrillation, and venous thrombo-embolism. The final Triple Aim precondition that is grounded in equitable care for all, however, remains the least well studied. In order to achieve a balance in the anticoagulation management literature that supports all three preconditions for the Triple Aim, a further examination of equity in access and quality of care is required.

In this issue of JAHA, Rodriguez and colleagues⁹ provide an important contribution to the equity and quality literature by examining potential disparities in care amongst limited English proficient patients at an Anticoagulant Management Clinic at the Massachusetts General Hospital from 2009 to 2010. Given that approximately 20% of the US population now speaks a language other than English at home, and the fact that limited English proficiency has been associated with poor anticoagulation control, the issue of language barriers and their contribution to inequitable anticoagulant management is increasingly important.⁹

Warfarin, a commonly prescribed anticoagulant, has a narrow therapeutic range that requires careful monitoring and management.⁸ Poor medication management can have particularly dire consequences if anticoagulant complications

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From the Department of Population Health, University of Ottawa, Ottawa, Ontario, Canada; and the Canadian Institute for Health Information, Ottawa, Ontario, Canada.

Correspondence to: Deborah Cohen, MA, PhD Candidate, 35 Soho Crescent, Ottawa, ON, Canada. E-mail: dcohen@cihi.ca

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such as intracranial hemorrhage arise.¹⁰ Rodriguez et al⁹ studied the relationship between limited English proficiency and two intermediate outcome measures, time in therapeutic range (TTR) and time in danger range (TDR), to determine whether language barriers could explain differences in patient outcomes.¹¹ Although significant differences were not found for TDR, the study did demonstrate that patients with limited English proficiency had 50% higher odds of spending time outside of the optimal therapeutic range (TTR) (OR 1.5, 95% CI (1.1, 2.2) as compared to English-fluent patients, after adjusting for other socio-demographic and clinical factors. These study results are consistent with previous research linking language barriers and poor health outcomes.⁹ The disparity in TTR identified by Rodriguez et al⁹, as a result of language barriers, represents a potentially important threat to the Triple Aim for anticoagulant management clinics, producing unacceptable inequities in the quality of care and patient outcomes.

One of the most novel aspects of the study was its examination of the use of surrogates to bridge the communication gap between patient and care provider. Clinically trained and untrained surrogates are used to assist with communication barriers, health literacy, and cultural competence across many forms of clinical care, however research has demonstrated that the use of surrogates requires careful balance, training and cooperation among all parties.^{12,13} Results from Rodriguez et al's⁹ study showed that patients who used communication surrogates had poorer outcomes overall. Surrogate-supported patients spent less time in TTR and more time in TDR as compared to patients who did not use a surrogate, regardless of the language spoken. These findings point to the need for future anticoagulant management research that attempts to disaggregate the effectiveness of trained and untrained communication surrogates to more fully articulate patient communication barriers and enablers for those with limited English proficiency.

In addition, Rodriguez et al⁹ pointed out that patients who used communication surrogates were also more likely to be exposed to a broader set of vulnerabilities that could have contributed to the suboptimal TTR and TDR outcomes. Patients who used surrogates were older, less likely to be insured, and less likely to have a high school education. These factors have been well established in the literature as contributing independently to health inequities broadly as well as in access to quality care.¹⁴ Further research that examines the role of each of the socio-demographic factors on warfarin therapy is warranted in order to disentangle the unique needs imparted by limited English proficiency versus those needs that reflect the broader set of the social determinants of health.

So, how do Rodriguez et al⁹ contribute to the equity and quality agenda for anticoagulant management? This paper demonstrated that disparities in processes of care and health outcomes existed even in an anticoagulation clinic that was

specifically tailored to address unique patient needs and deliver the highest quality care for all patients. This disparity highlights a persisting imbalance in the goals of the Triple Aim for anticoagulation management that must be further examined by health services research in the future.

By going beyond the traditional biomedical model of clinical patient needs, this research attempted to more deeply understand how language proficiency, a nonmedical determinant of health, can be an important enabler of high quality care. Furthermore, it demonstrated that barriers to care such as limited English proficiency do not necessarily operate independently, but rather as an interactive set of vulnerabilities that must be teased apart and better understood in order to achieve quality care and outcomes for all.

Disclosures

None.

References

- Berwick DM, Nolan TW, Whittington J. The triple aim: care, health, and cost. *Health Aff.* 2008;27:759–769.
- Stiefel M, Nolan K. *A guide to measuring the triple aim: population health, experience of care and per capita cost.* IHI Innovation Series White paper. Cambridge, MA: Institute for Healthcare Improvement; 2012.
- Aggarwal M, Hutchison B. *Toward a primary care strategy for Canada.* Ottawa, Canada: Canadian Foundation for Healthcare Improvement; 2012.
- Chiquette E, Amato MG, Bussey HI. Comparison of an anticoagulation clinic with usual medical care: anticoagulation control, patient outcomes, and health care costs. *Arch Intern Med.* 1998; 158: 1641–1647.
- Wilson SJ, Wells PS, Kovacs MJ. Comparing the quality of oral anticoagulant management by anticoagulation clinics and by family physicians: a randomized control trial. *Can Med Assoc J.* 2003;169:293–298.
- Menendez-Jandula B, Souto JC, Oliver A, Montserrat I, Quintana M, Gich I, Bonfill X, Fontcuberta J. Comparing self-management of oral anticoagulant therapy with clinical management: a randomized trial. *Ann Intern Med.* 2005;142:1–10.
- Hart GH, Pearce LA, Anguilar MI. Meta-analysis: antithrombotic therapy to prevent stroke in patients who have nonvalvular atrial fibrillation. *Ann Intern Med.* 2007;146:857–867.
- Rose AJ, Berlowitz DR, Frayne SM, Hylek EM. Measuring quality of oral anticoagulation care: extending quality measurement to a new field. *Jt Comm J Qual Patient Saf.* 2009;35:146–155.
- Rodriguez F, Hong C, Chang Y, Oertel L, Singer D, Green A, Lopez L. Limited English proficient patients and time spent in therapeutic range in a warfarin anticoagulation clinic. *J Am Heart Assoc.* 2013;2:e000170 doi: 10.1161/JAHA.113.000170.
- Singer DE, Chang Y, Fang MC, Borowsky LH, Pomernacki NK, Udaltsova N, Go AS. The net clinical benefit of warfarin anticoagulation in atrial fibrillation. *Ann Intern Med.* 2009;151:297–305.
- Rosendaal FR, Cannegieter SC, van der Meer FJ, Briet E. A method to determine the optimal intensity of oral anticoagulant therapy. *Thromb Haemost.* 1993;69:236–239.
- Flores G. The impact of medical interpreter services on the quality of health care: a systematic review. *Med Care Res Rev.* 2005;62:255–299.
- Andrulis DP, Brach C. Integrating literacy, culture and language to improve health care quality for diverse populations. *Am J Health Behav.* 2007;31:s122–s133.
- Mikkonen J, Raphael D. *The social determinants of health: the Canadian facts.* Toronto, Canada: York University School of Health Policy and Management; 2010.

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