

Accreditation in health care: does it make any difference to patient outcomes?

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Over the past few decades, a growing number of organisations have begun offering accreditation and certification services to healthcare facilities. As an example, in the USA, a comprehensive and facility-wide accreditation with a designated organisation is required to contract with Medicare and Medicaid, two large government-sponsored health insurance programmes and often the largest single payers for any given facility. In addition, facilities have the option to pursue voluntary specialty-specific accreditations for nursing excellence, radiology and imaging, trauma, chest pain and more. However, one of the perennial questions about these accolades is, does accreditation mean that patient outcomes are better? Accreditation methods are heterogeneous, typically rely on facility-generated documentation of processes and policies and do not guarantee best practices will be followed on a day-to-day basis. As a result, the published literature shows mixed evidence on its effectiveness.¹

What remains unclear at this point is how accreditation achieves improved outcomes. A classic analysis found nearly 300 potential barriers to physicians following clinical practice guidelines.² Some of these barriers may be reduced by accreditation. For example, lack of awareness and inertia from previous practice may be overcome through agreement to adopt new practices, and external barriers may be removed with facility leadership commitment of resources. Another systematic review showed that the external inspection process alone may mediate change.³

Two papers in this edition of *BMJ Quality & Safety* further our understanding of how accreditation may improve outcomes. In the first, Sun and

colleagues⁴ conducted a large-scale evaluation of patients in accredited chest pain centres. The authors compared outcomes in hospitals with and without accreditation, and then observed changes in outcomes as centres went through the accreditation process. The specific details of the accreditation process are not provided; however, facilities were expected to adopt best clinical practices for chest pain management, network with other nearby facilities and upload data on their patient outcomes to a central database. The study showed that patients admitted to accredited chest pain centres more often had percutaneous coronary intervention procedures, a shorter length of stay and lower in-hospital mortality. A within-hospital comparison showed that the same outcomes improved after accreditation was completed.

A long-standing challenge to producing robust evidence on the impact of accreditation in many countries has been the absence of patient-level data on both accreditation status and outcomes. In China, these data are available, and Sun and colleagues have leveraged it with great success. Another challenge is confounding by indication; that is, facilities that choose to be accredited are already committed to improvement, and therefore, they achieve better process and outcome measures. Another issue may be a dilution of the observed effect if non-accredited facilities are also working to improve quality without seeking accreditation. While a randomised trial of accreditation versus non-accreditation is not feasible, the analysis by Sun *et al* demonstrates that as Chinese chest pain centres progress from before, to undergoing, to after accreditation, patient outcomes improve.

The article from Sun and colleagues also helps to address another question: if best



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clinical practices are publicly available in professional society documents, what value does accreditation add? In this case, the answer appears to be that the chest pain centre accreditation process in China mandates adoption of these best practices, which facilities have failed to adopt until seeking accreditation. This mirrors a recent analysis from the USA that demonstrated how often quality care processes, recommended by clinical guidelines, are not in place prior to accreditation as a chest pain centre.⁵ That US analysis showed that most facilities in the USA did not have a documented care plan for patients with chest pain that reflected current guidelines, adequate discharge instructions for cardiovascular medications, or an agreed definition for which patients qualified as 'low risk'.

The second study in this issue evaluated the impact of trauma centre accreditation on patient outcomes in Canada.⁶ This investigation looked at data from Quebec during the years 2008–2017. Patient-level data among those admitted for major trauma were evaluated for inpatient mortality and major complications. Trauma centres were studied up to 3 months before and then after reaccreditation. The accreditation process in this Canadian study is described as one in which 'a committee of external experts verify adherence to criteria based on recommendations from the American College of Surgeons Committee on Trauma'. Unlike the study by Sun and colleagues, no significant changes in mortality or complications were seen overall. However, significant improvement was observed in centres that had worsening preaccreditation outcomes.

The divergent findings of these two studies are not surprising: the larger body of literature demonstrates similar heterogeneity of both accreditation processes and the impact of accreditation on outcomes, as illustrated by the aforementioned two studies. A systematic review of the Magnet accreditation programme recognising excellence in nursing found that even when using matched comparisons to non-Magnet hospitals, no conclusions could be drawn about the effects of accreditation on nurse and patient outcomes.⁷ Another systematic review that reviewed a broader set of hospital accreditations also found no substantial evidence of improvements in quality of care standards and highlighted that accreditation is the prototypical example of a complex intervention.⁸ Such complexity, both in the intervention components and in their implementation, will probably mean that heterogeneity across studies will remain and thereby also uncertainty surrounding the effects of accreditation.

The heterogeneity of outcomes from prior systematic reviews, as well as these two new studies, may arise from several different sources. First, the benefits of accreditation are likely to be modest and further reduced by improvements made by facilities independent of accreditation status. Furthermore, the signal of benefit over time may be easily lost in concurrent changes in case mix, staff turnover, facility reconfiguration and other moving

parts. The role of the individual clinician may also reduce the benefit. As noted from Cabana's systematic review,² individuals may be susceptible to lack of confidence in the accreditation process or inertia in relation to previous practices. A hospital may seek accreditation and then not provide adequate organisational resources to maintain the improvements. Specific to trauma accreditation in Quebec, Batomen and colleagues note that in this Canadian province, the accreditation process is mandatory.⁶ If clinicians are not given the opportunity to participate in the frameworks that guide the care they are supposed to deliver, they may take the changes as a challenge to their autonomy and express contempt. For example, a quasi-experimental analysis of trauma accreditation by the same authors and using data from another Canadian province where accreditation is voluntary suggest the process to be beneficial for reducing mortality and major complications.⁹ Some of these questions may be addressed by a systematic review in progress by the same research group.¹⁰

Differences in healthcare systems around the world are another potential contributor to the heterogeneous impact of accreditation. While high-level descriptions can be found of how inpatient care is provided in China, Canada, and elsewhere, ground-level experiences are hard to come by and may dramatically alter outcomes. The study by Sun and colleagues describes a shorter length of stay in accredited chest pain centres versus non-accredited hospital systems (8 days vs 9 days, $p < 0.001$). In comparison to the USA, a study of 39 107 patients with non-ST-segment elevation myocardial infarctions from 2007 to 2009 showed the length of stay was ≤ 4 days for 90.1% of the patients.¹¹ Although it is not clear why the two countries' length of stay are different, it seems harder to reduce the duration of admission if length of stay is already much shorter for most patients. In addition, there may be other factors in the healthcare system context that may mitigate benefits of accreditation programmes, particularly when adopted in low-income/middle-income countries.¹²

Direct comparisons of accreditation standards are also difficult or may not be feasible.¹³ A detailed comparison of what constitutes an accredited chest pain centre in China and the USA is not possible because not all standards are publicly available. This is further complicated when more than one organisation offer a similar product (eg, chest pain and imaging accreditations are offered by multiple organisations in the USA). Additionally, the reference group without accreditation may also be considerably different across countries, highlighting that the meaning of accreditation in the differences it may produce will also be different. Lastly, accreditation may work best in processes with the potential for a high degree of standardisation of care. Given the wide variety of injuries seen in a trauma setting compared with the more consistent assessment and management for acute coronary syndrome, accreditation may be better suited to chest pain management than to trauma. Despite these

challenges and the heterogeneity in the extent to which accreditation might result in better patient outcomes, it is important to note that the counterfactual of having no accreditation might actually lead to worsening patient outcomes, particularly if deficiencies are related to lack of awareness about current best practices and clinicians relying on their practice inertia.

Many hospitals are experiencing budgets and operating margins that continue to shrink due to competition and cutbacks in government spending. As such, accrediting bodies, particularly those offering voluntary accolades, will need to find ways to demonstrate their value in the healthcare marketplace. Challenging as it may be, the most valuable demonstration of accreditation would take the form of improved patient outcomes.

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REFERENCES

- Hinchcliff R, Greenfield D, Moldovan M, *et al*. Narrative synthesis of health service accreditation literature. *BMJ Qual Saf* 2012;21:979–91.
- Cabana MD, Rand CS, Powe NR, *et al*. Why don't physicians follow clinical practice guidelines? A framework for improvement. *JAMA* 1999;282:1458–65.
- Hovlid E, Braut GS, Hannisdal E, *et al*. Mediators of change in healthcare organisations subject to external assessment: a systematic review with narrative synthesis. *BMJ Open* 2020;10:e038850.
- Sun P, Li J, Fang W. Effectiveness of chest pain centre accreditation on the management of acute coronary syndrome: a retrospective study using a national database. *BMJ Qual Saf* 2021;30:867–75.
- Winchester DE, Osborne A, Peacock WF, *et al*. Closing gaps in essential chest pain care through accreditation. *J Am Coll Cardiol* 2020;75:2478–82.
- Batomen B, Moore L, Strumpf E. Impact of trauma centre accreditation on mortality and complications in a Canadian trauma system: an interrupted time series analysis. *BMJ Qual Saf* 2021;30:853–66.
- Petit Dit Dariel O, Regnaud J-P. Do Magnet®-accredited hospitals show improvements in nurse and patient outcomes compared to non-Magnet hospitals: a systematic review. *JBI Database System Rev Implement Rep* 2015;13:168–219.
- Brubakk K, Vist GE, Bukholm G, *et al*. A systematic review of hospital accreditation: the challenges of measuring complex intervention effects. *BMC Health Serv Res* 2015;15:280.
- Batomen B, Moore L, Strumpf E, *et al*. Trauma system accreditation and patient outcomes in British Columbia: an interrupted time series analysis. *Int J Qual Health Care* 2020;32:677–84.
- Batomen B, Moore L, Carabali M, *et al*. Effectiveness of trauma centers verification: protocol for a systematic review. *Syst Rev* 2019;8:292.
- Vavalle JP, Lopes RD, Chen AY, *et al*. Hospital length of stay in patients with non-ST-segment elevation myocardial infarction. *Am J Med* 2012;125:1085–94.
- Mansour W, Boyd A, Walshe K. The development of hospital accreditation in low- and middle-income countries: a literature review. *Health Policy Plan* 2020;35:684–700.
- Breuckmann F, Burt DR, Melching K, *et al*. Chest pain centers: a comparison of accreditation programs in Germany and the United States. *Crit Pathw Cardiol* 2015;14:67–73.