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Translating evidence into practice for providers and patients

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Recent decades have brought steady advances in knowledge about the prevention, detection, and treatment of heart disease. In the United States (US), the age-adjusted death rate for heart disease has declined steadily since 1980 and decreased an additional 2.8% in the period from 2001 to 2002.¹ Some recent high-tech achievements include implantable devices, cell transplants, gene therapy, and continued advances in medication for people with heart failure and high blood pressure.

However, despite progress in treatment, heart disease continues to be a significant public health concern in the US and other developed countries. Recent data from the US National Center for Health Statistics indicate that diseases of the heart continue to be the leading cause of death in the United States. According to the American Heart Association (AHA), cardiovascular disease was the most common cause of hospitalisation in 2002. It has increased by 30% since 1979 as the primary diagnosis at discharge from acute care hospitals. Presently, heart disease accounts for 38% of all deaths in the US. Direct and indirect costs of cardiovascular disease are expected to total \$393.5 billion in 2005.²

On the surface, it appears to be a contradiction that there have been such advances in treatment, yet high rates of mortality and poor clinical outcomes remain. However, the availability of efficacious treatments does not automatically translate into those treatments being given to those most likely to benefit from them. It has been estimated that it takes approximately 17 years for research evidence to reach clinical practice.³ This editorial examines some of the ways that we can access information to help us translate research evidence into better practice.

Studies conducted over the past decade have found persistent variation in the treatment of people with heart disease, even when gold standard evidence exists to support an intervention. For example, we know that evidenced-based care, including lifestyle modification and medication management, can reduce vulnerability to recurrent myocardial infarction and associated morbidity. However, variation in practice remains a barrier to promoting positive outcomes in people with cardiac illness.^{4–7}

Clinical practice guidelines

Clinical practice guidelines, defined by the US Institute of Medicine (IOM) as “statements to assist practitioner and patient decisions about healthcare for specific circumstances,” are one way to promote evidence-based practice.⁸ Many professional groups, organisations and government agencies have synthesised available evidence related to heart disease and developed clinical practice guidelines for managing people with cardiac illness.

There are a number of ways that patients and practitioners can access such guidelines. Local and international guidelines that meet criteria established by the Agency for Healthcare Research and Quality (AHRQ), American Medical Association (AMA) and America's Health Insurance Plans (AHIP) are disseminated through The National Guideline Clearinghouse (NGC) and are accessible to both providers and the public through the database of evidence-based clinical practice guidelines at <http://www.guidelines.gov>.

The Cochrane Collaboration is an international effort that prepares and disseminates systematic reviews and evidence-based content quantifying the benefits and risks of healthcare interventions. The Cochrane Collaboration collates evidence to promote well-informed healthcare decision-making by providers and patients. In addition to systematic reviews, the Cochrane Library includes a database of abstracts of reviews of effectiveness and a comprehensive controlled trials register. It can be accessed at <http://www.cochrane.org>.

Despite widespread availability of clinical practice guidelines and evidenced-based content, clinicians do not always adhere to guideline recommendations. There are a number of barriers, not least of which is the number of guidelines available.⁹ For example, a key word search for 'heart disease' on the National Guidelines Clearing-house website returns 478 related guidelines. The magnitude of available evidence coupled with barriers to using it within busy clinical settings (eg paper-based format) prevents widespread adoption of clinical practice guidelines at the point of care. Before providers and patients will benefit from this rich source of evidence, clinical practice guidelines need to be integrated into clinical information systems and provider workflows.

Furthermore, while the IOM definition explicitly states that clinical practice guidelines are tools intended to inform both practitioner *and* patient decision-making, guidelines are not usually disseminated to patients. Recent IOM reports link information accessibility by patients with safer, more effective care.^{10,11} Therefore, a mechanism is needed to disseminate guideline recommendations to consumers and patients in a format that is understandable and clearly defines the ways in which evidence-based recommendations are linked to behavior change and recovery. Only then will it be possible for patients to use clinical practice guidelines to inform their own decision-making.

Internet resources

The internet is increasingly used by patients for healthcare information. The 2005 Pew Internet and American Life Project reports that 80% of internet users have searched for health information online and there have been significant increases in searches related to wellness and prevention such as diet, fitness and exercise (http://www.pewinternet.org/pdfs/PIP_Healthtopics_May05.pdf).

This growing interest in the internet as a health information resource suggests that internet applications may be one means for improving access to evidence-based information. However, much of the information available on the internet is not of a high standard. Information accessed by consumers and patients may not be valid and information that is valid may be difficult for the lay person to understand.^{12,13} Providing patients with access to valid information from evaluated internet sources, such as MedlinePlus (<http://medlineplus.gov/>) and the Cochrane Library, in settings where they can ask questions about how the information relates to their own situation may be an important first step towards promoting patient access to evidence at the point-of-care.

Patient portals

However, access to information alone may not be sufficient to help patient decision-making and to encourage the behaviors necessary for self-management. Additional tools are needed to tailor information so that it is relevant to individual patient characteristics and presented within the context of specific health conditions or problems.

Some healthcare systems are implementing patient portals as a means to connect patients with value-added web-based services. Patient portals provide access to a range of resources

from evaluated general health information to patient-specific information such as disease management tools and access to their own information in the electronic healthcare record.

Barriers to the widespread development and adoption of web-based tools such as these include inconsistent use of standards, security concerns, and the current lack of interoperability between applications and healthcare information systems. Another barrier is provider attitudes about patient access to their health record and use of web-based communication and services. A recent study of patient and provider attitudes about patient access to electronic health records and web messaging found that patient attitudes were generally more positive than the attitudes of providers.¹⁴

To summarise, although there have been many advances in treatment, heart disease remains the primary cause of death for people in developed countries. Variation in practice is common and often denies patients access to evidence-based care. The electronic systems and web-based applications available provide a means to improve provider and patient access to evidence and to reduce the time it takes for research evidence to reach clinical practice. Growing consumer interest in the internet suggests that some patients are ready and willing to adopt electronic systems as a means to access reliable, valid health information. However, it remains to be seen if providers are willing to do the same.

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