

Focus on **Clinical Guidelines and Patient Preferences**

JAMIA

Viewpoint ■

## Implementing Clinical Guidelines:

How Can Informatics Help?

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**Abstract** Clinical guidelines are heralded as a positive contribution to improving quality of care and ensuring the effectiveness of care. From the perspective of the health services researcher, the authors propose a model of how informatics can support the implementation of clinical guidelines and their integration into systems for decision support and clinical audit. Each element of the model is discussed in turn.

■ JAMIA. 1998;5:225–226.

Clinical guidelines are believed to have the potential to positively influence the quality of care received by our patients. This paper presents the health care researcher's view of the role of informatics in making the development, use, and evaluation of clinical guidelines a reality.

Informatics can provide strategies that support the access, communication, and evaluation of clinical guidelines through the three functions identified by Benson<sup>1</sup>: knowledge browsing, messaging, and counting. *Knowledge browsing* describes the use of informatics to access information from a knowledge base. *Messaging* describes the way in which informatics is used to

exchange information—for example, through records, assessments, and referrals. *Counting* describes the use of informatics to generate and analyze data about the impact of clinical guidelines on practice and quality of care. The clinical process context model (Figure 1) shows how these three functions can integrate clinical guidelines into the processes of providing quality health care while promoting the involvement of patients throughout.<sup>2</sup>

The challenge for informatics specialists is to turn the disparate functions of knowledge browsing, messaging, and counting into integrated support systems. These support systems should provide practitioners and patients with access to clinical guidelines and other information about best practice. They should also enable practitioners and patients to use that information within existing messaging systems—such as care planning and referral systems—to plan and carry out care. It would be useful if messaging systems indicated decision points at which reference to guidelines could be helpful, such as prescription of a contraceptive pill for which a number of alternatives exist. Reminders about key guideline recommendations in patient records are also important for guideline implementation.<sup>3</sup> Finally, the messaging and counting functions of an integrated support system would ideally enable practitioners to integrate clinical guidelines with other initiatives—such as clinical au-

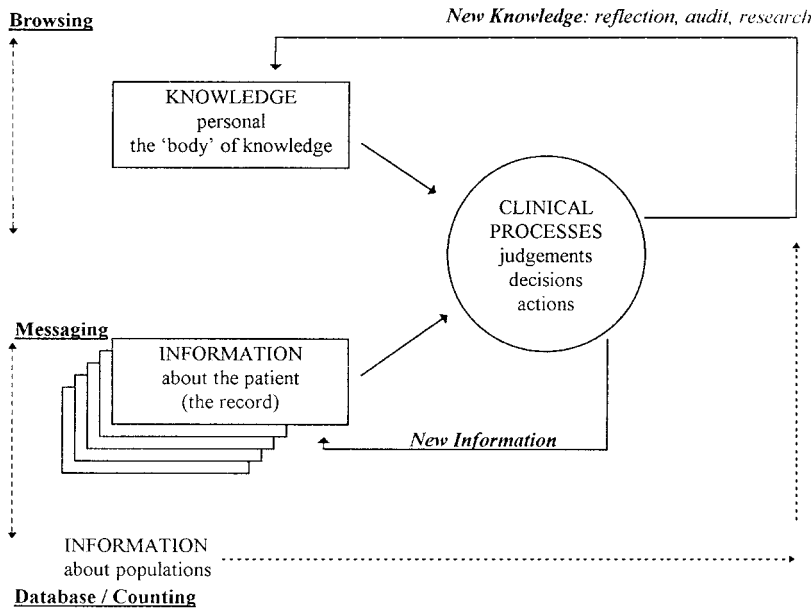
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This paper was presented at the International Medical Informatics Association (IMIA) Nursing Informatics '97 Working Conference, "Informatics and Patient and Clinical Guidelines: The State of Our Knowledge and a Vision," Stockholm, Sweden, October 2–4, 1997.

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Received for publication: 11/3/97; accepted for publication: 1/21/98.



**Figure 1** An informatics view of the clinical process context model.

dit and involvement of patients in decision-making—to improve the quality of care.

A further challenge lies in enabling practitioners and patients to use informatics to implement clinical guidelines. If practitioners and patients are to use an informatics-based support system, they need to understand clearly what informatics is, its links with more customary forms of communication, the language used, and the processes of using hardware, software, and other forms of technology.

A number of ethical issues also need to be resolved. The features that make informatics helpful in supporting the use of clinical guidelines can also jeopardize the quality of care. Improved access to information means improved access to all kinds of information, and there can be uncertainty about the quality of that information unless strict criteria are applied and enforced. Related questions about the security of integrated systems and the confidentiality of patient records also arise.

In turn, people working with informatics can set challenges for those of us working in health services research, and developing clinical guidelines. Challenges include developing guidelines that can be made accessible through an information network. Sufficient detail must be included in a guideline to enable decision support systems to be developed or quality indicators to be identified for audit. Health service researchers can assist informatics specialists by highlighting essential data elements that must be represented in records. They can also help define commu-

nication pathways and other aspects of care processes that might affect the use of informatics. Finally, it is important that we work together to increase our understanding of how people make decisions, how decision-making may differ between professional and patient groups, how partnerships can be promoted between patients and professionals, and how informatics can facilitate collaborative decision-making.

In summary, care provided in accordance with contemporary clinical guidelines has the potential to be clinically and cost-effective. Achievement of this goal depends on many factors, specifically, 1) access to good quality guidelines; 2) the collection and synthesis of comprehensive, reliable, and valid information about patients and their preferences; 3) accurate diagnostic reasoning including strategies that explicitly share decision-making between patients and practitioners; 4) clinical actions based on the guidelines; 5) evaluation of the efficacy and acceptability of the guidelines; and 6) mechanisms by which each of these activities feeds back into a research and development agenda.

*References* ■

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