Forsythe (1998) stated, "...[P]eople who design information resources require data on the information needs and work practices of their intended users. Whether automated or paper-based, no tool is likely to be effective and appropriate unless it has been designed with end users in mind [1]." A better understanding of the need for and use of medical knowledge should guide development of information systems [2]. By targeting the users' environment and workflow processes, contextual inquiry (CI)—a variant of ethnography— informs development of a coherent information technology solution based on the reality of how users work and has been used to study physician information needs and medical information systems [3-5].

Rather than develop an information system and then see if it works, the PrimeAnswers Project sought to discover what information needs existed prior to system design and implementation. The intention of the evaluation plan was to inform system designers to: (1) provide an understanding of the context for the PrimeAnswers information system (IS); (2) learn how system users' current workflow may be impacted by the IS; and (3) inform an iterative system design and implementation.

A four-part CI was completed, as follows: Inventory. An inventory of clinic technology and information resources was conducted to provide a broad picture of the workplace and identify potential disconnects with design for the current environment. Survey. A baseline web survey of providers on information and technology use was distributed. Observations. Naturalistic observations of 10 primary care providers during a typical half-day clinic were conducted. Interviews. Clinicians were interviewed at the end of the observation.

CI results indicated that:

- Online resources are most commonly searched for questions about medications, drug reactions, patient education, and treatment.
- Physicians consulted their pocket guide, a textbook in the clinic, and a colleague—in that order—when dealing with medication related questions.
- The most limiting factors to use of electronic resources are time and the perception that searching is slow or cumbersome.
- Clinicians are most likely to look up patient information around the patient encounter (before, during and after the patient encounter).

We found that most information use is focused on: drug dosage, cost, interactions, and availability in the formulary; patient education; immunizations and travel health; dermatology images and therapy; diagnostic rules for injuries; dietary counseling; and generally uncommon presentations of commonly seen diseases or conditions.

Like other reports [6-8], we found the information needs of clinicians are often complex and multidimensional and the need for information often reflects a clinician's need for guidance, psychological support, affirmation, commiseration, sympathy, judgment, and feedback—an particularly poorly explored "information need" that may well be the most important and biggest stumbling block to a technical solution.

Our CI results indicate that simplification by selecting the best resources, reducing options and steps needed to reach results or answers, and ultimately achieving a seamless single integrated system is our key design impetus.

ACKNOWLEDGEMENTS
This study was supported by a grant from the National Library of Medicine, NLM Resource Project 1G08LM06758-01A1

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