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Implementing New Health Technology

A model of applied clinical informatics is presented

Applied clinical informatics is a new discipline that can be defined as “the science and art of applying and managing data and information technology to improve health processes and outcomes in medical care and disease prevention for individuals, groups, and populations.” A journal by the same name has been launched, and in its opening editorial, the editors attempt to shed light on this concept of medical informatics and how it can be applied.

Applied Clinical Informatics presents informatics as an iterative intellectual activity that starts with model formulation, the acquisition and transmission of biomedical information, moves to system development, where technologies are created and delivered to healthcare providers, system installation, where programs are implemented, and finally the study of effects, which allows for examination of

the implemented program.

As technologies are researched and discovered, some will be successful and some will not. The phase of exploration before implementation is sometimes referred to as foundational or “pure” informatics. Once an information technology application has become accepted in a health domain such as a hospital or physician’s office, it is thought to move from infor-

matics research to clinical practice.

Applied informatics, then, encompasses the activities that take place once the new system has been incorporated into workflow. Activities at that point tend to include further analysis,

problem solving, and standardization.

New informatics systems require thorough scrutiny — at the design, implementation, deployment, and evaluation stages. While research is an im-

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portant first step, each organization and setting will have unique needs, reactions, and experiences. Communication within the system often presents a challenge and opportunity for growth. Professionals with expertise in systems application are therefore needed to ease the transition and act as a resource. Adoption of health informatics is time- and labor-in-

tensive, but it is a crucial component to improving healthcare in this country.

Source: Kim GR, Lehmann CU. 2009. In search of dialogue and discourse in applied clinical informatics. *Applied Clinical Informatics* 1:1-7.

Pre-stroke TIA Not Common

Most stroke patients do not have prior warning, highlighting the need for other tools

Only one in 8 stroke patients experiences a pre-stroke transient ischemic attack (TIA), according to a cohort study published in *Neurology* on September 29, 2009. Large-artery ischemic strokes were more likely to be preceded by TIA than other types.

It is well established that TIA puts patients at greater risk for later stroke (often within the first 3 months), and recent research suggests that early management of TIA may reduce this risk by as much as 80 percent. The authors of the current study note that this effect will not have the positive impact it could if TIA before stroke is relatively uncommon. Therefore, they used the Registry of the Canadian Stroke Network to investigate further. They prospectively identified patients

with a final diagnosis of acute stroke who were admitted to one of 12 Ontario hospitals between July 1, 2003 and September 30, 2007.

The authors excluded patients who had in-hospital stroke or unknown final diagnosis from their analysis, leaving 16,409

participants. Prior TIA was most common — 20.5 percent — in patients who had large-artery ischemic stroke and least common — 4.6 percent — in patients who had hemorrhagic stroke. Older adults with comorbidities such as diabetes, hypertension, and peripheral arterial disease were most likely to

No prior TIA was associated with poorer prognosis: these patients were significantly more likely to die in the hospital and have in-hospital cardiac arrest, and less likely to be discharged home.

have had a pre-stroke TIA. No prior TIA was associated with poorer prognosis: these patients were significantly more likely to die in the hospital and have in-hospital cardiac arrest, and less likely to be discharged home.

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The authors conclude that TIA clinics might help prevent some of the stroke burden, but that “these data highlight a need for risk profiles that accurately identify and stratify individual risk for first stroke.”

Source: Hackam DG, Kapral MK, Wang JT, et al. 2009. Most stroke patients do not get a warning: a population-based cohort study. *Neurology* 73:1074-1076.

Vascular Domain Article Updates

The following Patient Literacy Center articles were recently updated and reviewed by the Vascular Domain Medical Advisory Board. The updated articles have been added to the websites of subscribers to the Vascular Domain Patient Literacy Center. For information about becoming a Patient Literacy Center Subscriber, contact your Member Services Advisor at (800) 603-1420.

- Interventional Stroke Treatments
- Controlling Diabetes
- Eating to Lower Cholesterol
- Eating to Lower Blood Pressure
- Exercising
- Pulmonary Embolism
- Quitting Smoking
- Renovascular Conditions

Hot Topic Highlights

Vascular Domain recently posted the following Hot Topic to your website:

PAD More Likely in Older Women with the Metabolic Syndrome

Older women who have the metabolic syndrome are three times more likely than those without the syndrome to develop symptomatic peripheral artery disease (PAD) later in life, according to a study published recently in *Circulation*. Compared to women without the condition, women with established metabolic syndrome had three times the risk for future PAD symptoms. This association held true regardless of the woman's age, smoking status, cholesterol level, and how often she engaged in physical activity.

Source:

Conen D, Rexrode KM, Creager MA, et al. 2009. Metabolic syndrome, inflammation, and risk of symptomatic artery disease in women: a prospective study. *Circulation* 120:1041-1047.