

Medical Informatics in Primary Health Care

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Introduction

The junction of information science, computer science, and health care is medical (health) informatics. The resources, devices, and procedures needed to optimise the gathering, storage, retrieval, and use of information in health and biomedicine are all covered in this topic [1].

Primary care informatics is a new academic discipline with no clear definition. Primary care informatics should be characterised as a science and included in the health informatics family, according to this report.

Key care's distinct nature is the primary basis for its own informatics specialisation. Traditional definitions of primary care emphasised primary care as the patient's first point of contact: "A skilled primary care worker staffs the first-contact health service for a sick or injured patient." [1]

Primary care informatics: core concepts and theory

In the four sections that follow, the emergent basic concepts and theories within which a primary care informatician can perform his or her experimental work are laid forth [2].

A primary care epistemology and ontology

A area of study should be able to point to its own body of knowledge, complete with its own epistemology (theory) and ontology (description of concepts and their relationships). Despite the fact that primary care's knowledge base is growing, there is still no consensus on its epistemology and ontology [3].

A knowledge epistemology for primary care

Although evidence-based medicine is the foundation of primary care's knowledge base, it does not provide a framework that addresses all of primary care's knowledge demands. Information is separated into two forms by Polyani and later Takeuchi and Nonaka: explicit knowledge that can be codified and written down, and tacit knowledge, which is internalised knowledge. Although the evidence basis provides the foundation for explicit knowledge, there is currently no well-developed paradigm for evaluating tacit knowledge in primary care [4].

The development of primary care ontology

Primary care's ontology is beginning to take shape as a result of its coding and classification systems. Traditionally, they were basic hierarchical structures; but, they have gotten increasingly complicated in recent years, allowing for the expression of concepts. The two systems destined to become the most widely used classifications are SNOMED CT (Systematized Nomenclature of Medicine–Clinical Terms) and ICPC-2 (International Classification for Primary Care). They do not, however, provide for the thorough mapping that is required to support patient-centered care: "Terminology to enable 'patient-centered' information systems... is far larger than... Clinical Terms (read codes)... and even SNOMED." [3,4].

Heuristic in primary care, instead of deductive reasoning, the decision-making process is based on inductive reasoning

In primary care, therapeutic decisions are frequently made on a heuristic basis (intelligent rules of thumb).

The "rules" reflect that practitioner's health views and experience; the nature of an issue may be revealed across multiple sessions [3].

Using biopsychosocial theory instead of the biomedical model

Engel drew attention to the biological model's flaws: "Today's dominant model of disease is biological, and it allows no room for the social, psychological, or behavioural elements of sickness within its framework." Clinicians in primary care use a more holistic approach than those in secondary care. When you look at patients from a psychological and social standpoint, you can get a more complete picture of who they are. The longitudinal nature of information gathering, sometimes across many generations, and the need to develop an overview of each patient and his or her medical history challenge modelling in primary care even more. Informaticians' primary activity is modeling [2-4].

Patient-centered rather than focusing on the disease, consults should be focused on the whole person

Patients present with concerns that are relevant to them, which is a feature of primary care. The most common reason patients are dissatisfied with their appointment is that their agenda was not addressed.

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