Chapter 6.11
TACMIS:
A Total Access Care and Medical Information System

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ABSTRACT

TACMIS is an inclusive solution to the management of health care and medical information and its design is based on a detailed process analysis of patient journeys and the pathways of clinical care of stroke patients as they progress from acute care, through rehabilitation to discharge and independent living, often with a residual disability. The findings are the work of a team based in the *Discovery Research Laboratory* at Ritsumeikan University in Japan. The clinical analysis was conducted at King's College Hospital in London and in several care institutions for the disabled and the aged in Japan.

DOI: 10.4018/978-1-60960-561-2.ch611

INTRODUCTION

Background, Aims and Focus

How can disabled and aged populations gain access to and benefit from information and communications technologies (ICT) through the development of inclusive design systems? This was the fundamental question asked when the

program began in May 2000. It was initiated as a cross-national collaborative research and development program of the Centre for Global Education and Research (CGER) at Ritsumeikan University, and is currently being executed at the Discovery Research Laboratory (DRL) established within CGER to incubate projects that link ICT with human, social and environmental needs (Cassim, M., 2004). TACMIS is a project that aims to create exemplars for this form of interlinking in the field of health care. This chapter will focus on the inclusive design aspects of TACMIS.

The TACMIS system is a composite of three integrated subsystems:

- **HIMS:** A Hospital Information Management System, which largely deals with the acute care phase and rehabilitation in a secondary care situation;
- **SEAHCSS:** A Socio-Economic and Health Care Support System, which extends the findings of HIMS into primary care situations and into the aggregate realm of epidemiology and health care policy; and
- **PEECSS:** A Patient Empowerment and Environmental Control Support System, which extends care into the home environment and supports independent living.

The development work carried out thus far focuses on HIMS and PEECSS, with SEAHCSS seen as likely to evolve as a natural extension through dialogue with stakeholders involved in health care policy formulation. The chapter describes the access technologies used for integrated and inclusive solutions to health informatics issues in general and for dealing with stroke disability in particular. The findings indicate that such solutions will enhance the quality of electronic patient and health records, enabling them to contribute directly to improvements in a patient's individual care. They will also support a more enjoyable level of independent living for stroke victims with a residual disability, who are seen as a microcosm of the wider disabled and aged populations.

TACMIS

System Design and Key Questions

TACMIS commenced with an analysis of health informatics needs in several care and medical institutions in Japan and of national trends in several selected countries, including the United Kingdom. Based on this, the core technologies to be used in working towards prototype development were clarified, selected after discussions at several rounds of *Technology Seeds Seminars*, held in Japan and the USA. Next, the scope of the project was defined when it was decided to work with stroke patients and their residual disabilities of neurovascular origin, and a case study was designed. This has been conducted as a collaborative exercise between DRL/CGER at Ritsumeikan University, GKT Medical School at King's College London and the Acute Stroke Unit at King's College Hospital. The output of this exercise, the conceptual systems design of an integrated and inclusive health informatics system for the TACMIS prototype, is described below.

As noted above TACMIS is tripartite in composition (Figure 1), comprising of: (1) HIMS: A Hospital Information Management System, which largely deals with the acute care phase and rehabilitation in a secondary care situation; (2) SEAHCSS: A Socio-Economic and Health Care Support System, which extends the findings of HIMS into primary care situations and into the aggregate realm of epidemiology and health care policy; and (3) PEECSS: A Patient Empowerment and Environmental Control Support System, which extends care into the home environment and supports independent living. The three components are integrated into a holistic health informatics record, with the patient/care receiver seen as the integrating element.