Development of a Spatio-Temporal Database System to Facilitate Information Sharing between Community Health Nurses and Health Volunteers in a Rural Area in Thailand

Background
Health volunteers (HVs) play very important roles in daily community health activities by supporting Health Nurses (CHNs) in Primary Care Units (PCUs; Fig.1). Therefore, it is important to promote information sharing among them to improve community health activity, especially in rural area in Thailand.

Aims
To examine usability and availability of Community Health Activity Database (CHAD) based on GIS (a Spatio-Temporal Database System).

Methods
Field study by using a prototype of CHAD system on iPad in March, 2013.
1) Data items selection by focus group interviews in August 2012
2) Design and construction of a database on iPad operated by the FileMaker Pro (Fig.2)
3) Trial use of the database on the real fields in Northern East part of Thailand.
(1) Subjects: 22 HVs and 9 CHNs in four PCUs
(2) Procedure: followed by 60 to 90 minutes of operation instructions (Fig.3), about 30 minutes trial use, then, answer to a questionnaire.
# All procedure was conducted under approval by IRB.

Results
Regarding usability and availability, HVs and CHNs scored 28.3 and 26.5 out of Maximum points (30.0), respectively (Fig.4). They wanted to display a location of concerned home on a Map, as well (Fig.5).

Discussion
This study showed that a spatio-temporal database system could provide useful information for health care activities despite of insufficient computer literacy. We are now reconstructing this system with more narrowed down items to be used more easily and effectively.

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