

QUESTIONNAIRE

eHealth Competency Needs in the Mekong Border Region: A GLMM Analysis of Primary Care Personnel in Nong Khai, Thailand

Research Questionnaire

This questionnaire is part of a graduate research study conducted in the Master of Public Health Program, Department of Public Health Administration, Faculty of Public Health, Khon Kaen University. This study aimed to identify the determinants associated with the need for eHealth competency development among public health personnel working in the primary care network of a border province along the Mekong River. Your responses will be kept confidential and analyzed in aggregate form only.

The questionnaire consists of 6 parts and 119 items:

- Part 1: Socio-economic status (10 items)
- Part 2: Social support from supervisors and colleagues (15 items)
- Part 3: Organizational innovation management (20 items)
- Part 4: Digital Intelligence (40 items)
- Part 5: Need for Competency Development in Driving eHealth Implementation (30 items)

The researcher would like to express sincere gratitude for your kindness.

Sutida Kanha

Part 1: Socio-economic status (10 items)

Instructions: Please answer the questions in the space provided or place a check mark ✓ in the box [] corresponding to your response.

Question	For researchers
1. Gender [] 1. Male [] 2. Female	GENDER []
2. Age..... (years) Count full years; if the duration exceeds 6 months, round up to the nearest full year.	AGE [] []
3. Marital status [] 1. Single [] 2. Married [] 3. Widowed/Divorced/Separated	STA []
4. Highest educational attainment [] 1. Diploma or below [] 2. Bachelor's degree or equivalent [] 3. Master's degree or higher	EDU []
5. Monthly income (THB) Including all types: salary, overtime compensation, and special allowances.	INC [][][][][]
6. Current professional discipline [] 1. Registered Nurse [] 2. Public Health Technical Officer / Public Health Officer [] 3. Public Health Technical Officer (Dental) / Dental Assistant [] 4. Thai traditional medical practitioner	PRO []
7. Professional rank [] 1. Government employee / Ministry officer / Temporary employee [] 2. Operational level / Junior professional [] 3. Skilled level / Professional [] 4. Senior level / Senior professional	LEV []
8. Length of Working Experience..... (years) Count full years; if the duration exceeds 6 months, round up to the nearest full year.	EXP []
9. History of information technology (eHealth) Training [] 1. Never attended [] 2. Attended (times)	TRA []
10. Current workplace setting [] 1. County hospitals [] 2. Subdistrict Health Promotion Hospital	PLA []

Part 2: Social Support from Supervisors and Colleagues

Instructions: Please indicate the extent to which each statement reflects the level of social support from supervisors and colleagues you receive. Use the following scale: 1 = Very low support, 2 = Low support, 3 = Moderate support, 4 = High support, 5 = Very high support

Social support from supervisors and colleagues	Level of social support from supervisors and colleagues					For researchers
	(5)	(4)	(3)	(2)	(1)	
1. Social support from supervisors and colleagues – emotional support						
1.1 Assistance when facing challenges in adopting eHealth technologies.						MOD1 []
1.2 Assistance when facing challenges in adopting eHealth technologies.						MOD2 []
1.3 Assistance when facing challenges in adopting eHealth technologies.						MOD3 []
1.4 Assistance when facing challenges in adopting eHealth technologies.						MOD4 []
1.5 A supportive team environment that encourages the use of digital health technologies.						MOD5 []
2. Social support from supervisors and colleagues – informational support						
2.1 Availability of ongoing training in digital health technologies.						INT1 []
2.2 Guidance and consultation regarding problem-solving and task procedures.						INT2 []
2.3 Support for research and innovation related to digital health.						INT3 []
2.4 Policy-level support promoting effective digital health adoption.						INT4 []
2.5 Networking and collaboration with other organizations to share digital health knowledge.						INT5 []
3. Social support from supervisors and colleagues – tangible support						
3.1 Allocation of sufficient and competent personnel for digital health tasks.						RES1 []
3.2 Provision of modern digital health equipment and tools.						RES2 []
3.3 Supervisory support in performing digital health-related tasks.						RES3 []
3.4 Adequate time allocated for learning and skill development.						RES4 []
3.5 Budget allocation for training and information system development.						RES5 []

Part 3: Organizational innovation management

Instructions: Please indicate the extent to which each statement reflects the level of organizational innovation management you receive. Use the following scale: 1 = Very low agree, 2 = Low agree, 3 = Moderate agree, 4 = High agree, 5 = Very high agree

Organizational innovation management	level of organizational innovation management					For researchers
	(5)	(4)	(3)	(2)	(1)	
1. Vision Creation for Collaborative Innovation						
1.1 Staff participation in setting digital development directions.						VIS1[]
1.2 Clear organizational goals for digital health development						VIS2[]
1.3 Transparent communication of the organization's digital health vision.						VIS3[]
1.4 Alignment between digital vision and organizational mission.						VIS4[]
1.5 Monitoring and evaluation aligned with the shared digital vision.						VIS5[]
2. Creating an Innovation-Conducive Environment						
2.1 Physical environment supportive of creativity and digital innovation.						CUL1[]
2.2 Learning culture that promotes knowledge sharing.						CUL2 []
2.3 Resource support for experimenting with new ideas.						CUL3 []
2.4 Policy acceptance of new ideas and mistakes during innovation.						CUL 4 []
2.5 Reward and incentive system for digital innovation.						CUL 5[]
3. Developing Innovation-Supportive Leaders						
3.1 Digital literacy of organizational leaders.						INN 1[]
3.2 Capacity of leaders to manage technological change.						INN 2 []
3.3 Leaders' vision for digital innovation.						INN 3 []
3.4 Leaders' ability to motivate creative thinking.						INN 4 []
3.5 Leaders' resource management for innovation.						INN 5 []

Organizational innovation management	level of organizational innovation management					For researchers
	(5)	(4)	(3)	(2)	(1)	
4. Establishing Continuous Learning Systems						
4.1 Knowledge management supporting experience sharing.						SYS 1 []
4.2 Training aligned with technological changes.						SYS 2 []
4.3 Opportunities for discussion and learning.						SYS 3 []
4.4 Evaluation and feedback to improve digital tasks.						SYS 4 []
4.5 Application of new digital knowledge in practice						SYS 5 []

Part 4: Digital Intelligence

Instructions: Please indicate the extent to which each statement reflects the level of digital intelligence you receive. Use the following scale: 1 = Very low agree, 2 = Low agree, 3 = Moderate agree, 4 = High agree, 5 = Very high agree

Digital Intelligence	level of digital intelligence					For researchers
	(5)	(4)	(3)	(2)	(1)	
1. Digital Citizen Identity						
1.1 Ability to maintain a professional digital identity.						DCI 1 []
1.2 Credibility in providing digital health services.						DCI 2 []
1.3 Appropriate digital communication in professional contexts.						DCI 3 []
1.4 Separation of personal and professional data.						DCI 4 []
1.5 Adherence to ethical standards in digital health communication.						DCI 5 []
2. Critical Thinking						
2.1 Ability to assess accuracy of digital health information.						CRT 1 []
2.2 Ability to analyze and prioritize information.						CRT 2 []
2.3 Ability to distinguish facts in digital environments.						CRT 3 []
2.4 Ability to assess risks of digital information use.						CRT 4 []
2.5 Ability to integrate digital information into practice.						CRT 5 []

Digital Intelligence	level of digital intelligence					For researchers
	(5)	(4)	(3)	(2)	(1)	
3. Cybersecurity Management						
3.1 Safe password management.						CM 1 []
3.2 Ability to identify digital threats.						CM 2 []
3.3 Ability to prevent data/system damage.						CM 3 []
3.4 Understanding of secure network use.						CM 4 []
3.5 Ability to report cybersecurity incidents.						CM 5 []
4. Privacy Management						
4.1 Understanding access rights to personal information.						PM 1 []
4.2 Ability to follow personal data protection guidelines.						PM 2 []
4.3 Appropriate decision-making in data sharing.						PM 3 []
4.4 Secure use of passwords and privacy settings.						PM 4 []
4.5 Understanding of PDPA requirements.						PM 5 []
5. Screen Time Management						
5.1 Ability to plan reasonable screen use.						STM 1 []
5.2 Prioritizing digital tasks effectively.						STM 2 []
5.3 Balancing digital use and daily life.						STM 3 []
5.4 Preventing digital health risks.						STM 4 []
5.5 Positive attitudes towards digital health.						STM 5 []
6. Digital Footprints						
6.1 Managing online personal information.						DIF 1 []
6.2 Managing browsing history and deleting unnecessary data.						DIF 2 []
6.3 Preventing online identity fraud.						DIF 3 []
6.4 Knowledge of preventing data leakage.						DIF 4 []
6.5 Ethical awareness of data privacy.						DIF 5 []
7. Cyberbullying Management						
7.1 Identifying signs of cyberbullying.						CYM 1 []
7.2 Conflict resolution in digital environments.						CYM 2 []
7.3 Ability to report cyberbullying cases.						CYM 3 []

Digital Intelligence	level of digital intelligence					For researchers
	(5)	(4)	(3)	(2)	(1)	
7.4 Protecting oneself from digital harassment.						CYM 4 []
7.5 Supporting victims of cyberbullying.						CYM 5 []
8. Digital Empathy						
8.1 Careful consideration before posting content.						DIE 1 []
8.2 Digital responsibility.						DIE 2 []
8.3 Respecting others' privacy.						DIE 3 []
8.4 Proper referencing of digital content.						DIE 4 []
8.5 Ethical reflection on digital health service use.						DIE 5 []

Part 5: need for competency development in driving health information technology (eHealth) among public health personnel in the primary health care network of Nong Khai Province

Instructions: Indicate your level of need for competency development in driving eHealth Implementation. Use the following scale: 1 = Very low need, 2 = Low need, 3 = Moderate need, 4 = High need, 5 = Very high need

need for competency development in driving health information technology (eHealth) among public health personnel in the primary health care network of Nong Khai Province	level of need for Competency Development in Driving eHealth					For researchers
	(5)	(4)	(3)	(2)	(1)	
1. Establishment of organizational structures for eHealth management						
1.1 Understanding one’s roles and responsibilities in driving eHealth within the organization.						ORG 1 []
1.2 Readiness to perform tasks following standardized eHealth procedures.						ORG 2 []
1.3 Understanding the organizational structure for eHealth management.						ORG 3 []
1.4 Skills in coordination and collaboration for eHealth development.						ORG 4 []
1.5 Participation in monitoring and evaluating eHealth implementation.						ORG 5 []

need for competency development in driving health information technology (eHealth) among public health personnel in the primary health care network of Nong Khai Province	level of need for Competency Development in Driving eHealth					For researchers
	(5)	(4)	(3)	(2)	(1)	
2. Development of enterprise architecture to support eHealth service delivery						
2.1 Participation in developing organizational eHealth architecture aligned with health strategies.						ARC 1 []
2.2 Ability to develop information systems and technological infrastructure to meet user needs.						ARC 2 []
2.3 Ability to design and improve eHealth service delivery processes.						ARC 3 []
2.4 Ability to enable public access to and management of personal health information through technology.						ARC 4 []
2.5 Ability to manage network systems efficiently, cost-effectively, and securely.						ARC 5 []
3. Standardization of health information systems and effective data integration and exchange						
3.1 Ability to apply technology to develop standardized health information systems.						SAT 1 []
3.2 Ability to exchange and integrate health information effectively.						SAT 2 []
3.3 Skills in managing health data repositories according to standards.						SAT 3 []
3.4 Ability to develop indicators and integrate monitoring systems using eHealth.						SAT 4 []
3.5 Ability to standardize tools for health information exchange across service levels.						SAT 5 []
4. Promotion of innovation in health information technology (eHealth) and intellectual property protection						
4.1 Understanding innovations in eHealth.						INH 1 []
4.2 Skills in applying technology for client services.						INH 2 []
4.3 Understanding planning and simulation toward healthcare service delivery standards.						INH 3 []
4.4 Participation in developing eHealth innovations within the organization.						INH 4 []

need for competency development in driving health information technology (eHealth) among public health personnel in the primary health care network of Nong Khai Province	level of need for Competency Development in Driving eHealth					For researchers
	(5)	(4)	(3)	(2)	(1)	
4.5 Readiness to collaborate in innovation development and intellectual property protection.						INH 5 []
5. Implementation of laws and standards to support ICT utilization in the health system						
5.1 Support for laws, regulations, and standards that promote safe and fair use of eHealth.						LAW 1 []
5.2 Understanding legal frameworks related to eHealth.						LAW 2 []
5.3 Ability to comply with eHealth safety and fairness guidelines.						LAW 3 []
5.4 Ability to create required forms for eHealth system safety.						LAW 4 []
5.5 Ability to develop standards, policies, and guidelines for information privacy and security.						LAW 5 []
6. Development of human capital in eHealth and health information technology, including knowledge management for the public						
6.1 Digital skills for effective use of eHealth technologies.						HUM 1 []
6.2 Ability to manage health information systematically.						HUM 2 []
6.3 Readiness for self-development and participation in eHealth networks.						HUM 3 []
6.4 Skills in communicating and educating the public on eHealth.						HUM 4 []
6.5 Ability to promote community engagement in health knowledge management through technology.						HUM 5 []