

Priority setting for health technology assessment (HTA) research in Korea

Chong Yon Park¹, Min Jung Ko¹, Hee Sun Kim, Shin-hee Kang¹, Junho Kim¹, Sol Ji Choi¹

1. National Evidence-based Healthcare Collaborating Agency

Introduction

The purpose of this study is to review the strategy and the method to set the priorities for Health Technology Assessment (HTA) research in consideration of the Korean healthcare environments. As such, this study carried out researches on the trend in line with the changes in Korean healthcare environments related with HTA (such as population structure, health industry, medical insurance system, trend of people's medical utilization, the current status of HTA, etc.), the analysis of the scope of HTA research as well as the domestic and foreign research trends, and the strategies and methods of research to set the priorities of relevant institutions. This study also carried out an opinion survey using the AHP (Analytic Hierarchy Process) method, targeting HTA experts who can represent various positions regarding HTA, healthcare policy experts, clinical practitioners, and the researchers at NECA (National Evidence-based Healthcare Collaboration Agency). Through such research process, this study tried to suggest the strategic framework to set the research priorities of HTA and the mid-to-long-term direction of the HTA research by arranging the framework, method, and criteria of setting the priorities suitable for Korea and by deriving the priority based on the purpose, scope, and policy issue of HTA research.

Environmental changes and research trends in HTA

HTA is an essential element to use limited medical resources, particularly for medical expenses. The Korean medical security system (National Health Insurance) has always put the first priority on the protection of people's

health, attempting to fulfill the national requirement, which is “the efficient payment of medical expense considering the cost-effectiveness of the provided medical service,” at the same time. When deciding the eligibility of the medical care benefit of the new health technologies, such as new medical practices, medicine and other medical supplies, as well as materials for medical treatment, the cost-effectiveness is suggested as one of the important criteria.

Health technology means the overall method to maintain and improve health condition, to prevent or cure the diseases, and to help the rehabilitation. However, as the definition of “technology” is more and more expanded, the health technology seems to influence various areas, such as the settlement of various social problems and the development of national economy, among others, and not just its traditional influence to protect people’s health. Consequently, there is a growing necessity for the preparation of national response strategy for health technology. As a major element of the healthcare system to achieve the two goals, such as the protection of people’s health and industrial development, the wide eternal effect of health technology has become factor that highlights the area of health technology assessment more.

To understand the international trend of HTA researches, this study analyzed the contents presented at the annual international HTA symposium. For this, the subjects covered by this symposium were collected from HTAi Web site (www.htai.org) for analysis. From HTAi home page and the annual symposium subject collections, the title list of the 1,523 subjects presented at the workshops, plenary sessions, panel sessions, and oral sessions was created in this study. The result of the classification of those subjects generally showed, although with some annual difference, that 28.0% of the subjects were about the HTA system, 26.2% about the HTA infra research, 24.2% about individual HTA, 3.6% about HTA scanning of promising health technologies, and 17.9% of them were not classified. To understand the trend of domestic HTA researches, a total of 358 research contents presented at the Korea Association of Health Technology Assessment (KAHTA) symposium or published in the academic journal as well as the researches conducted by NECA, HIRA (Health Insurance Review & Assessment Service), and NHIS (National Health Insurance Service) were collected and classified. The result

of the classification of the collected research subjects showed that 53.6% of the subjects were about HTA system (system, organization, law, and management system), 0.6% about HTA scanning of promising health technology, 17% about individual HTA, 15.6% about HTA infra research (methodology, basic DB, and data connection), and 13.1% of them were not classified.

Setting the priority among the selected countries

Setting the priority of HTA research is an effort to derive efficient research results out of the limited financial resources. However, the range of setting the priority and the method of selecting the research subject were different depending on the purpose of the establishment of national medical systems and research institutions in each country.

The PCORI of the United States put the first priority on the patient-focused HTA research and considered the participation of the stakeholders and the people significant. It selected only the institutions that set their priority with the participation of people in the literature review and reviewed the priority criteria of those institutions. It then selected the common criteria of the priorities of each institution, selected the priority suitable for the research purpose of PCORI, and fixed the result after getting the approval of the people. The priority of PCORI's research agenda, which has been finally selected, extensively covers the important agendas in healthcare area and deals with important agendas that should be studied on a long-term basis. CADTH of Canada and HiTAP of Thailand created the assessment standard of research subject selection using scientific decision-making skills (AHP and MCDA) as well as the quantitative securing of data and the experts' opinion. In addition, DIMDI of Germany succeeded in deriving the agreement on research subject selection using the Delphi method for the research subjects suggested in the demand survey that targets the general public. The SBU of Sweden had independent selection criteria to derive the research subjects and was deriving the research tasks by putting the first priority on the important agendas of the government in the healthcare area.

As mentioned above, the HTA institutions of the major countries were

trying to decide the important agenda for research subject selection or to make the best use of the priority indexes selected through the reflection of various opinions of the stakeholders using scientific methods. As a representative HTA research institution in Korea, NECA is annually inviting the proposals of research subjects through its web site and e-mail from all Koreans. The submitted subjects go through the process of reviews, such those related to their redundancy and validity, and the final research subjects are decided based on the verification standard in each review process and the priorities for subject selection.

□ AHP results on the priority in HTA research

To set the priority in Korean HTA research, an opinion survey was conducted, targeting HTA and healthcare policy experts, clinical doctors, and NECA researchers. The collected data were suggested as the priority for HTA research through AHP analysis. The survey contents were domestic HTA research direction and contents, the importance of HTA research based on the health technology life cycle, and the importance of HTA research subject proposal and utilization entity. These contents were surveyed using the five-point scale. In addition, the analysis of the global trend of HTA research was conducted and the experts' opinions were surveyed on paired comparison basis to decide the criteria to set the priority for HTA research subject selection based on the case analysis of the major HTA system operating countries.

As the result of surveying the importance of the purpose of Korean HTA research, 'scientific evidence generation for healthcare policy' showed the highest importance, and the direction of the future HTA research was suggested in the following order: 'enhancement of the efficiency in medical resource application' and 'improvement of the policy or system', As for the contents of HTA, the importance was suggested in the following order: 'safety assessment', 'effectiveness assessment' and 'economy assessment'. In health technology life cycle, 'the new health technology assessment' was generally considered as the most important. However, healthcare policy experts considered the assessment research on 'health technology for reassessment', such as the existing health technology or the health technology to be kicked out, as the most important. There were prevailing opinions that the groups

of people who should be given the first priority as HTA research subject proposal entity are 'healthcare experts' as well as 'medical service providers', and the most preferential entity of the result application should be 'healthcare policy makers' and 'medical service providers'.

As for the types of health technology, the 'medical practice' turned out to be more important assessment targets than other types of health technologies, such as 'medical supplies' and 'medical equipment'. In health technology application areas, the assessment priority for 'medical treatment' area was higher than other areas, such as 'prevention' and 'rehabilitation'. Lastly, the importance of the social and political major issues was in the following order: 'chronic disease', 'health fairness', 'medical expenses', 'improvement of medical system', 'infectious disease', 'aging phenomenon', and 'health industry'. In line with the comparative importance based on the HTA research category, 'HTA expansion research' turned out to be the most important, followed by 'HTA infra research', 'HTA system research' and 'HTA environment research'. For the criteria to derive the HTA research subject, the 'social influence' of the relevant research turned out to be the most important, followed by 'practicability', 'appropriateness', and 'relevance' of the research subject.

□ Summary and implications

As the result of surveying expert opinions on HTA research priorities after reviewing the changes in the trend of HTA environments and the international research trend, this study found that the direction of future Korean HTA research is suggested in the following order: 'scientific evidence generation for healthcare policy', 'enhancement of efficiency in medical resource application', and 'improvement of the healthcare policy or system'. For HTA research contents, the importance was suggested in the order of 'safety assessment', 'effectiveness assessment', and 'economy assessment'. For the priority of HTA research based on the health technology life cycle, this study finds out that the assessment research on new health technology was considered as the most important. There were prevailing opinions that the groups of people who should be given the first priority as HTA research subject proposal entity are 'healthcare experts' and 'medical service providers', and the most preferential entity of the result application should

be 'healthcare policy makers' and 'medical service providers'. For the types of health technology, the research on the medical supplies was recognized as more important than other types of health technology, and as for the comparative importance based on HTA research category, 'HTA expansion research' turned out to be the most important, followed by 'HTA infra research', 'HTA system research', and 'HTA environment research'. For the criteria to derive the HTA research subject, the 'social influence' of the relevant research turned out to be the most important, followed by 'practicability', 'appropriateness' and 'relevance' of the research subject.

To set the priority of HTA research, the environmental factors in overall healthcare areas, such as the change in population structure, change in disease structure, health insurance system, and HTA-related systems, and policy environments, should be considered, and the trend of domestic and foreign researches as well as the opinions of social stakeholders in relevant areas shall be reviewed comprehensively. In particular, the aging phenomenon and the rapid increase of chronic disease are important factors of social change that we should examine consistently in HTA research area because various health technologies are used for them as they are also closely related with the health promotion and rehabilitation.

Also, in the perspective of healthcare system, the importance of HTA research is expected to increase all the more in order to establish efficient healthcare service system for the management of medical expenses of people. Considering that there are various social stakeholders in health technology and health technology assessment, the opinions of medical service providers, users, pharmaceutical and medical equipment industry leaders, policy makers, and policy enforcement experts shall be reflected sufficiently. To realize a balanced research performance among various HTA categories, the opinions of more stakeholders related with HTA shall be reflected while considering the types, application areas, and important policy issues of extensive health technologies at the same time. Based on this study result, the criteria of HTA research, which can be accepted by our society, will be prepared by reflecting the opinions of key stakeholders or stakeholder groups related with HTA research. Based on these criteria, the mid-to-long term developmental plan for HTA system can be established.

□ **Key words**

Health technology assessment research, Setting priorities, Environmental change in HTA, Research trends in HTA, AHP on the priority in HTA research