2025 제22차 국제연수과정

NHIS UHC GLOBAL ACADEMY

Achieving UHC and Sustainable Healthcare System through HTA

Jeonghoon Ahn

Ewha Womans University

- **Health Technology Assessment (HTA)**
  - **UHC and HTA**
  - **WHA Resolution A67.33 in 2014**
  - **HTA 101**
  - **HTA in Korea**
- **International Collaborations in HTA**

New Definition of HTA (HTAi)

HTA is a multidisciplinary process that uses explicit methods to determine the value of a health technology at different points in its lifecycle. The purpose is to inform decision-making in order to promote an equitable, efficient, and high-quality health system.

Note 1: A health technology is an intervention developed to prevent, diagnose or treat medical conditions; promote health; provide rehabilitation; or organize healthcare delivery. The intervention can be a test, device, medicine, vaccine, procedure, program, or system (definition from the HTA Glossary; http://htaglossary.net/health+technology).

Note 2: The process is formal, systematic, and transparent, and uses state-of-the-art methods to consider the best available evidence.

Note 3: The dimensions of value for a health technology may be assessed by examining the intended and unintended consequences of using a health technology compared to existing alternatives. These dimensions often include clinical effectiveness, safety, costs and economic implications, ethical, social, cultural and legal issues, organizational and environmental aspects, as well as wider implications for the patient, relatives, caregivers, and the population. The overall value may vary depending on the perspective taken, the stakeholders involved, and the decision context.

Note 4: HTA can be applied at different points in the lifecycle of a health technology, that is, pre-market, during market approval, post-market, through to the disinvestment of a health technology.

The new definition of health technology assessment: A milestone in international collaboration

Brian O'Rourke[1], Wija Oortwijn[2], Tara Schuller[3] and the International Joint Task Group

Acknowledgments. This paper is presented on behalf of the members of the international joint task group: International Network of Agencies for Health Technology Assessment (INAHTA): Brian O'Rourke (co-Chair), Karen Macpherson, Michelle Mujoomdar, Tara Schuller; Health Technology Assessment International (HTAi): Wija Oortwijn (co-Chair), Gert Jan van der Wilt; HTAsiaLink: Jasmine Pwu, Dong-Ah Park, Jeonghoon Ahn; EUnetHTA: Iñaki Imaz-Iglesia, Juan Pablo Chalco-Orrego; RedETSA: Alicia Framarin, Verónica Gallegos; HTA Glossary Committee: Tracy Merlin; International Society for Pharmacoeconomics and Outcomes Research (ISPOR): Finn Boerlum Kristensen, Kelly Lenahan; and World Health Organization (WHO): Adriana Velazquez-Berumen, Sue Hill, Sarah Garner (Observers to the task group).

Old Definition of HTA (NECA)

Health Technology Assessment (HTA)

As health technology advances, the necessity for scientific evidences to justify expenses for a new health technology in terms of safety, effectiveness, and efficiency grows. At the same time, the social demand for more efficient allocation of scarce health resource is increasing. NECA uses various methods, such as systematic literature review, cost-effectiveness analysis, comparative effectiveness research, clinical outcomes research reflecting Korean clinical practices, and so on, in health technology assessment research.

Old Definition of HTA (HTAi)

HTAi Homepage

What is HTA?

Heath Technology Assessment (HTA) is a field of scientific research to inform policy and clinical decision making on the introduction and use of health technologies. Health technologies include pharmaceuticals, devices, diagnostics, procedures and other clinical, public health and organizational interventions.

HTA is a multidisciplinary field that addresses the clinical, economic, organizational, social, legal, and ethical impacts of a health technology, considering its specific healthcare context as well as available alternatives. The scope and methods of HTA may be adapted to the needs of a particular health system, but HTA processes and methods should be transparent, systematic, and rigorous.

In health systems throughout the world, HTA plays an essential role in supporting decision making.

Old Definition of HTA (INAHTA)

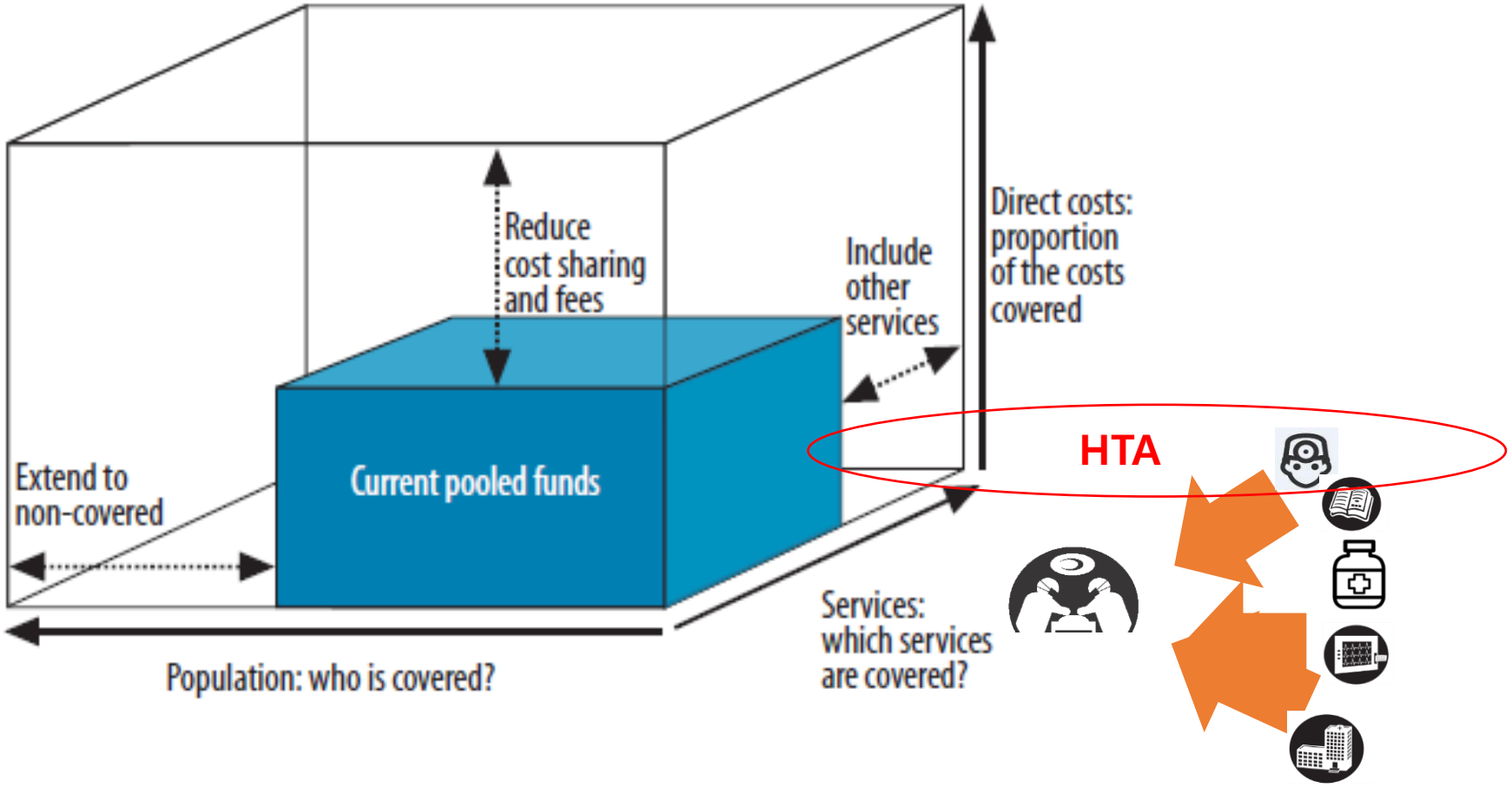
INAHTA Homepage

HTA is the systematic evaluation of the properties and effects of a health technology, addressing the direct and intended effects of this technology, as well as its indirect and unintended consequences, and aimed mainly at informing decision making regarding health technologies. HTA is conducted by interdisciplinary groups that use explicit analytical frameworks drawing on a variety of methods.

A **health technology** is defined as an intervention that may be used to promote health, to prevent, diagnose or treat acute or chronic disease, or for rehabilitation. Health technologies include pharmaceuticals, devices, procedures and organizational systems used in health care.

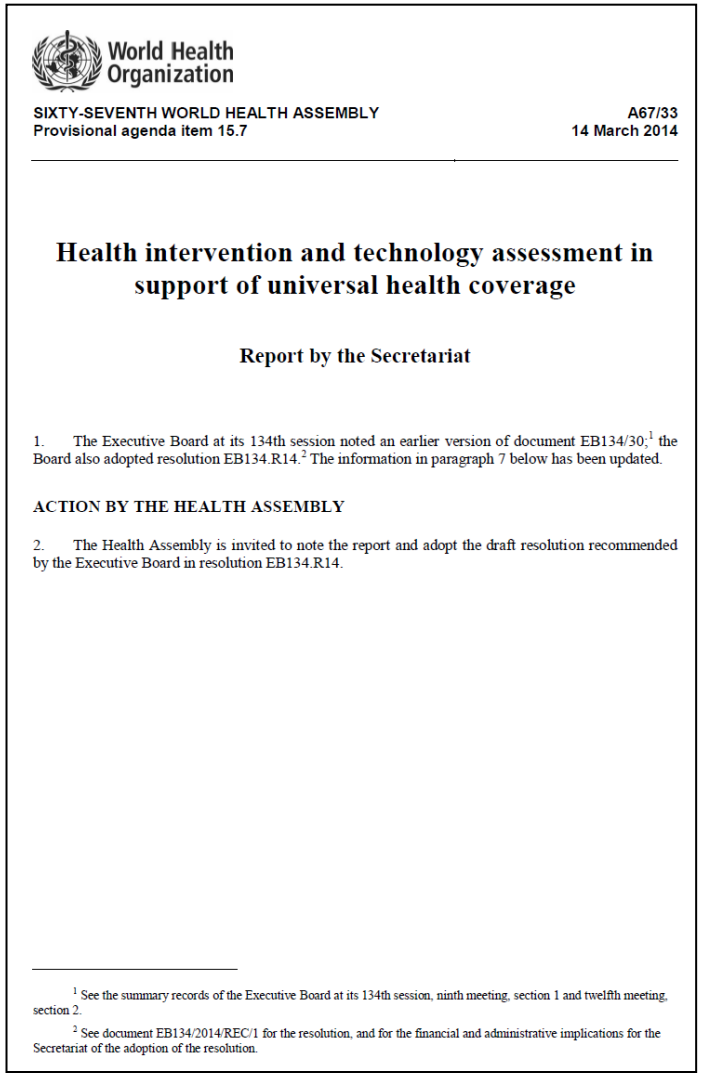
For more definitions, see the International HTA Glossary. (http://htaglossary.net/HomePage)

Three Dimensions of Universal Coverage



Slide from A. Velazquez-Berumen (WHO) at the EMRO HTA Workshop 2014

WHA recognizes HTA



World Health Organization

SIXTY-SEVENTH WORLD HEALTH ASSEMBLY
Provisional agenda item 15.7

A67/33
14 March 2014

Health intervention and technology assessment in support of universal health coverage

Report by the Secretariat

1. The Executive Board at its 134th session noted an earlier version of document EB134/30;[1] the Board also adopted resolution EB134.R14.[2] The information in paragraph 7 below has been updated.

ACTION BY THE HEALTH ASSEMBLY

2. The Health Assembly is invited to note the report and adopt the draft resolution recommended by the Executive Board in resolution EB134.R14.

[1] See the summary records of the Executive Board at its 134th session, ninth meeting, section 1 and twelfth meeting, section 2.

[2] See document EB134/2014/REC/1 for the resolution, and for the financial and administrative implications for the Secretariat of the adoption of the resolution.

Health Care Technology: Physical Nature

- **Drugs: e.g., aspirin, antibiotics, cancer chemotherapy**
- **Biologics: e.g., vaccines, blood products, biotechnology-derived substances**
- **Devices, equipment, supplies: e.g., cardiac pacemaker, MRI scanner, mosquito netting**
- **Medical and surgical procedures: e.g., acupuncture, bariatric surgery, cesarean section**
- **Support systems: e.g., clinical laboratory, drug formulary, electronic health record system**
- **Organizational, delivery, managerial systems: e.g., vaccination program, health care payment system**

Health Care Technology: Purpose

- **Prevention**
- **Screening**
- **Diagnosis**
- **Treatment**
- **Rehabilitation**
- **Palliation**
- **Other**

HTA to Inform Health Care Policies or Decisions

- **Advise a regulatory agency about allowing the marketing / use of a technology**
- **Advise payers (health authorities, health plans, etc.) about technology reimbursement: coverage (whether or not to pay), coding, and payment amount**
- **Advise clinicians and patients about appropriate use of a technology**
- **Help managers of hospitals and other health care organizations make decisions about acquiring a technology**
- **Support decisions by health technology companies about technology development and marketing**
- **Support decisions by financial groups about investing in new technology companies**

Properties and Impacts Assessed

Main categories:

- **Technical properties**
- **Safety**
- **Efficacy and effectiveness**
- **Cost and other economic attributes**
- **Social, legal, ethical, or political impacts**

Efficacy vs. Effectiveness

Efficacy

- **Benefit of using a technology for a particular health problem in ideal conditions of use, for example, in a strict protocol of a randomized controlled trial or at a "center of excellence."**

Effectiveness

- **Benefit of using a technology for a particular health problem in general or routine conditions of use, for example, in a community hospital.**

Efficacy vs. Effectiveness

Sources of variability in drug response			
Biology		**Behavior**	
Genomics	Environment	Physician prescribing	Patient adherence
Patient's genomic makeup	Co-morbidity, baseline severity of disease, altered physiological states, external factors	Inappropriate prescribing, prescr. to non-responders, medication errors	Poor adherence to prescribed drug regimen, non-persistence; "drug holidays"; overdosing
PD: Trastuzumab Abacavir PK: Codeine: resistance / tox. (CYP2D6)	PD: Insulin and stress /activity PK: increased absorption with fruit juice	Cerivastatin; Gemfibrozil; Mibefradil;	Anti-hypertensive, anti-infective drugs

Slide from Hans-georg Eichler, London, EMA, 2010 Dec.

Quality-Adjusted Life Year (QALY)

It is widely accepted that one year of life spent in a good state of health (or function of quality of life) is preferred to one year spent in a poor state of health.

“Utility” refers to the relative preference (value) that an individual (or society) has for a particular state of health.

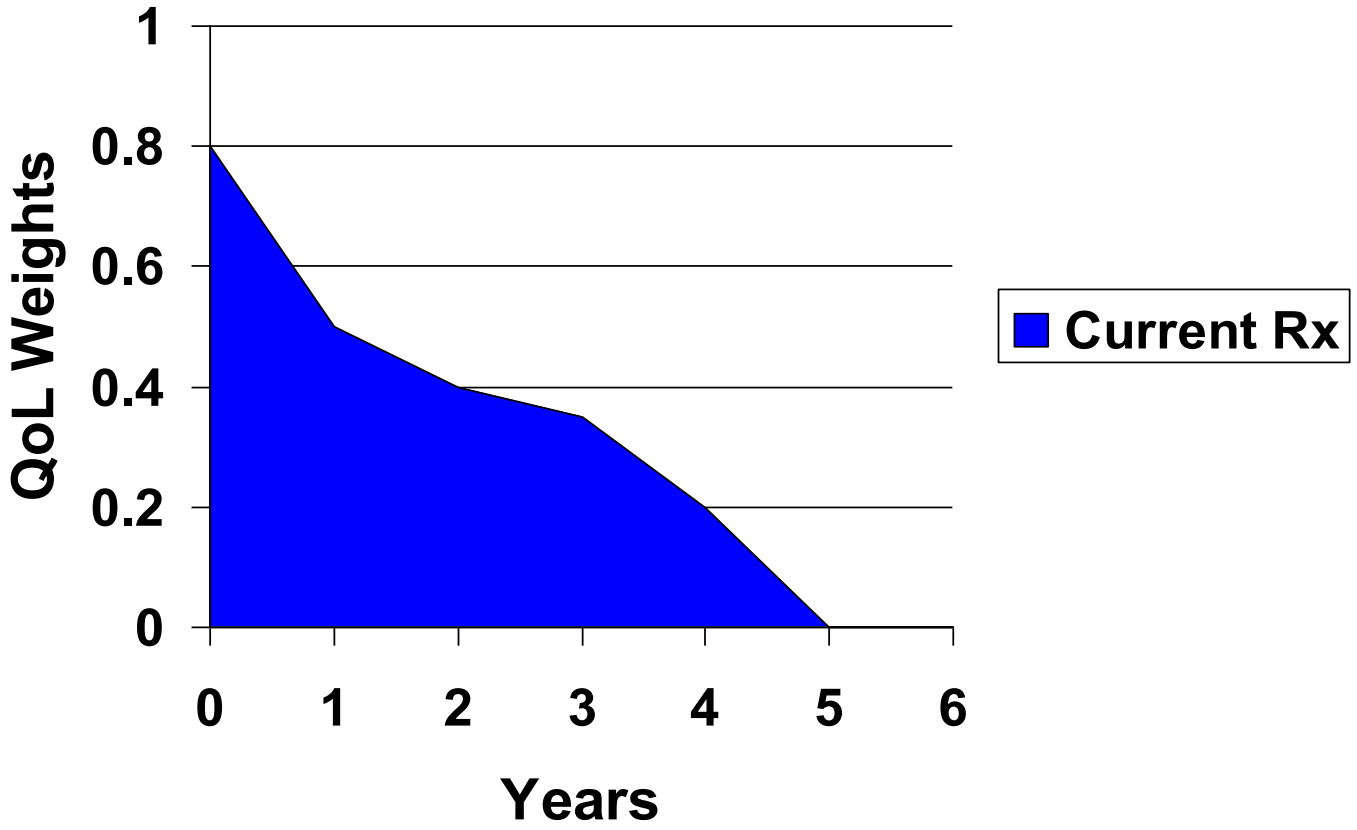
Utility weights are determined using direct methods, e.g., time trade-off or standard gamble, or indirect methods, e.g., SF-36, EQ-5D/EuroQoL, Health Utility Index, Quality of Well-Being Scale.

The QALY is a unit for measuring outcomes of health care (or other interventions). QALYs combine length of life with quality of life. That is, years of life are adjusted (weighted) by patient/user utility for the quality of life experienced during those years.

The QALY may be used as the unit of patient/user outcomes in a cost-utility analysis. (We will return to this later …)

QALY = Length of Life X Quality Weight

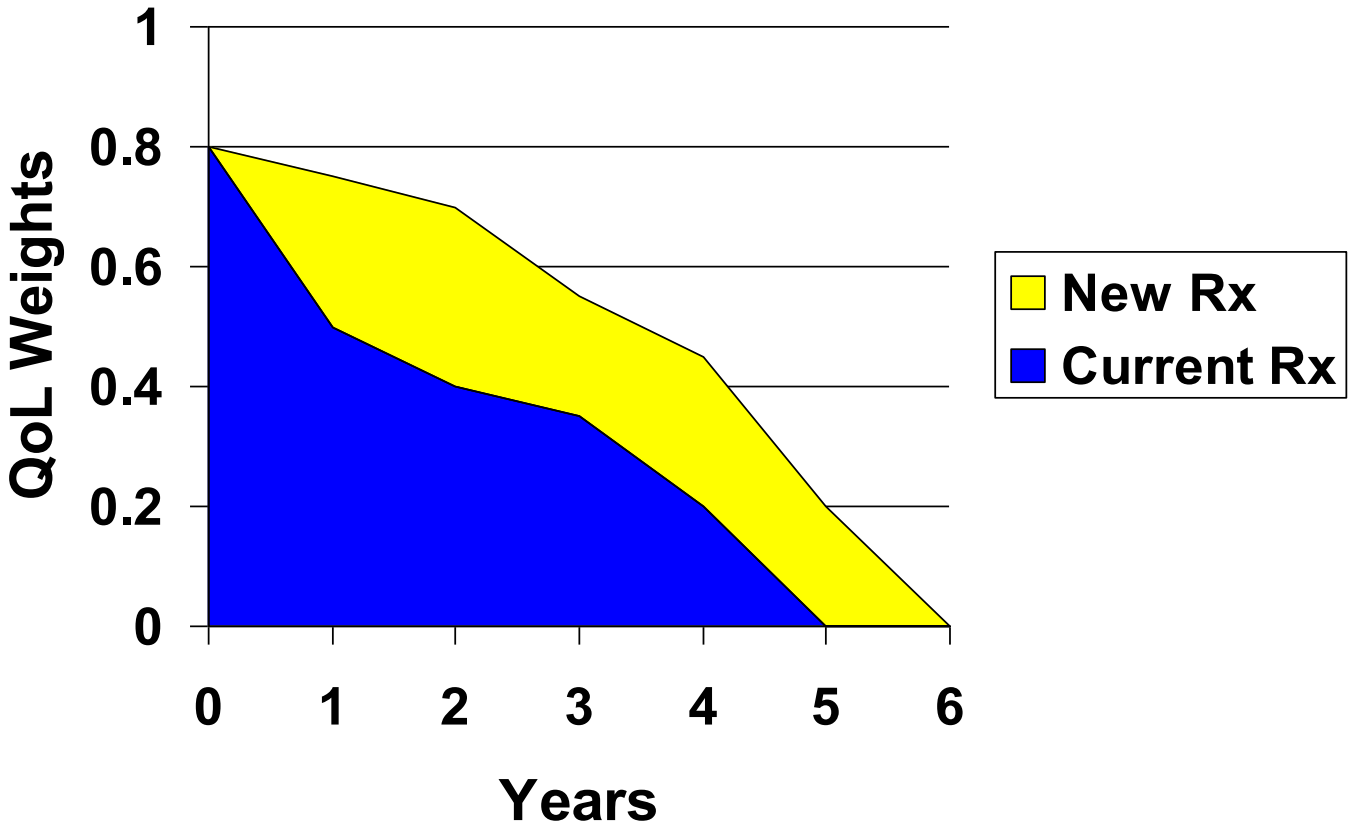
Survival and QoL with Current/Standard Treatment



Using QALYs to capture changes in length of life (mortality) and quality of life (e.g., utility for state of health)

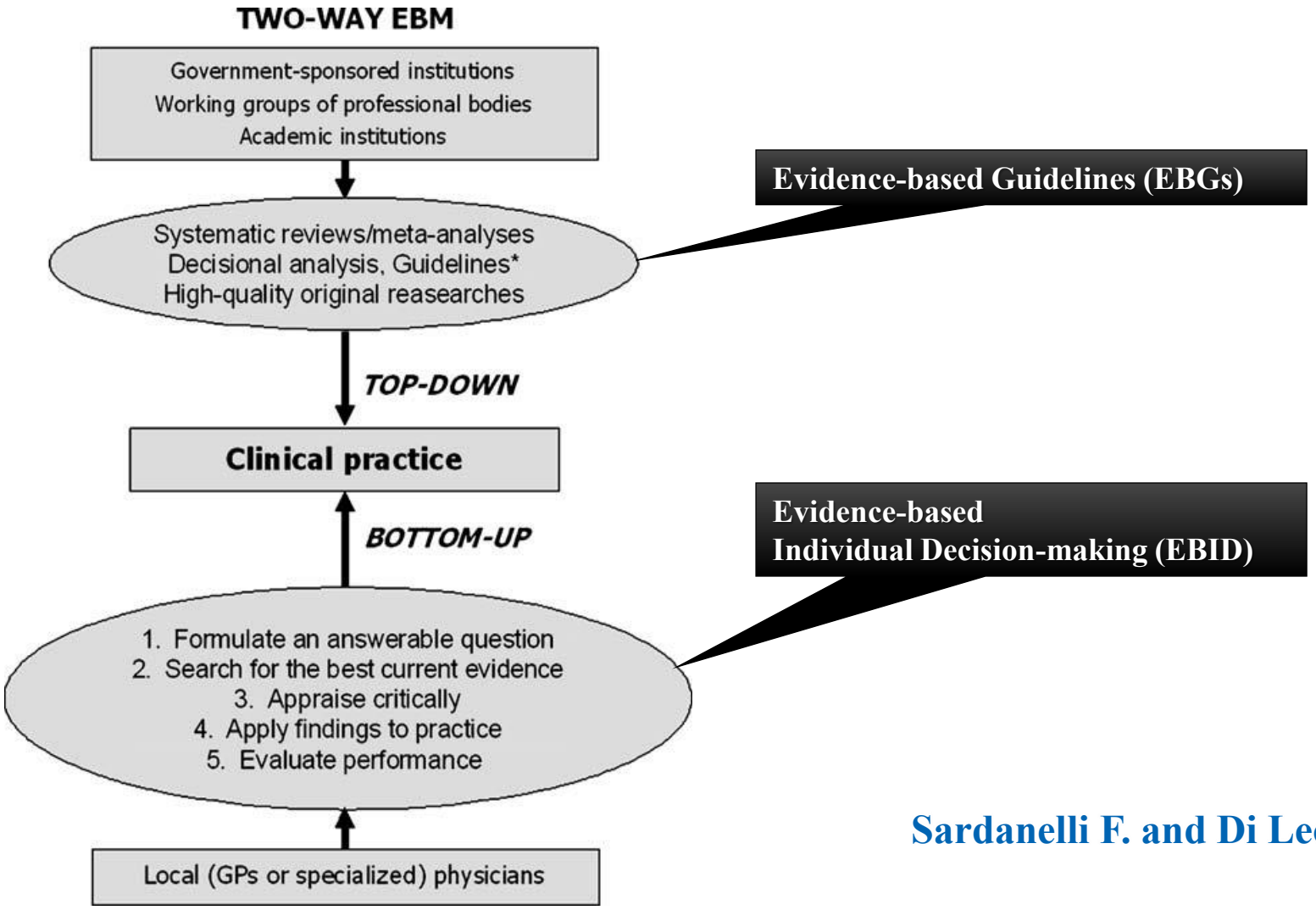
QALY = Length of Life X Quality Weight

Survival and QoL with New or Additional Treatment



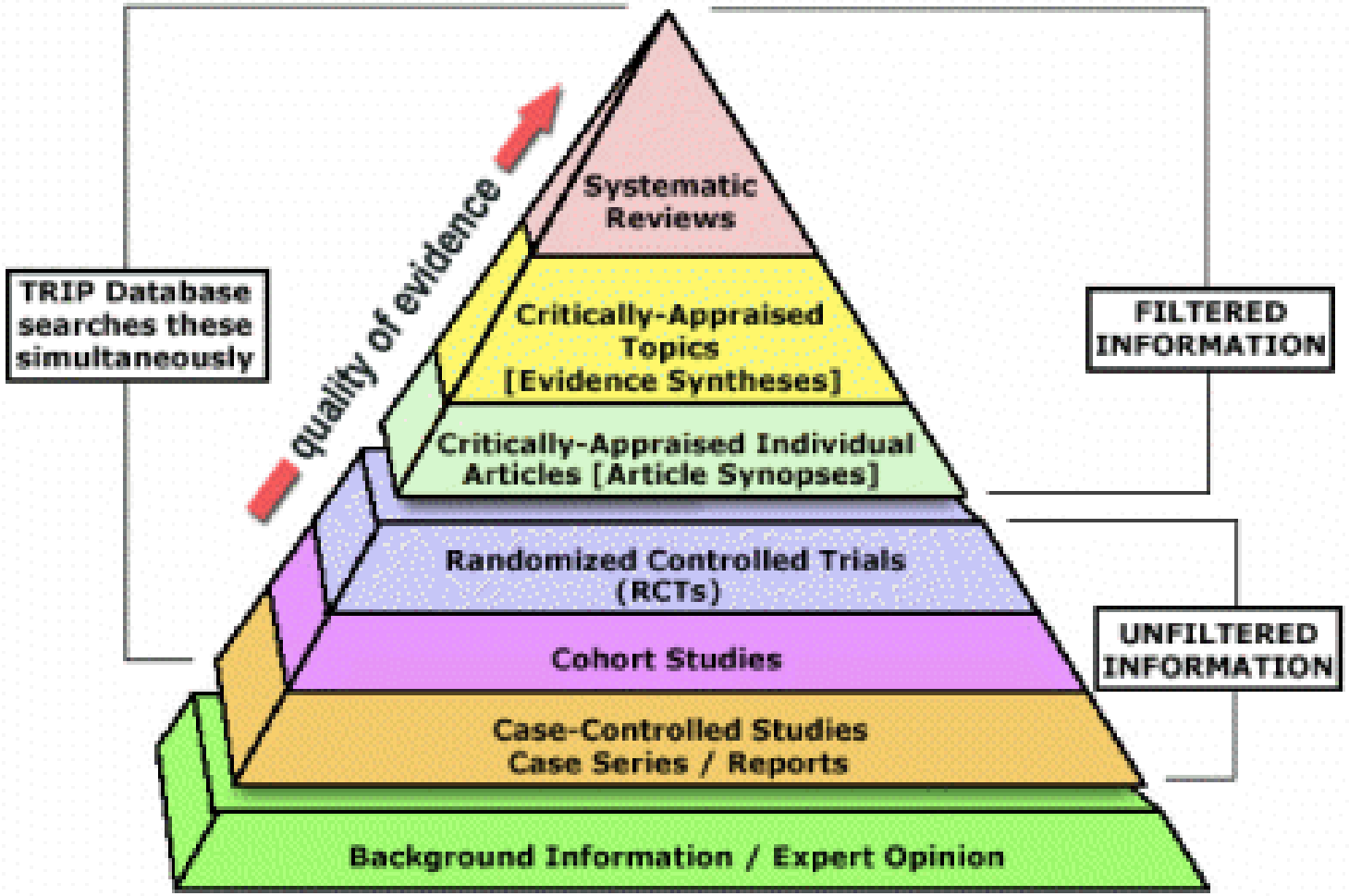
Using QALYs to capture changes in length of life (mortality) and quality of life (e.g., utility for state of health)

Two Approaches for EBM



Sardanelli F. and Di Leo G. (2008)

Level of Evidence (EBM)



Volume 12 • Supplement 2 • 2009
VALUE IN HEALTH

Health Technology Assessment and Evidence-Based Medicine: What Are We Talking About?

David Eddy, PhD, MD

Archimedes, Inc., San Francisco, CA, USA

HTA and Evidence-Based Medicine: What Are We Talking About?

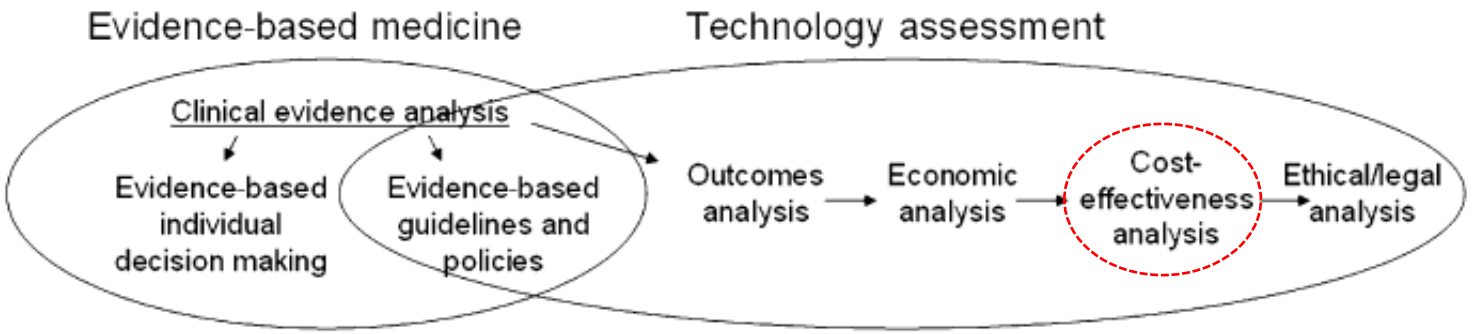


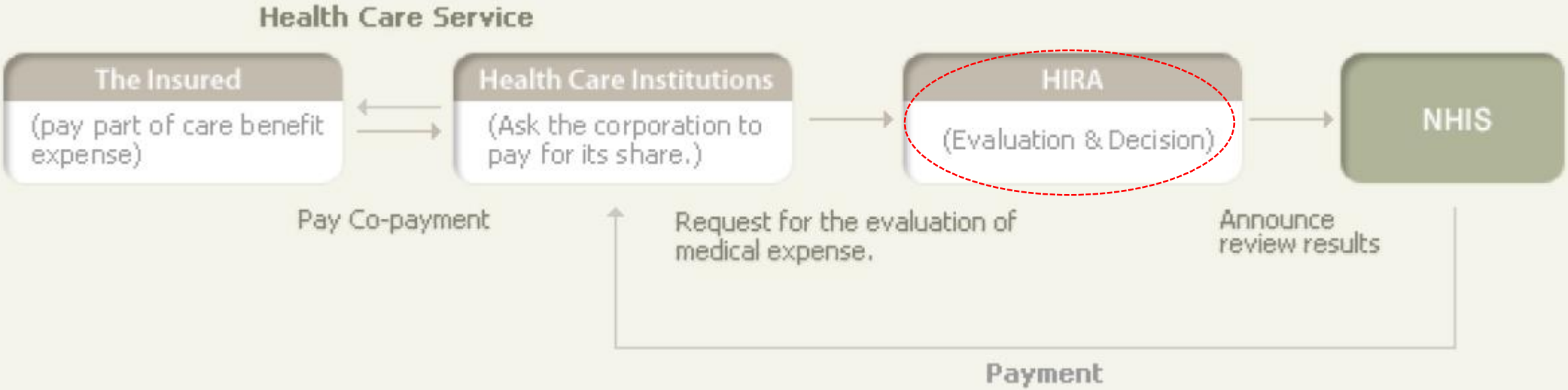
Figure 1 Relationship of evidence-based medicine and technology assessment.

HTA SYSTEM IN KOREA

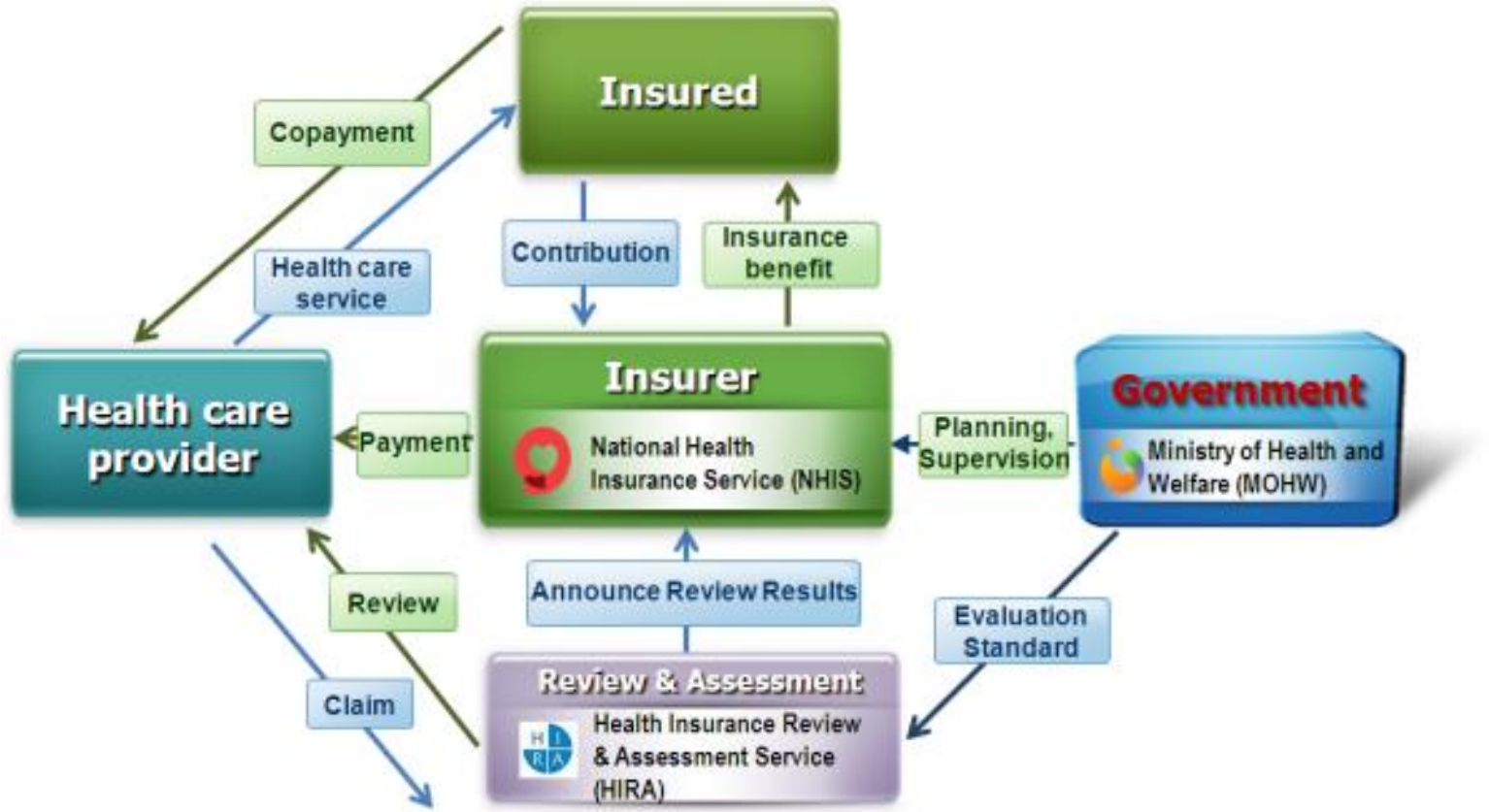
Background - *Korea*

- Population: 51,836,239 (2020)
- Social Security Scheme (Single Payer)
  - National Health Insurance (NHI): 96.7% of population
  - Medicaid (free or minimal copay service): 3.3% of population
- Operating Principle of NHI: Fee for Service

Independent Claim review in NHI



National Health Insurance system



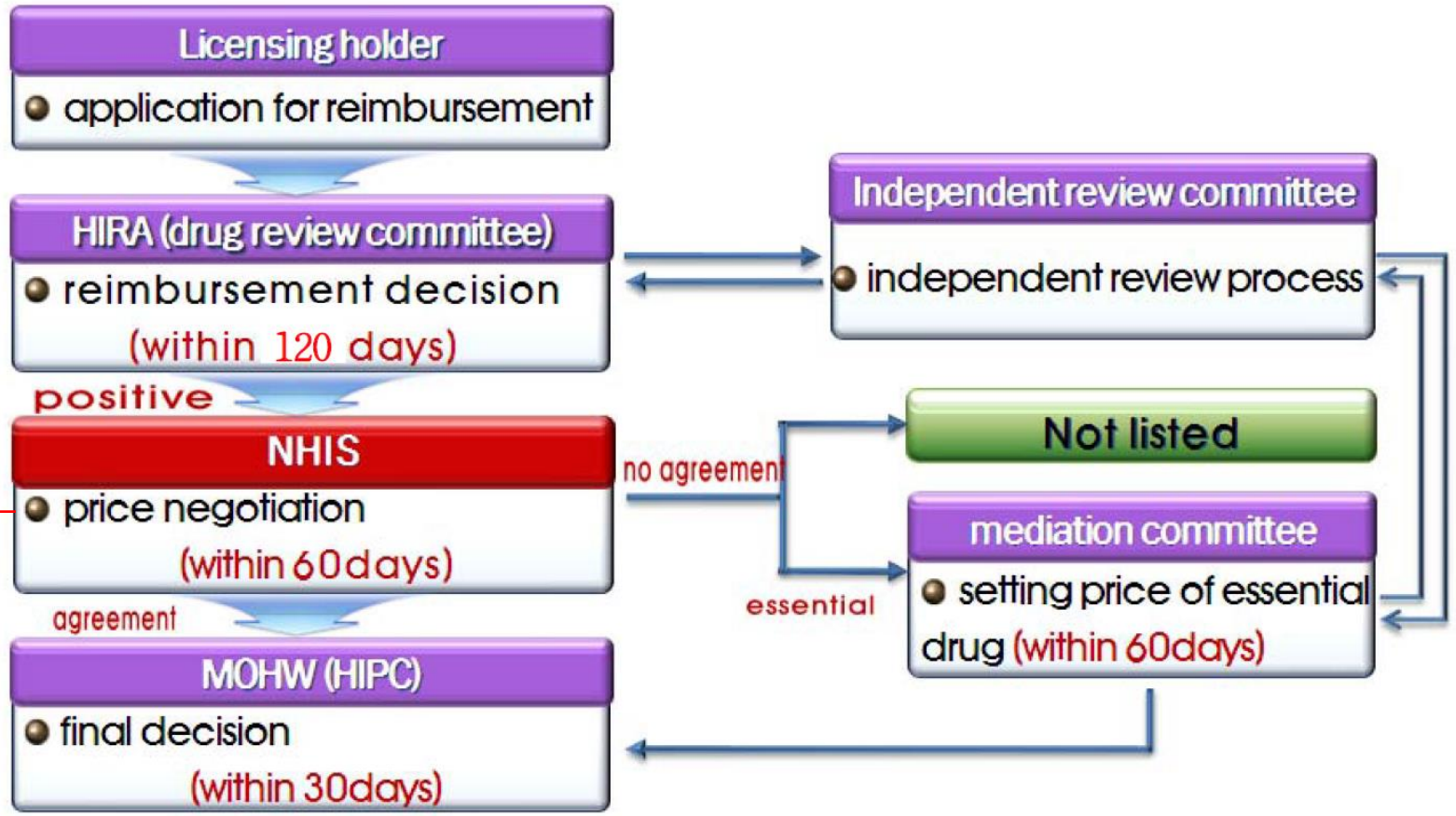
Korean System: Institutions

	Drugs	Medical Devices	Diagnostics and Procedures
HTA research	National Evidence-based healthcare Collaborating Agency (NECA)	National Evidence-based healthcare Collaborating Agency (NECA)	National Evidence-based healthcare Collaborating Agency (NECA)
Approval	Korean Food and Drug Administration (MFDS)	Korean Food and Drug Administration (MFDS)	Committee for New Health Technology Assessment (CNHTA)
Review and Recommendation	Health Insurance Review and Assessment Services (HIRA) / National Health Insurance Corporation (NHIS)*	Health Insurance Review and Assessment Services (HIRA)	Health Insurance Review and Assessment Services (HIRA)
Decision Making	Ministry Of Health and Welfare (MOHW)	Ministry Of Health and Welfare (MOHW)	Ministry Of Health and Welfare (MOHW)

*For drugs, HIRA does dossier review and NHIS does price negotiation

From Ahn et al. 2012. *Journal of Health Organization and Management* **26**(3):343-350

Drug Reimbursement Flow in Korea

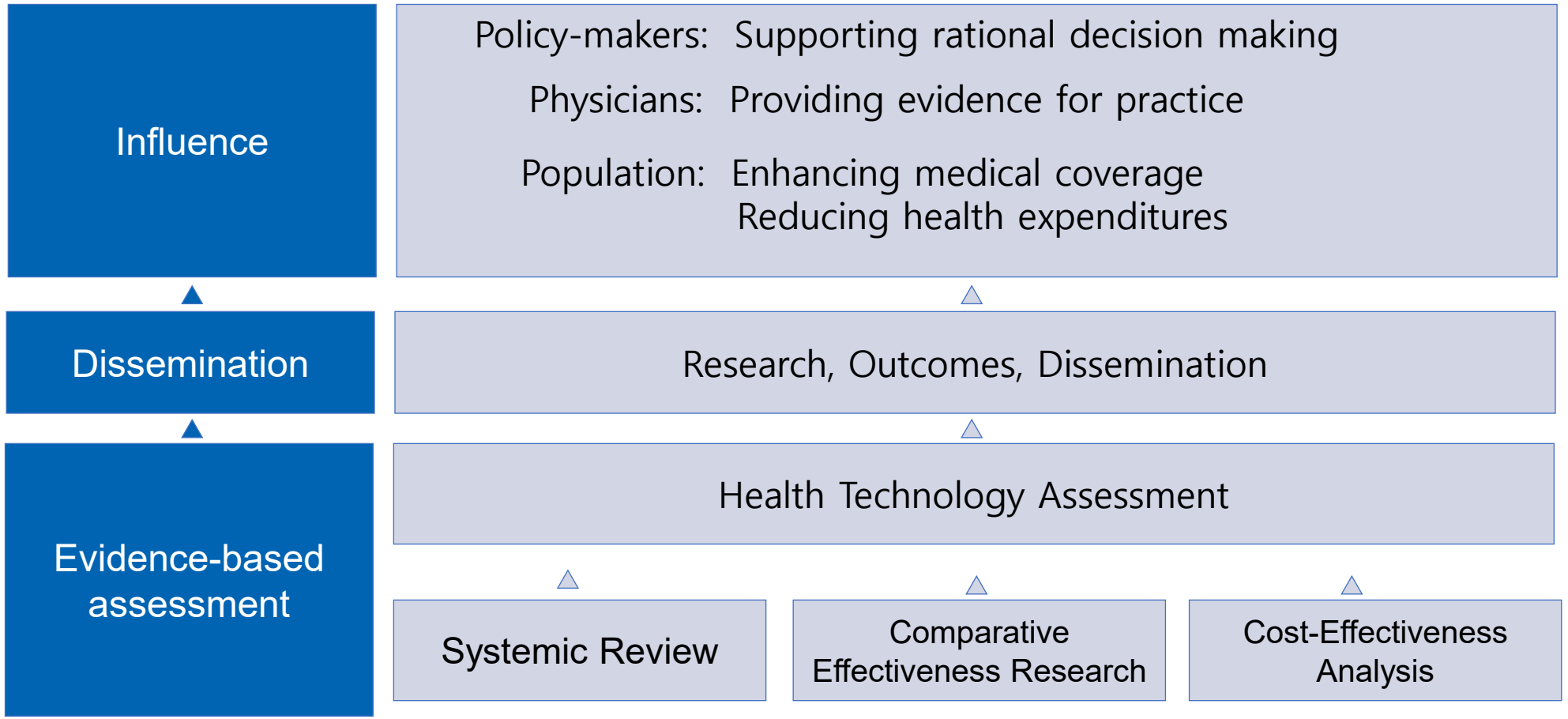


- **Price-Volume Agreement**
- **Risk Sharing Agreement**

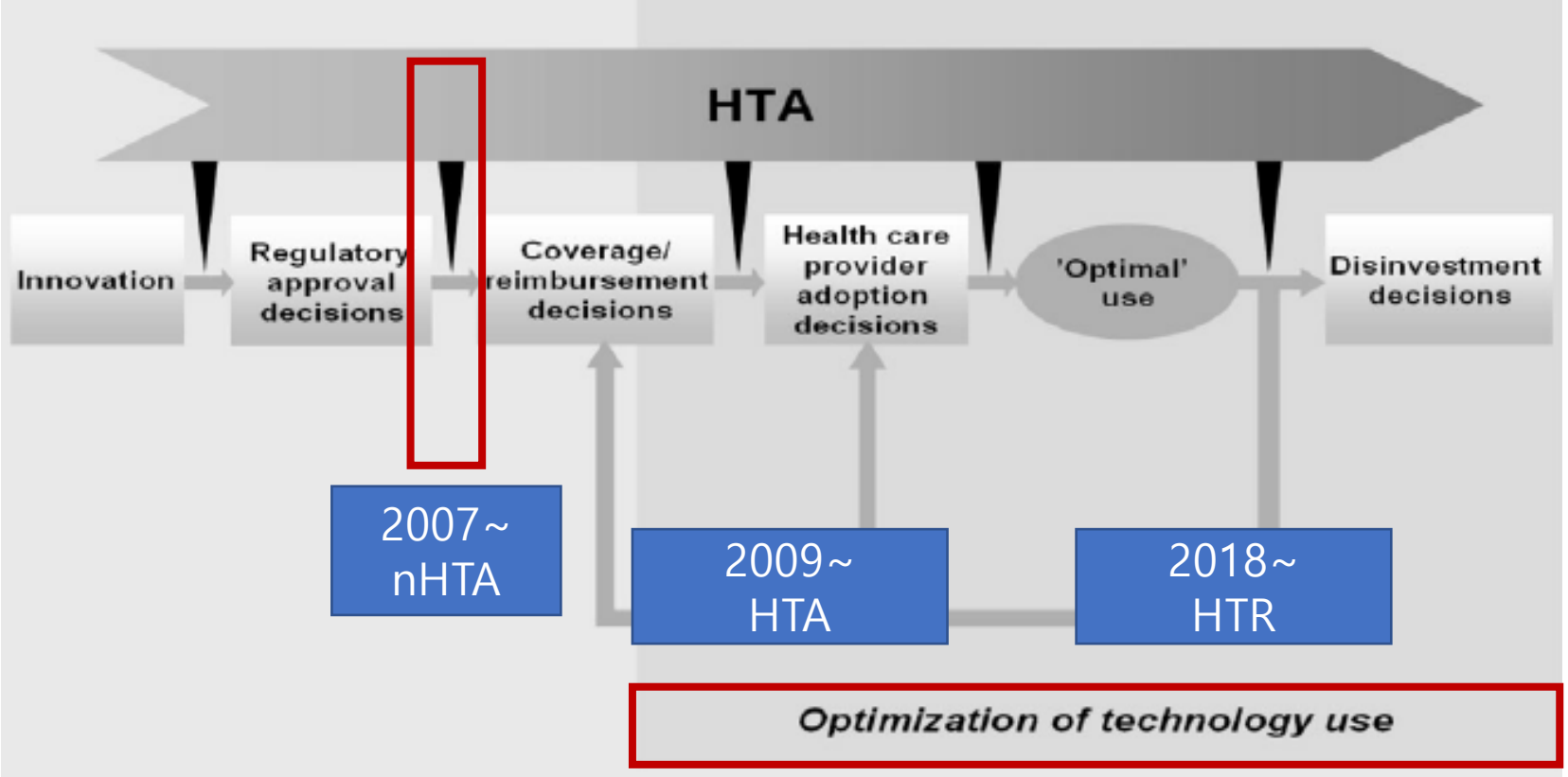
HTA Works in NECA

- **HTA Research**
  - **Largely based on topic suggestions from the general public**
  - **Study period: 1 year or longer**
  - **Output: generally full HTA report (safety, effectiveness, and economic evaluation)**
- **New Health Technology Assessment (NHTA)**
  - **Based on applications from “applicants”**
  - **Mandatory process for any new procedures or diagnostic methods to be used in Korea**
  - **Study period: 6 months or less**
  - **Output: partial HTA report (safety and effectiveness)**
- **Other research (including the ones requested by the government)**
  - **Manuals for HTA methods (used in HTA education)**
  - **Public health, policy analysis, and so on**

Evidence-based HTA in NECA



- **In order to manage the low value technology and induce optimal use of medical technology ➔ Health Technology Reassessment**

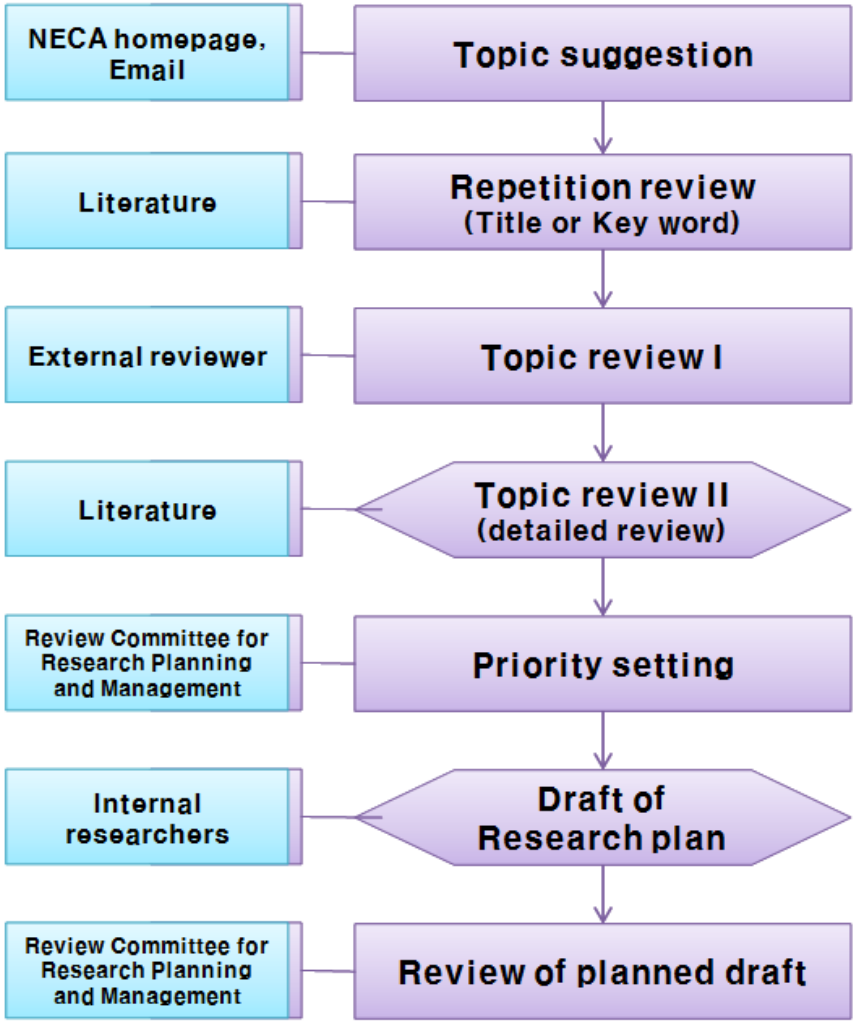


NECA Aims to manage the Life Cycle of Health Technology

	Emerging HT	Promising HT	New HT	HT	Optimizing HT
NECA	Horizon Scanning	Evidence generation	nHTA	HTA, CER, CEA, CPG, Policy evidence, dissemination	HTR
Key Component	Horizon Scanning Tool kit, network of experts	Outcomes research	Systematic Review	Systematic Review, Comparative Effectiveness Research, Cost Effectiveness Analysis, Clinical Practice Guideline support, Outcomes Research	Systematic Review, Comparative Effectiveness Research, Cost Effectiveness Research

Topic Solicitation and Project Development

- **Topic solicitation system**
  - To identify the social demand and provide robust evidence via concrete research
  - General public, academia, scientific societies, etc.



INTERNATIONAL COLLABORATIONS IN HTA


HTAi
Health Technology Assessment international
An International Society for the Promotion of Health Technology Assessment

International Network of Agencies for Health Technology Assessment

Regional HTA Network

- **EUnetHTA: started as an EC project and was successful but now gone**
- **HTAsiaLink: Asia Pacific network**
- **RedETSA: American network hosted in PAHO**
- **EMRO-HTA: WHO EMRO regional network**

HTAsiaLink

- **HTAsiaLink was established as a collaboration between HTA organizations in Asian countries in 2011**
  - **Now the region includes Oceania.**

- **The network operates on;**
  - **an informal and voluntary basis**
  - **no requirements for membership fees**
  - **no compulsory engagement in particular networking activities**

Objectives of HTAsiaLink

- To strengthen individual and institutional capacity in HTA research and integration of HTA evidence into policy decisions

- To avoid duplication, to facilitate learning and achievements, to reduce resource use, and to enhance efficiency at organization level through collaborative activities among the network

- To fulfill the need for transferring and sharing HTA-related lessons across countries and organizations in Asia and beyond

Joint Activities

Joint Research Project

- Willingness to Pay(WTP)/QALY in Asia
- Chinese Rapid HTA of high techs such as Da Vinci surgical robots
- Asian version of EQ-5D Bolt-on study
- Development of new preference based measure in Asia (AP-7D)

Conferences and Meetings

- The Inaugural Symposium on Asian Value for a QALY in 2011, Korea
- Participating the HTAi Conferences
- Annual Conference
- HTAi Asia Policy Forum

For Communication

- HTAsiaLink Newsletter (Tri-monthly)
- Teleconference
- Website (htasialink.com)
- Participated RedETSA annual conferences 2013, 2014, and 2019
- Participating collaborative projects with INAHTA and HTAi

HTAsiaLink Secretariat

- **Inaugural secretariat was NECA, Korea (2012-2021)**
- **The current secretariat is HITAP, Thailand (2022-)**
- **Homepage: https://htasialink.com**

Logo	Organization	Country
	Center for Health Economics and Policy Studies (CHEPS), Universitas Indonesia	Indonesia
	China National Health Development Research Center (CNHDRC)	China
	National Evidence-based Healthcare Collaborating Agency (NECA)	South Korea
	Health Intervention and Technology Assessment Program (HITAP)	Thailand
	Health Technology Reference Group (HTRG)	Australia
	School of Pharmaceutical Sciences, Universiti Sains Malaysia (USM)	Malaysia
	Ministry of Health, Singapore	Singapore
	Center for Outcomes Research and Economic Evaluation for Health (C2H), National Institute of Public Health	Japan
	HTA Unit - Philippines Department of Health	Philippines
	National Hepatitis C Program (NHCP) Office, Ministry of Health and Welfare	Taiwan
	HIAS Health, Research Center for Health Policy and Economics, Hitotsubashi Institute for Advanced Study (HIAS), Hitotsubashi University	Japan
	Health Strategy and Policy Institute (HSPI)	Vietnam
	The Australian Safety and Efficacy Register of New Interventional Procedures – Surgical (ASERNIP-S)	Australia
	Essential Medicines and Technology Division(EMTD), Department of Medical Services, Ministry of Health, Bhutan	Bhutan
	Malaysia Health Technology Assessment Section (MaHTAS), Ministry of Health Malaysia	Malaysia
	Health Services Research Unit, Changi General Hospital, Singapore Health Services (SingHealth)	Singapore
	Health Services Research Institute (HSRI), Duke-NUS Medical School	Singapore

HTAsiaLink

Current Organizational Members

As of February 2022,
there are 33 organizational members from the region and 2 associate members from outside of the region.

	Division of Health Technology Assessment, Center for Drug Evaluation (CDE)	Taiwan
	Saw Swee Hock School of Public Health	Singapore
	Health System Research Unit, Department of Community Medicine, Faculty of Medicine, University of Colombo	Sri Lanka
	Department of Health Convergence, Ewha Womans University	South Korea
	Department of Health Research (DHR), Ministry of Health and Family Welfare, Government of India	India
	NHC Key Laboratory of Health Technology Assessment (Fudan University)	China
	Big Data Research Center, Fu Jen Catholic University	Taiwan
	Shanghai Health Technology Assessment Research Center, Shanghai Health Development Research Center	China
	Health Technology Assessment Program, Mahidol University	Thailand
	InaHTAC (Indonesia Health Technology Assessment Committee), Ministry of Health, Republic of Indonesia	Indonesia
	Institute of Public Health Kalyani (IPHK)	India
	Centre for Health Policy, Planning and Management (CHPPM), Tata Institute of Social Sciences (TISS)	India
	The Department of Community Medicine and School of Public Health, Post Graduate Institute of Medical Education and Research, Chandigarh	India
	Pharmaceutical Services Program, Ministry of Health, Malaysia	Malaysia
	Menzies School of Public , University of Sydney	Australia
	The George Institute for Global Health	Australia

Thank you !


Gracias
Danke
Tak
Gràcies
Obrigado
Dankjewel
Terima kasih
Grazas
धन्यवाद
谢谢
Kiitos
謝謝
Merci
Eskerrik asko
Dziękuję
Grazie
Takk
Go raibh maith agat
Ačiū
Dziękuję
Mauruuru koe
ありがとう
감사합니다
Tack
Спасибо