

LOOKING FOR A COST-EFFECTIVENESS THRESHOLD IN KOREA

**The 8th Annual Meeting of HTAi
June 26, 2011**

Jeonghoon Ahn, PhD
National Evidence-based healthcare Collaborating Agency

BACKGROUND

- ✘ Economic evaluation emerged as a tool for setting priority in Korea
 - + December 2006, Korea introduced positive listing system for new drug reimbursement (i.e. cost-effectiveness analysis)
- ✘ Cost Effectiveness Threshold in Korea
 - + There are only a couple of small scale studies on Korean Incremental Cost Effectiveness Ratio
 - + Generally many other factors than ICER are influencing reimbursement decisions

OBJECTIVE

- ✘ To investigate a Cost Effectiveness threshold range in Korea

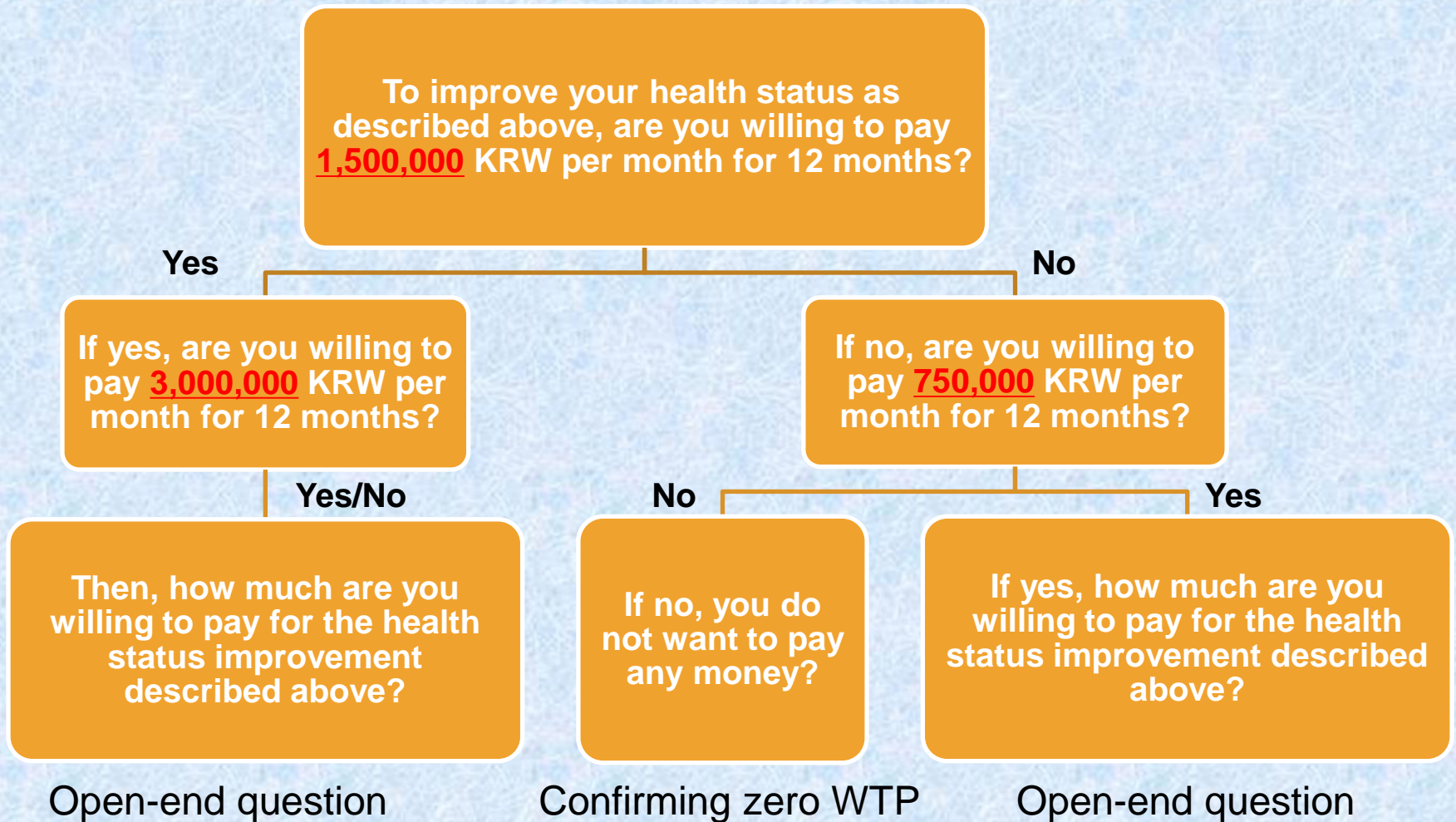
METHODS (OVERVIEW)

- ✘ Contingent Valuation Method (CVM)
 - + CVM estimates value (WTP) of health improvement (or risk reduction) by using hypothetical scenarios
 - + CVM studies on health improvements
 - + Baker et al, 2010
 - + Pinto-Prades et al. 2009
 - + Thavorncharoensap et al. 2009
 - + Shiroywa et al. 2009
 - + For this study, double bounded dichotomous choice questions with open question was used

METHODS

- ✘ Double bounded dichotomous choice (DBDC)
 - ✘ A closed range instead of a point estimate of WTP is estimated
 - ✘ Depending on a first dichotomous question answer of willing to pay the initial value or not
 - ✘ (If Yes) a second dichotomous question of willing to pay the doubled amount is asked
 - ✘ (If No) a second dichotomous question of willing to pay the half amount is asked
- ✘ In this study, an open WTP question was added after DBDC questions (a point estimate in the closed range)

DBDC+OPEN-END QUESTION STRUCTURE



SURVEY METHOD

- ✘ For general public
 - + Face to Face survey
 - + Nationally representative sample (pre-quota on age, gender, region)
- ✘ For interest groups
 - + Web based survey

WEB SURVEY



안녕하십니까?

한국보건의료연구원에서는 현재 “보건의료의사결정과정에서 경제성 평가의 활용방안: 비용-효과 판단기준” 연구를 수행하고 있습니다. 본 설문조사에서는 우리나라 보건의료에서 수행되고 있는 경제성 평가의 비용-효과성 판단 기준을 설정하는데 기초 자료를 얻고자 건강 개선에 대해 지불할 수 있는 최대 비용(WTP)을 조사하고자 합니다.

조사 결과는 연구 목적 이외에는 사용되지 않으며, 설문에 참여하시는 분들의 개인정보는 절대로 공개되지 않습니다.

이 조사에 대하여 문의사항이 있으
41)에게 연락해주시시오.

환

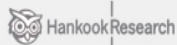
감사합니다.

2010. 5
한국보건의료연구원

설문에 참여하시다가 더 이상 진행을 원치 않을 경우 중단하실 수 있으나
다음에 시작하실 때는 처음부터 다시 시작하셔야 합니다.

아래 버튼을 눌러 주세요

설문참여하기



Korea's Most Prestigious Market and Opinion Research Firm
192-19 Nonhyun-dong Gangnam-gu Seoul Korea 135-826 TEL : 82-080-558-9000 / MAIL : epanel@hrc.co.kr
2010 Hankook Research all rights reserved.



여기 건강상태가 얼마나 좋고 나쁜지를 표현하는 것을 돕고자,
당신이 **상상할 수 있는 최고의 건강 상태**를 100으로,
당신이 **상상할 수 있는 최저의 건강 상태**를 0으로 표시한 **눈금자(온도계와 비슷함)**를 그려놓았습니다.
귀하가 생각하기에 **몇 번째 카드에서 묘사하는 각각의 건강상태**가 어느 정도의 건강상태인지를 아래 눈금자
에 표시해주시시오. 눈금자 맨 아래에 있는 세모표시를 위로 끌어올리시면 숫자가 표시됩니다.

현재 건강상태 93

몇 번째 선택하신 카드입니다.

운동능력		
나는 걷는데 다소 지장이 있다	2	
자기관리		
나는 목욕을 하거나 옷을 입는데 지장이 없다	1	
일상활동		
나는 일상활동을 하는데 지장이 없다	1	
통증/불편감		
나는 통증이나 불편감이 없다	1	
불안/우울		
나는 불안하거나 우울하지 않다	1	

상상할수있는
최고의 건강상태



상상할수있는
최저의 건강상태

해당 문항에 답변한 후에는 앞 문항으로 되돌아 갈 수 없으니 신중히 생각하고 답변해주세요

▶ 다음

EQ-5D SCENARIO

- + Of 42 combinations used in the previous tariff study (Jo et al 2008), a pair of scenarios per each QALY gain groups (<0.2 , $0.2-0.4$, $0.4-0.6$, $0.6-0.8$) were chosen after excluding those scenarios found to be difficult to imagine or generated most inconsistencies
- + From each scenario health state (< 1 QALY), WTP for a treatment improving the health state to a perfect one for 1 year with 100% chance was asked
- + Each EQ-5D scenario has 3 Korean versions of tariff values and also VAS marked by each respondent was recorded

VALUE FOR A QALY

- ✘ Dividing the reported WTP by health improvement (Δ QALY) yields WTP for a QALY
- ✘ There are four different ways to calculate health improvement (Δ QALY)
 - + VAS(Visual Analog Scale) reported by the respondent
 - + KCDC tariff value by Lee et al. (2009)
 - + KMW tariff by Jo et al. (2008)
 - + KEJ tariff by Kang et al. (2006)

CONSISTENCY CHECK

- ✘ WTPs were asked for 4 different EQ-5D scenarios (each from a health gain group <0.2 , $0.2-0.4$, $0.4-0.6$, $0.6-0.8$) and a scenario of early death (living one more year in perfect health or die now)
- ✘ Consistency was checked by whether the rank of WTPs match with the rank of health improvements (measured either by VAS or KCDC tariffs)

RESULTS FROM THE MAIN SURVEY

+ For general public

- × Nationwide survey on 1,017 people
- × Face to face survey (April 26, 2010 ~ June 3, 2010)

+ For interest groups

- × Providers (MDs, nurses, pharmacists in hospitals), industry, decision makers (NHIC, HIRA), academia (HTA, health economics)
- × Web survey (May 17, 2010~August 15, 2010)
- × A policy question added

Considering the current Korean economy, what is an appropriate amount for a QALY, which can be used in decision making for healthcare in Korea?

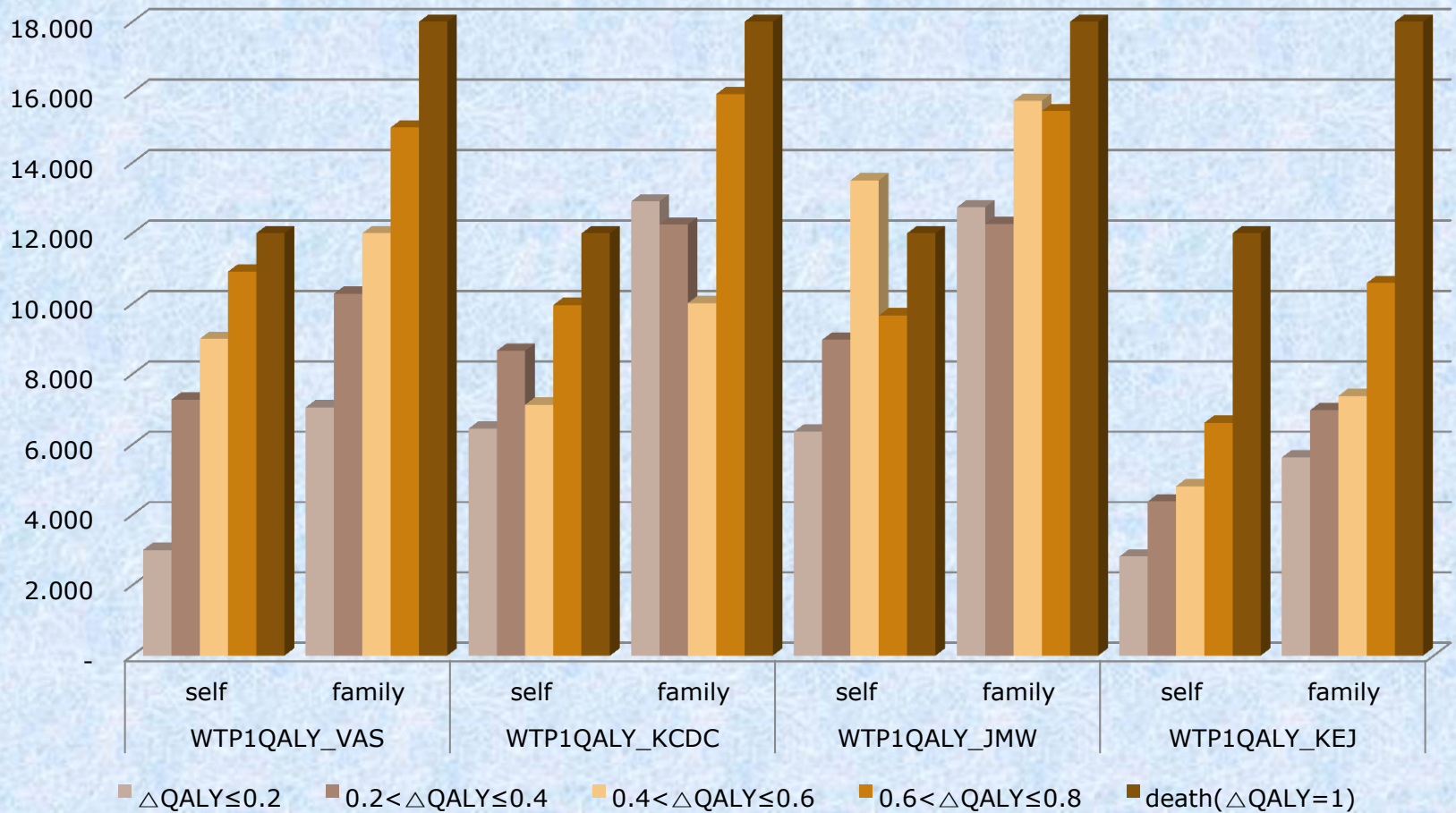
DISTRIBUTION OF WTPS FOR THOSE WHO PASSED CONSISTENCY CHECK

(In 10,000 KRW)

N = 933		Average (SD)	Median (Interquartile Range)
Self	VAS	1,937 (4,869)	765 (258 - 1,860)
	KCDC	1,946 (4,970)	777 (300 - 1,714)
	JMW	2,142 (5,053)	898 (299 - 1,962)
	KEJ	1,122 (2,433)	481 (148 - 1,154)
	Early Death	2,034 (3,523)	1,200 (12 - 2,400)
Family	VAS	2,825 (6,809)	1,200 (480 - 2,400)
	KCDC	2,844 (7,395)	1,202 (459 - 2,759)
	JMW	3,098 (7,471)	1,280 (515 - 2,900)
	KEJ	1,594 (3,508)	662 (282 - 1,476)
	Early Death	3,207 (4,576)	1,800 (960 - 3,600)



DISTRIBUTION OF MEDIAN WTPS BY HEALTH GAINS



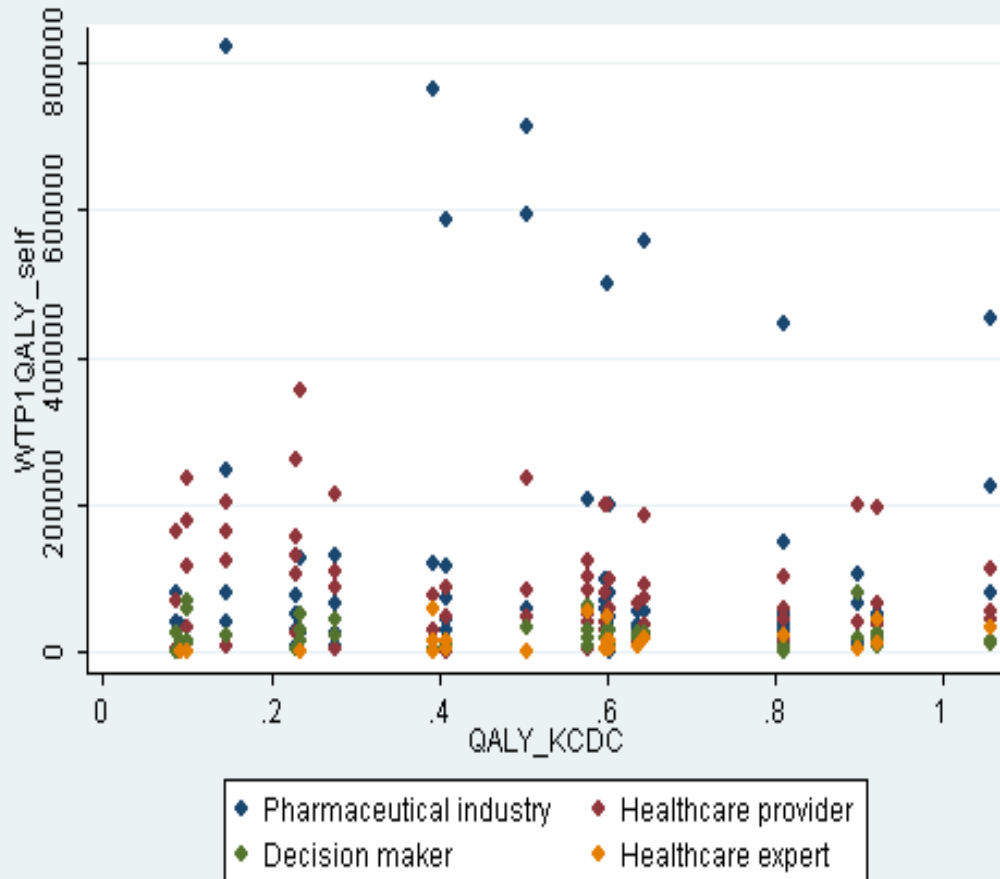
SURVEY RESULTS ON INTEREST GROUPS

- ✘ Of 73 answered, 67 passed consistency check and included in the analysis
- ✘ Mean WTP for self health improvements
 - + Industry > clinicians > decision makers > academia
- ✘ A similar pattern was observed for 3rd party and patient (industry respondents were extremely altruistic)

DISTRIBUTION OF WTP BY INTEREST GROUP

		Industry (n=27x4 scenarios)		Providers (n=21x4 scenarios)		Decision Makers (n=13x4 scenarios)		Academia (n=6x4 scenarios)	
		Mean	Median	Mean	Median	Mean	Median	Mean	Median
Self	VAS	12,006	5,000	7,444	6,000	2,617	2,122	1,932	875
	KCDC	13,870	5,146	8,356	6,051	2,233	1,916	1,774	1,384
	JMW	17,747	5,932	10,151	6,812	2,509	2,402	2,053	1,522
	KEJ	9,445	3,344	5,703	4,061	1,543	1,390	1,221	760
3rd party / Patient¹⁾	VAS	18,000	5,554	8,142	5,980	2,897	2,036	1,851	1,093
	KCDC	14,481	5,479	7,656	6,350	3,253	2,583	1,970	880
	JMW	22,213	6,054	9,960	6,812	3,263	2,474	2,143	1,423
	KEJ	11,534	3,550	5,627	3,993	2,010	1,568	1,261	807

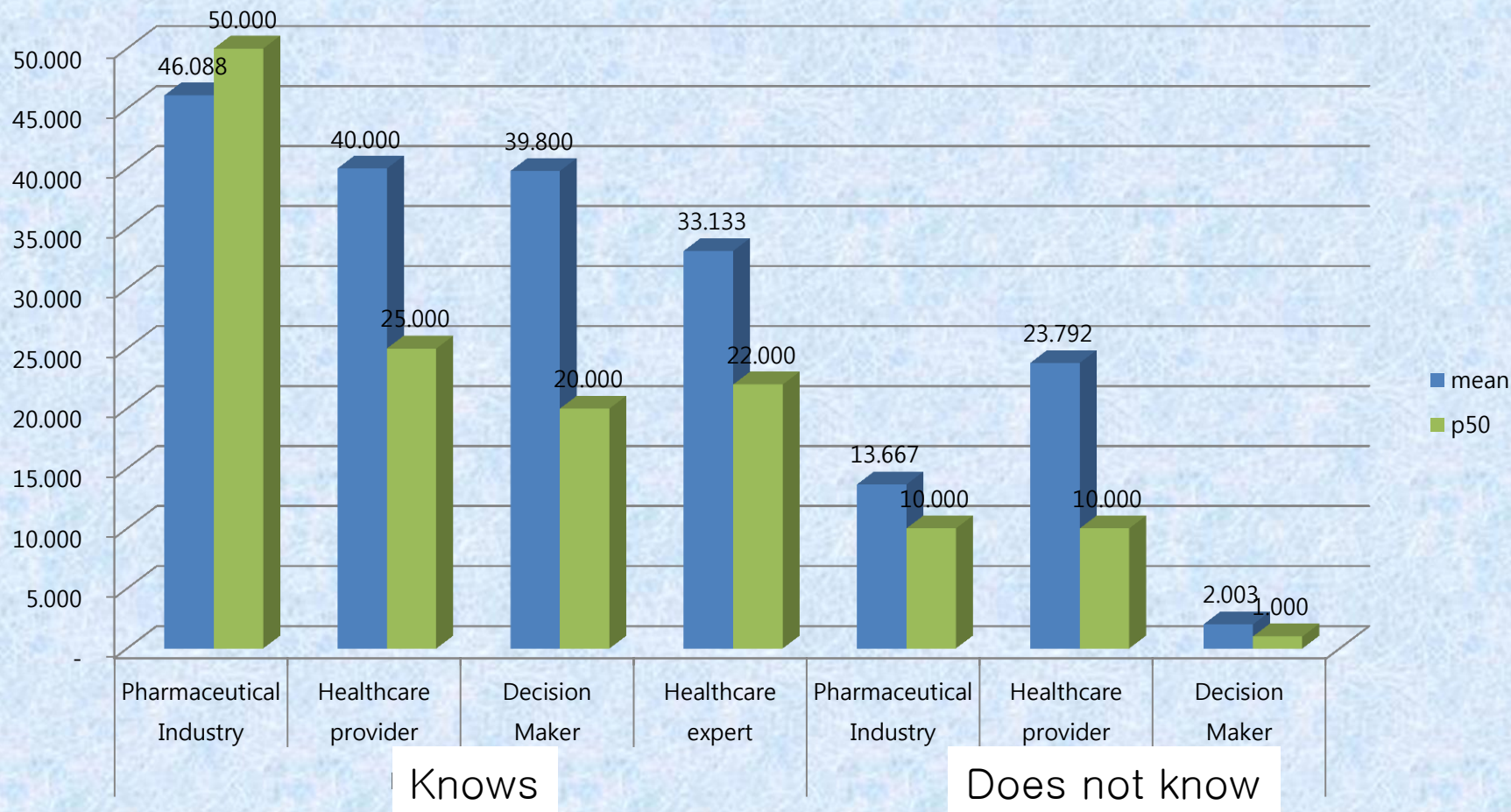
DISTRIBUTION OF WTPs FOR SELF



Industry WTPs were very high (blue x)

Decision makers' WTP and Healthcare experts' WTP were similar (green triangles and brown squares)

DIRECT WTP DEPENDING ON KNOWLEDGE OF ICER



CONCLUDING REMARKS

COMPARISON WITH PREVIOUS STUDIES

- ✘ For Korean CE Threshold, Bae et al. (2007) estimated 29,000,000 KRW for non serious illness and 51,500,000 KRW for serious illness, Shiroiwa et al. (2009) estimated 68,000,000 KRW
- ✘ Bae et al. (2007) was based on a survey of 77 professionals
- ✘ Shiroiwa et al. (2009) surveyed 1,000 general public by a web survey of 1 QALY gain (die or live in perfect health)
- ✘ This study employed a similar question of Shiroiwa et al. (2009) but the results were much lower, probably two things influenced to the difference
 - ✘ The preceding <1 QALY gain scenarios WTP elicitation may change WTP on early death as a continuation of 0.6-0.8 QALY gain
 - ✘ Ours is face to face and higher chance to include lower income and old age population than a web survey population

CE THRESHOLD COMPARISON

Country	Local Currency	US\$ (2010 PPP)	GDP (2008 PPP)
United States	50,000–100,000 USD	50,000 – 100,000	47,186
United Kingdom	20,000 - 30,000 GBP	30,457 – 45,686	35,631
Canada	20,000-100,000 CAD	16,420 - 82,099	38,975
Australia	42,000-76,000 AUD	27,587 - 49,920	38,637
Japan	5,000,000 JPY	44,864	34,132
Korea	20,000,000 KRW	24,324	27,658