

MAPPING OF HEALTH TECHNOLOGY ASSESSMENT IN CHINA: PROGRESS AND CHALLENGES FROM A NATIONWIDE REPEATED CROSS-SECTIONAL SURVEY

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INTRODUCTION & OBJECTIVES

- Health technology assessment (HTA) has been widely integrated into health policymaking in China [1].
- In 2017, the introduction of HTA to the National Drug Reimbursement List (NRDL) adjustments marked the official institutionalization of HTA and accelerated its development in China [2].
- We conducted a survey in 2016 to map China's HTA development [3]. Thus, this study repeated the survey to map the new phase of HTA in China.

METHODS

Study Design and Sample

- A repeated cross-sectional survey was conducted among HTA stakeholders in China in 2016 and again in 2021 using the same validated instrument from the widely used tool entitled “Mapping of HTA Instruments” [4].
- The study used convenience and snowball sampling to reach a broad range of participants, including policymakers, researchers, industry professionals, healthcare workers, and graduate students.

Survey Development

- The survey assessed eight domains of HTA development (Level of Institutionalization, Identification of Health Technologies, Priority Setting, Assessment, Appraisal, Reporting, Dissemination, and Implementation) using Likert and dichotomous formats, with a maximum total score of 146.

Data Collection

- Data was collected via the online survey platform “Sojump” in 2021. Pre-tests were carried out to assess face validity.

Data Analysis

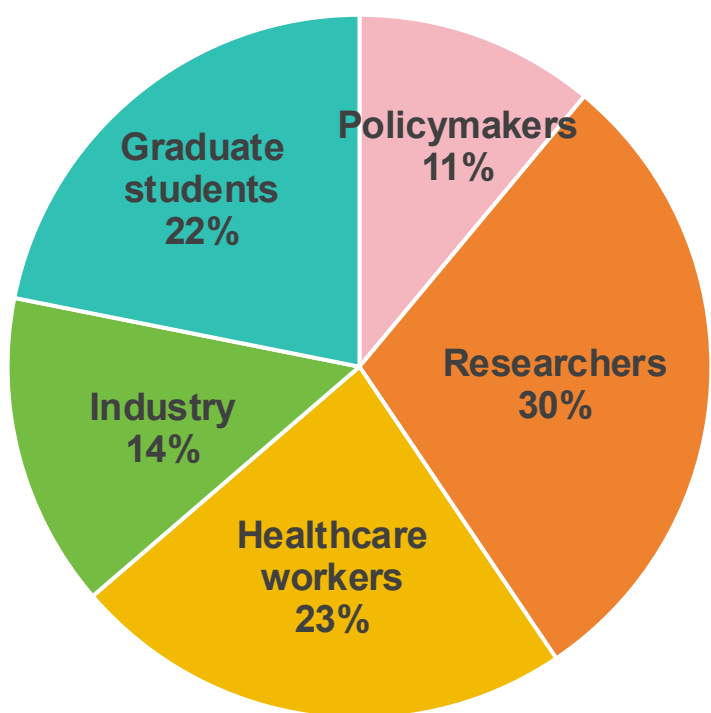
- Descriptive analyses were used to compare results across time (2016 vs 2021). In addition, regression analysis was conducted to explore factors influencing survey scores on perceptions of HTA development.

RESULTS

Baseline Characteristics

- 471 valid responses were collected in the 2021 round of survey. Most respondents were aged 30–59 (62.4%) and located in East China (83%).
- The survey respondents included different professions of HTA stakeholders, including researchers (29.5%), healthcare workers (23.2%), graduate students (21.9%), industry professionals (14.4%), and policymakers (11%).
- Over half held a master's degree (52%), and 78.1% had a single-disciplinary educational background.

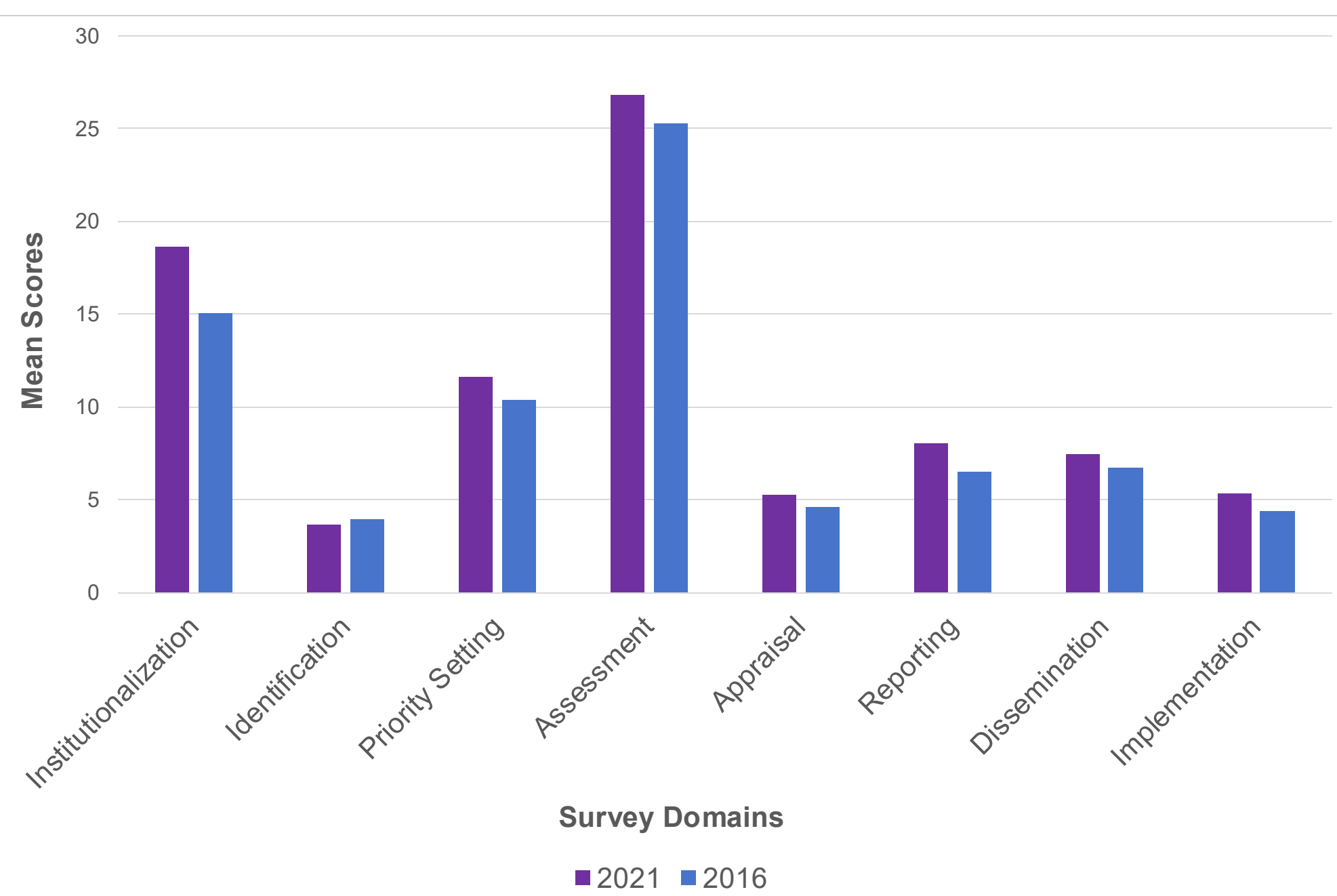
Figure 1 Composition of Survey Respondents by Profession



Comparison of 2016 and 2021 Scores by Domains

- The overall HTA score rose significantly from 76.36 in 2016 to 86.84 in 2021 ($p < 0.001$).
- All eight domains improved except the domain of *Identification of Health Technologies*, which slightly declined (3.92 to 3.66, $p < 0.05$), highlighting persistent gaps in horizon scanning.
- Institutionalization* domain showed the greatest gain (15.08 to 18.64), followed by advances in *Assessment*, *Reporting*, and *Implementation*, reflecting progress in HTA capacity-building and policy integration.

Figure 2 Comparison of Survey Results by Domain: 2016 vs 2021



Regression Analysis Results

- Stakeholder profession, gender, and education level significantly influenced HTA perception scores.
- Researchers** ($\beta = 0.02$, $p < 0.01$), **healthcare workers** ($\beta = 0.09$, $p < 0.05$) and **graduate students** ($\beta = 0.08$, $p < 0.1$) gave higher scores than policymakers.
- Education levels influenced the scoring pattern as those obtaining **master's degrees or below** (including master's degrees and bachelor's degrees or below) tended to score higher in this survey compared to stakeholders with **doctoral degrees** ($\beta = 0.06$, $p < 0.1$; $\beta = 0.13$, $p < 0.01$).
- Among specific professions, **female policymakers and researchers** scored lower than their male counterparts ($\beta = -0.18$, $p < 0.1$; Model 3, $\beta = -0.09$, $p < 0.05$).

Domain-specific Differences Across Stakeholder Professions (2021)

- Significant differences were observed across all eight domains by stakeholder type ($p < 0.05$).
- Healthcare workers** scored highest in six domains, particularly Implementation (6.28) and Assessment (28.61), while industry professionals scored lowest in Appraisal (4.53) and Implementation (4.57).
- Policymakers gave the lowest scores for Institutionalization (16.37), whereas industry professionals rated it the highest (20.65), reflecting varying perspectives on HTA integration.
- Overall, **healthcare workers scored the highest in total** and six domains. **Researchers reported the lowest overall score**, followed by industry workers. The greatest disagreements between stakeholder groups were in **Implementation and Dissemination**.

Figure 3 Comparison of Total Survey Scores by Professions (2021)

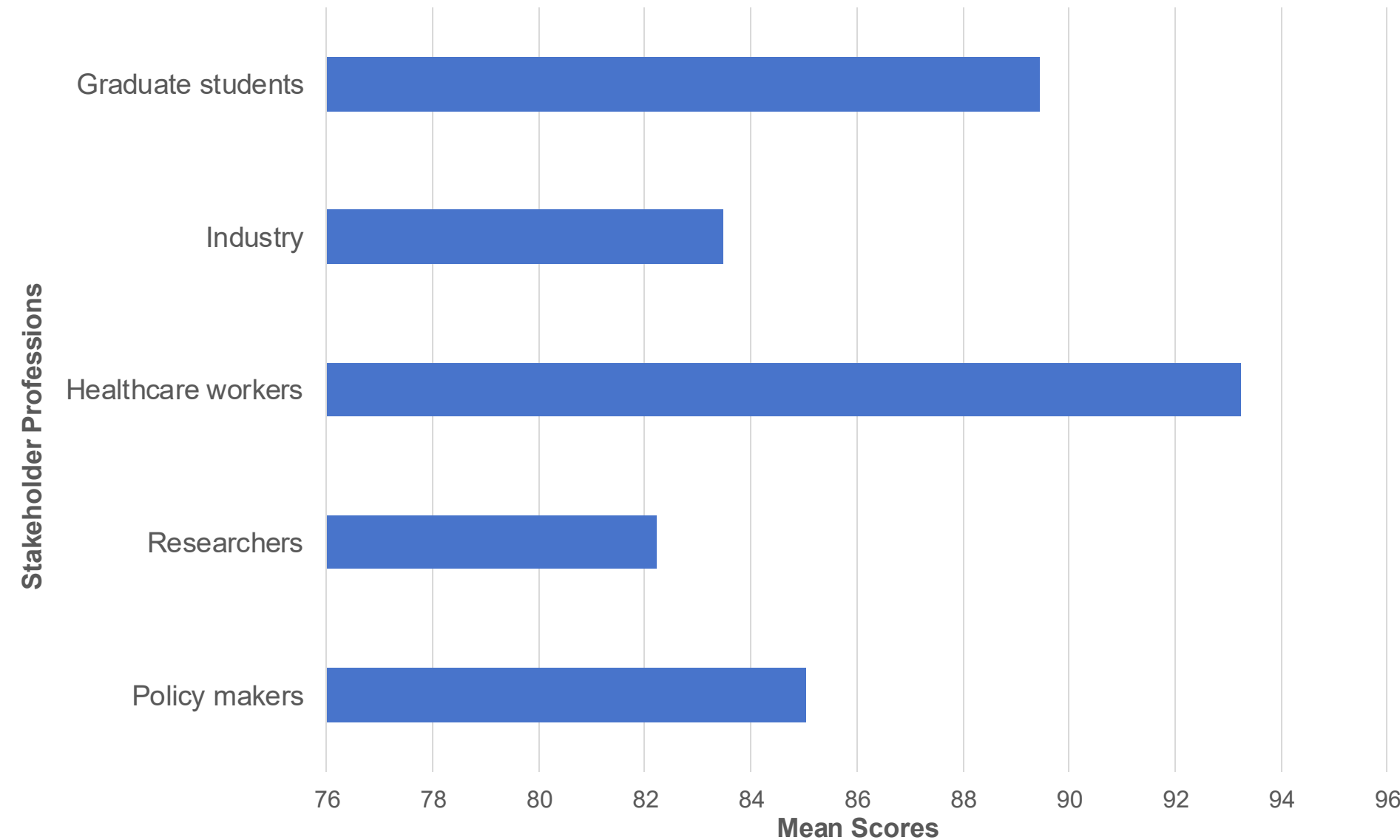


Table 1 Domain-specific differences across professions in 2021

Domains	Policy Makers Mean (SD)	Researchers Mean (SD)	Healthcare Workers Mean (SD)	Industry Mean (SD)	Graduate students Mean (SD)	Total Mean (SD)	P-value
I. Level of Institutionalization	16.37 (7.47)	18.50 (6.61)	18.58 (6.51)	20.65 (5.79)	18.70 (5.82)	18.64 (6.48)	0.0107
II. Identification	3.87 (2.33)	3.22 (2.33)	4.51 (2.84)	3.09 (1.92)	3.62 (1.85)	3.66 (2.36)	<0.001
III. Priority Setting	12.48 (4.28)	10.58 (4.41)	12.65 (4.14)	11.03 (4.45)	11.98 (4.38)	11.64 (4.40)	0.0013
IV. Assessment	27.12 (7.17)	25.63 (6.50)	28.61 (7.76)	24.94 (6.28)	27.51 (6.01)	26.80 (6.86)	0.0012
V. Appraisal	5.52 (1.99)	4.62 (2.31)	6.13 (2.20)	4.53 (2.27)	5.63 (2.21)	5.28 (2.31)	<0.001
VI. Reporting	7.31 (2.77)	8.13 (1.86)	8.32 (1.72)	7.97 (2.07)	8.09 (1.74)	8.05 (1.97)	0.0429
VII. Dissemination	7.48 (2.36)	6.76 (2.48)	8.15 (2.64)	6.71 (2.61)	8.12 (2.38)	7.45 (2.58)	<0.001
VIII. Implementation	4.90 (1.72)	4.78 (1.65)	6.28 (2.28)	4.57 (1.66)	5.79 (1.87)	5.33 (1.98)	<0.001
Total	85.04 (23.18)	82.22 (19.24)	93.24 (23.11)	83.49 (17.76)	89.44 (18.81)	86.84 (20.76)	<0.001

CONCLUSIONS

- Despite significant improvement in HTA development in China from 2016 to 2021, our repeated survey revealed the remaining gaps in the **Identification of Health Technologies, Implementation and Appraisal** domains.
- To tackle these challenges, China could develop corresponding strategies to further strengthen HTA development and enhance HTA's contribution to evidence-based health policymaking.

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