

# Assessing Interest and Awareness Among Japanese Medical Students in International Standardized Testing: The Introduction of the National Board of Medical Examiners (NBME) Comprehensive Basic Science Examination (CBSE) in Japan

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## Introduction

Since 2016, the University of Hawaii John A. Burns School of Medicine, in partnership with the JrSr Corporation and 17 out of 82 medical schools in Japan [Map 1], has been offering the Hawaii Medical Education Program (HMEP). This program offers clinical clerkships, workshops, on-demand course materials, and live online classes, all focused on global health and international medical standards.

This study's primary goal was to examine the feasibility of rolling out the National Board of Medical Examiners (NBME) Comprehensive Basic Science Examination (CBSE) and Clinical Science Examinations (CCSE) in Tokyo, potentially impacting the U.S. healthcare workforce, highlighted by Non-U.S. International Medical Graduates comprising 27.2 percent of all primary care positions in the 2023 U.S. match [1], with a particular focus on Hawai'i due to its significant Japanese heritage community (16.5%) [2].

## Objectives

1. To assess the level of interest among Japanese medical students in internationally standardized medical testing, specifically the USMLE Step 1 and NBME shelf examinations.
2. To present the implementation of the NBME CBSE and CCSE in Japan, affirming our HMEP program's direct role in this educational advancement.



Image created by Open AI, DALL-E (2024).

## Hawaii Medical Education Project

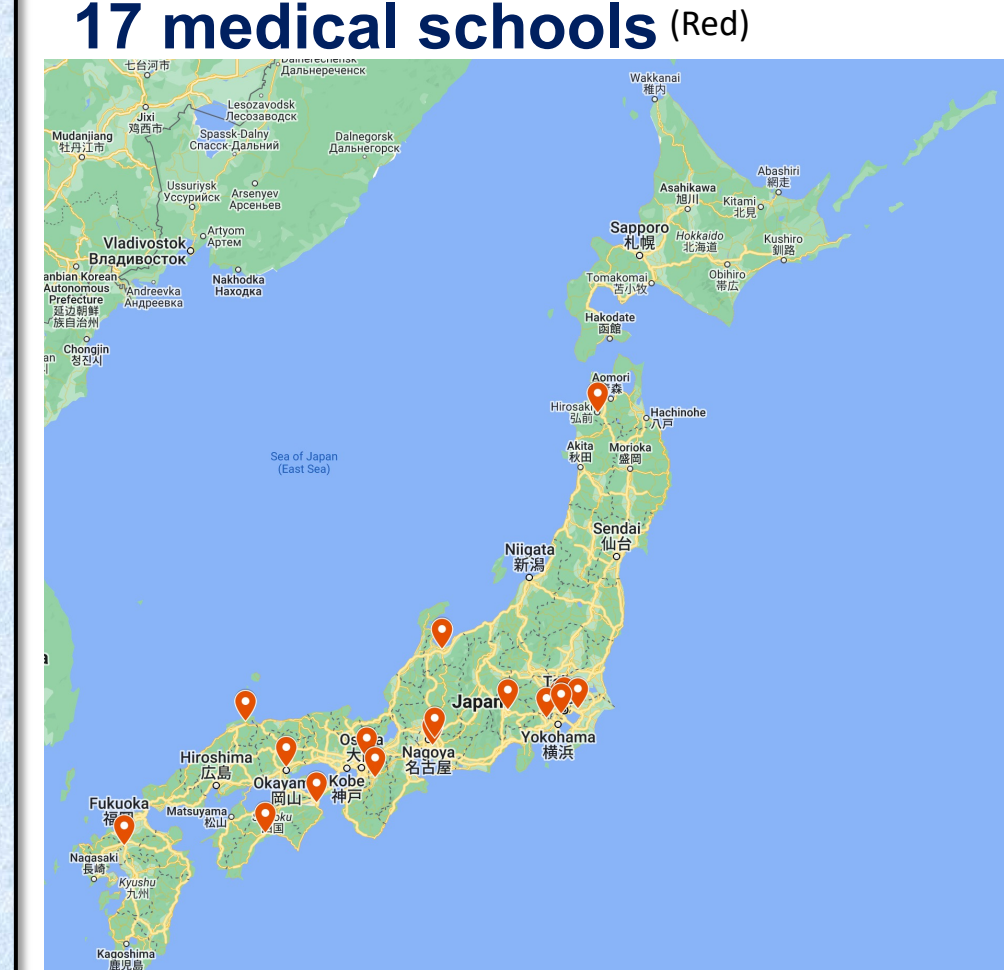
### [In-person Programs]

- **HMEP Clinical Clerkship Programs** (Accredited in Japan: U.S.-style clerkships).
- **JS Residency Program:** A residency program in Japan, uniquely designed for U.S. residency preparation (available at 4 hospitals in Japan).
- **Hawaii Medical Student and Physician Exchange Program** (2 - 4 weeks).
- **Hawaii Clinical Clerkship Preparation Program** (a workshop in Hawaii).

### [Virtual Programs]

- **HMEP Open Cross Classes:** 30 classes (2 hours each), taught by global educators, offered on Saturdays throughout the year.
- **USMLE Preparation Distance Learning Program:** An on-demand educational platform.
- **JrSr Special Seminars:** Expert series.
- **JrSr Online Public Seminars** for the general public.
- **JrSr YouTube Channel:** "A Gift for Future Doctors," Interview Series by Dr. Junji Machi.

[Map 1] HMEP Medical Schools 17 medical schools (Red)



[Map 2] HMEP Hospitals JS Residency: 4 Hospitals (Yellow) HMEP Hospitals: 35 (Green)



Map Data and pins generated by Google Maps (2024).

## Methods

Using Google Forms, an online anonymous survey [Figure 1] was conducted across 14 medical schools in August, 2023, with 1900 students on the HMEP mailing list (20% of medical students) [Map 1]. Of those, 279 students (15%) were active participants, defined by direct participation in any of the HMEP curriculum. Participation was voluntary, the survey was open for 16 days, and data were collected and analyzed by two independent researchers. Invalid results were defined as incomplete responses or responses from non-current medical students.

\* At the time of the survey, there were 14 medical schools enrolled in the HMEP programs. Currently, there are 17 medical schools that have enrolled.

[Figure 1] NBME CBSE and USMLE Step 1 Survey

NBME Comprehensive Basic Science Examination and USMLE Interest Survey Questionnaire.

This assessment offers an official NBME Step 1 equivalent grade and pass/fail prediction, comparable to U.S. medical students' scores. Exempt from the ECFMG/USMLE's 7-year and 4-attempt limits, it benefits early medical students, including those considering studying abroad. It is currently unavailable in Japan.

1. What year of medical school are you in?
2. How determined are you to take the NBME Comprehensive Basic Science exam (Step 1 practice test)?
3. What is your budget for the examination fee (excluding transportation)?
4. Would you be interested in a small gathering (either a special lecture or a networking event) after the examination?
5. If you are interested in training in a U.S. clinical residency program after graduation, please select the reasons that apply to you.
6. Are you considering taking the USMLE Step 1?
7. If you were to take the USMLE Step 1, what would be your reasons for taking it?
8. What are the obstacles you face when considering taking the USMLE Step 1 during medical school?

## Results

Out of 115 survey responses, 101 responses from medical students were retained (36% of active students), and the other responses from residents and faculty were excluded.

Among the valid responses (n=99; 79 pre-clinical and 22 clerkship students), 98% expressed interest in participating in a testing-center-based NBME CBSE (n=97), with 23% strongly determined to take the exam (n=23). Only 1 student was not interested in the USMLE Step 1.

While 55% (n=54) planned to take the Step 1 exam during medical school, 8% (n=8) intended to do so during post-graduate residency, and one third remained undecided (35%, n=35).

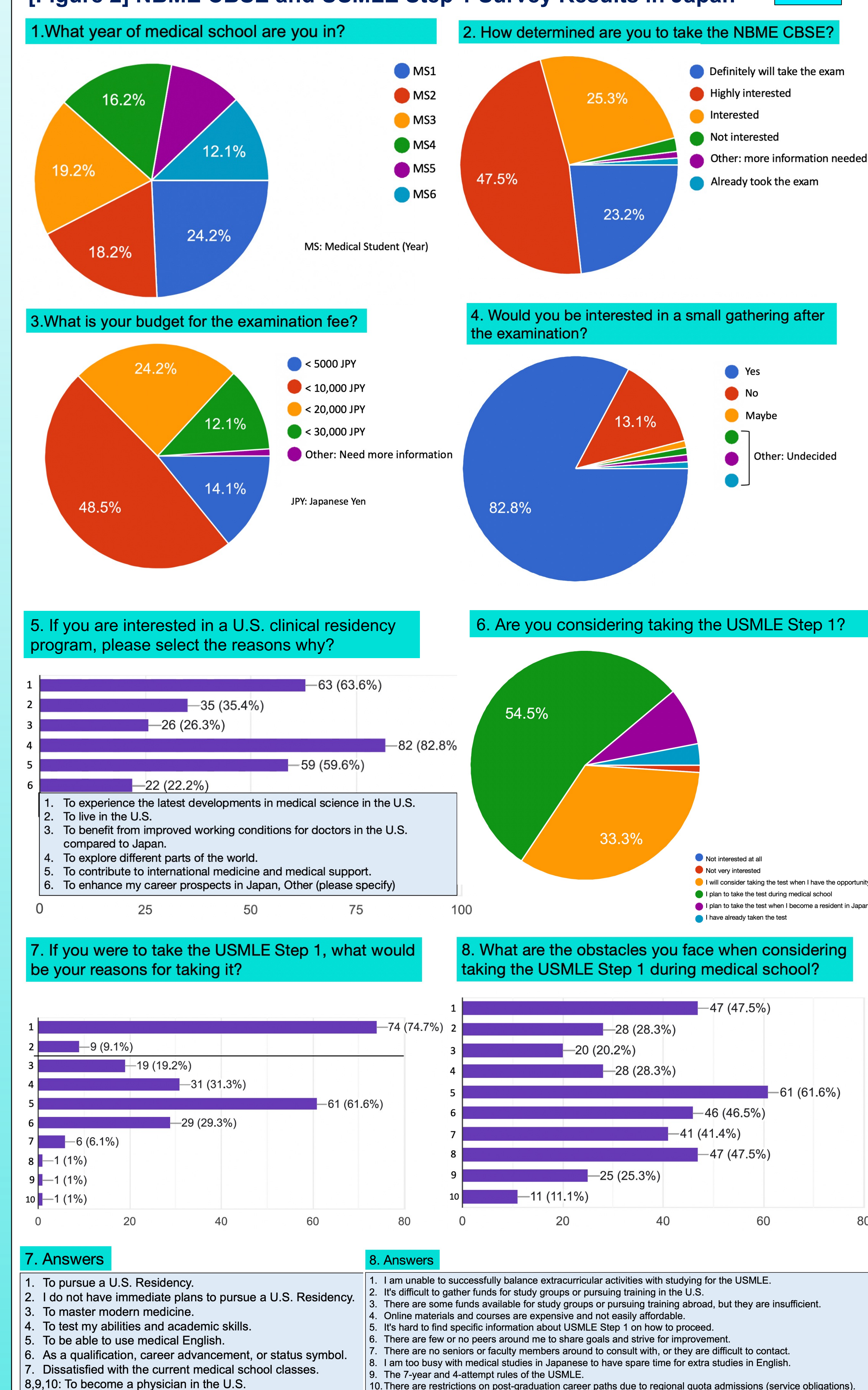
Respondents cited various reasons for pursuing clinical training in the U.S., including experiencing advanced medical practice (64%, n=63), a desire to live in the U.S. (35%, n=35), perceived higher physician compensation (26%, n=26), a desire to see the world (83%, n=82), a passion for global healthcare and international medicine (60%, n=59), and the belief in potential career advantages within Japan (22%, n=22).

Regarding the USMLE Step 1, 47.5% (n=47) faced challenges in balancing exam preparation with extracurricular activities and their busy Japanese medical curriculum, while 62% (n=61) found gathering information for effective preparation challenging.

[See Figure 2]

## Results

[Figure 2] NBME CBSE and USMLE Step 1 Survey Results in Japan n = 99



## Discussion

Survey results show strong interest in the NBME CBSE and CCSE at testing centers among Japan's medical students. A majority wish to train in the U.S., aiming for the USMLE. Although this study was limited by its voluntary nature, the survey offers insights into the ambitions and barriers of the responders who are highly-motivated students pursuing international medical careers, who may stand to benefit from new center-based exams, particularly for U.S. residencies.

These results have culminated in the inaugural launch of the NBME Basic Science Subject Examination (BSSE) and Clinical Science Subject Examination (CSSE) in Tokyo, Japan, slated for March 2024. This landmark initiative aims to elevate educational standards and harmonize technology-enhanced medical assessments across all Japanese medical schools, aligning with our broader vision of equipping medical professionals in the Pacific Rim with a global perspective.

## Conclusions

The introduction of NBME Shelf Examinations in Japan by the HMEP marks a significant milestone in aligning Japanese medical education with international standards. This initiative is a substantial contribution to the modernization of medical education in Japan. It addresses the strong demand from students aiming for international medical careers and enhances proficiency in professional English communication.

The successful implementation of these examinations is anticipated to profoundly impact the global healthcare workforce, including in the U.S., by producing a generation of medical professionals equipped with global competencies and perspectives.

## Future Directions

Looking forward, we are dedicated to creating a Japanese-language version of the NBME International Foundations of Medicine (IFOM) exam in collaboration with the NBME. This initiative aims to further standardize medical assessments worldwide. We plan to offer the NBME CBSE and CCSE 3 or 4 times a year, specifically for HMEP students [Map 1] and residents [Map 2] who are working towards passing the USMLE Step 1 and Step 2 Exams to achieve ECFMG certification. Notably, since 2020, the USMLE Step 2 CS has been replaced by the Occupational English Test (OET) for Medicine, an Australian examination, for all international medical graduates (IMGs).

The IFOM is designed to act as the Japanese-language counterpart to standardized tests, and will be administered across Japanese medical schools at a national level. This approach ensures accessibility for all medical students, assessing their competencies against global benchmarks. This effort is in line with the objectives of many countries, including Japan, to raise global medical education standards and produce exceptionally trained medical school graduates.

Moreover, this initiative is expected to align with the standards of U.S. medical residency programs, which require international medical graduates to meet specific, consistent criteria before entering U.S. residencies.

The introduction of NBME exams in Japan represents a major step forward in supporting IMGs, who are integral to the primary care workforce in the U.S. With Kentaroh Takagaki, M.D., B.Agr, Ph.D., serving as the NBME Executive Chief Proctor, Emi Saegusa-Becroft, M.D., Ph.D., as the NBME Chief Proctor, and Junji Machi, M.D., Ph.D., FACS, as the Interim Director of JABSOM OGHIM, our commitment to upholding academic integrity and meeting NBME standards is unwavering.

## Target Audience

International Medical Students, Medical School Faculty, Medical School Administrators, Medical Education Researchers.

## References

- [1] <https://www.nrmp.org/wp-content/uploads/2023/05/2023-Main-Match-Results-and-Data-Book-FINAL.pdf>
- [2] 2020 Unites States Census