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Beyond presence or absence: a nationwide syllabus survey of medical humanities teaching in Japan

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Research Article

Keywords: medical humanities, undergraduate medical education, curriculum, syllabus analysis, national core curriculum, Japan

Posted Date: November 26th, 2026

DOI: https://doi.org/10.21203/rs.3.rs-11457268/v1

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Additional Declarations: No competing interests reported.

Abstract

Background: Medical humanities are widely valued, but how much of each domain is taught, and by whom, is largely unknown. National surveys in North America, Western Europe, and Vietnam record whether each domain is offered; those recording teaching time do not separate domains, and none records who teaches or how provision changes. We asked how much time each domain receives in Japanese medical schools, who teaches it, and how this has changed since 2018.

Methods: We analysed the public syllabi of all 82 Japanese undergraduate medical schools. We grouped Howick et al.'s classification into eight domains, analysed medical ethics separately, and recorded instructional time and staffing. We compared the results with a 2018 national survey of mandatory courses and with six other countries.

Results: Medical ethics was offered at 77 schools (93.9%), was mandatory at 76, averaged 24.7 hours per school, and was co-led by clinicians and humanities scholars; external instructors took part in 47.3% of its teaching time, in-house faculty in 98.8%. The eight Howick domains were each offered at 11.0–43.9% of schools, for a mean of 1.1–7.4 hours per school. Humanities scholars led them (72.0–99.6% of instructional time), and in the four least common domains in-house faculty took part in under half of it (33.4–49.0%). Since 2018, in 69 matched schools, mandatory hours per school rose in philosophy and ethics (1.58-fold) and in sociology and anthropology (1.56-fold, offered at more schools) but fell in medical history (0.56-fold).

Conclusions: Japanese medical humanities domains differ not only in whether they are offered but in how much is taught and by whom. Medical ethics is near-universal, taught for far more hours, and co-taught by clinicians and humanities scholars with in-house faculty almost always involved; the other domains receive a few hours at a minority of schools, and the four least common rely largely on external instructors. Since 2018, sociology and anthropology, added to the Model Core Curriculum in 2016, have grown and long-listed medical history has shrunk, so listing a domain may not by itself sustain teaching. Recording time and staffing, not only presence, shows which teaching rests on a narrow base.

Background

Medical humanities are widely valued in undergraduate medical education [1], but how much of each domain is taught, and by whom, remains largely unknown. They are said to support professionalism, empathy, and reflective practice [2–4], and a growing literature reflects rising interest in them [5]. Yet the field has many definitions [2, 3], so studies labelled "medical humanities" may not describe the same educational intervention. Without knowing how much teaching students receive, and from whom, claims about the benefits of humanities teaching cannot be interpreted or compared across settings, and schools planning it have little to compare against.

Multi-school curriculum surveys have begun to answer this question, but they differ in how much of it they can answer. Some cover a single domain, usually ethics, across whole countries [6, 7]. Others cover the whole curriculum, from timetables in 25 schools in the United Kingdom (UK) [8], a questionnaire to 176 North American schools [9], or scores of public information on humanities programmes at 31 top-ranked schools

in the United States (US) [10], but they show the time or infrastructure given to the humanities as a whole rather than domain by domain. Only three have recorded each domain across whole national systems with a common method. Howick et al. [11] covered the US, Canada, and the UK by replicating the method of Orefice et al. [12], who studied Italy and Spain, and Dang and Yeh [13] applied the same approach to all 31 Vietnamese schools. Medical ethics, or bioethics, was taught at most schools in all six countries [11–13]. Beyond ethics, which domains were common, and how many were offered, differed by country: history was taught at most schools in Italy and Spain, history and literature were among the most common topics in Canada and the US, and sociology in the UK, while Vietnamese schools offered fewer kinds of course [11–13]. These surveys thus show which domains schools offer.

What they leave unanswered is what lies behind a domain's presence: how much of it is taught, by whom, and how this changes over time. Orefice et al., Howick et al., and Dang and Yeh recorded whether each topic was offered, whether it was mandatory, its credits, and its academic year, but not instructional time or who taught it. Conversely, the surveys that recorded time did not separate the domains: in North America, hours were self-reported by 80 schools and combined across disciplines that included global health and writing [9], and the UK survey distinguished, among humanities-related content, only ethics and law, and reflection [8]. Moreover, none recorded who taught each course. Klugman named who teaches, whether a humanities scholar or a physician, as a valuable question for future study [9], and Anil et al. called for measures of the credentials and expertise of the faculty providing the teaching [10]. Each survey is also a single cross-sectional snapshot, so it cannot show how provision changes, and evaluations in health professions education rarely examine whether prescribed curricula are implemented and sustained [14]. As a result, comparing prevalence across countries cannot show differences in how much is taught, and a survey cannot tell a domain sustained by regular courses from one that depends on a single external instructor.

Japan allows all three aspects to be examined. Its syllabi specify class periods and instructors for each course, so instructional time and staffing can be analysed. Toyama et al. [15] examined the mandatory courses of 69 medical schools in 2018, shortly after the 2016 revision of the national Model Core Curriculum [16]. That survey did not cover elective courses or use Howick's classification, but it provides a domestic baseline. Japanese medical schools are expected to base about two-thirds of their teaching on the Model Core Curriculum [16], which has listed medical ethics since its first edition in 2001 [17], has long included medical history among its objectives, and added the sociology and anthropology of medicine in its 2016 revision [16]. Change since 2018 can therefore be read against what the curriculum had long named and what it newly added.

We therefore examined, across all 82 Japanese medical schools, how much time each medical humanities domain receives, who teaches it, and how this has changed since 2018. We applied Howick's classification, extended with instructional time and staffing, compared the results with Toyama et al.'s [15] survey, and set them against the countries surveyed by the same method [11–13] to see what prevalence alone does not show.

Methods

Design

This was a cross-sectional, web-based content analysis of undergraduate medical curricula, applying a coding scheme refined during data collection (directed content analysis [18]). We replicated the methodology of Howick et al. [11], extended it with instructional time and teaching staff, and added data items to allow comparison with a prior national syllabus survey [15].

Setting

Japanese students enter medical school directly from secondary school into a six-year programme, offered by 82 schools [19]. Until 1991, the first two years formed a separate premedical course of general education; most schools then merged it into an integrated six-year curriculum, but general education remains concentrated in the first one or two years and has shrunk as professional subjects have moved earlier [20, 21]. At many schools, general education is shared with students of other faculties [21]. A national Model Core Curriculum guides all curricula, and undergraduate programmes are accredited by the Japan Accreditation Council for Medical Education, which is recognised by the World Federation for Medical Education [19]. Humanities teaching in Japanese medical schools developed largely in a course called *igaku-gairon* ("general theory of medicine"), which began at Osaka University in 1941 and by the 1990s was taught at most schools, mostly in the early years [22, 23]. Yonezo Nakagawa defined *igaku-gairon* as the study of what medicine fundamentally is from historical, social, and philosophical perspectives, and rendered it in English as "medical humanities" [15, 24].

Sample

We identified all institutions offering a six-year undergraduate medical degree in Japan. The Ministry of Education, Culture, Sports, Science and Technology listed 81 such schools as of July 2026 (42 national, 8 public, and 31 private). We added the National Defense Medical College to give 82 schools in total and excluded graduate-entry-only tracks and non-medical faculties at the same institutions (e.g., nursing and health sciences).

Ethics

This study analysed publicly available curriculum documents and involved no human participants; the only information on individuals was instructors' names and affiliations as published in the syllabi, which were used only to classify staff background and are not reported. Japan's Ethical Guidelines for Medical and Biological Research Involving Human Subjects apply to activities involving human subjects that are conducted to obtain knowledge that contributes to maintaining and promoting public health or to the recovery of patients from injury or illness, or to improving quality of life, or to obtain knowledge about the human genome and genes [25], and this study does not meet that definition. Under these national guidelines, neither ethics approval nor informed consent was required, so the study was not submitted to an ethics committee.

Information sources

Curriculum information came only from sources that are publicly accessible on the internet without institutional login, namely official curriculum and syllabus webpages, published student handbooks, and timetables. This follows Howick et al. [11] and preserves reproducibility. Japanese universities are required by ministerial ordinance to publish their course subjects, teaching methods and content, and annual teaching plans [26], so syllabi are official documents available in a comparable form for every school. We did not survey schools directly, because self-reported surveys depend on response rates and on respondents' definitions of the humanities [9]. Data collection took place mainly in July 2026 and targeted the 2026 academic year, with follow-up checks until September 2026, but for a small number of schools the current-year syllabi had not yet been published or were not publicly accessible, so we coded the most recent available year. We retrieved syllabi in full for 71 schools and in part for 10. For one school (Kobe University), only the timetable and course list were public; we kept it in the denominator (Additional file 1: Section S6; see Limitations).

Eligibility criteria

To count as offering medical humanities, a course had to be explicitly listed as an actual course, mandatory or elective, so a stated learning objective without a corresponding named course did not qualify. A session within another course counted toward a domain if it had its own title or topic and substantive content, and we counted only its periods (Additional file 1: Section S1). We excluded practice-oriented courses such as early clinical exposure unless the syllabus named a humanities discipline for specific sessions. At comprehensive universities, a university-wide elective counted only if it was confirmed to be available to medical students, and a restricted-choice elective within the medical curriculum counted only if every option could be identified and met the criteria (Additional file 1: Section S2). Following Howick et al. [11], we excluded communication-skills courses, foreign-language courses, and courses on population health or the social determinants of health. We also excluded behavioural science and psychology courses, which we treated as behavioural sciences rather than humanities (Additional file 3: Section S-D2). In both cases, we kept a course that the institution itself classified as sociology. Howick's framework has no law category, so we recorded courses centred on doctrinal or statutory law (15 schools) separately and excluded them from the main analysis. Thanatology-related content without an identifiable humanities methodology (9 schools) likewise had no counterpart in Howick's framework and was recorded and excluded in the same way (Additional file 1: Section S3; Additional file 2: Table S1).

Data items and classification

For each qualifying course, we recorded the humanities domain, mandatory or elective status, credit value, academic year, instructional time, and teaching staff. Instructional time was the number of class periods multiplied by minutes per period, confirmed against each institution's standard period length. Where a syllabus did not state the number of periods, we estimated it under a documented rule (Additional file 1: Section S4). We classified each course's instructors by affiliation (in-house or external) and by background in

seven categories, including clinician and humanities scholar (Additional file 1: Section S6). For each category, we report the share of a domain's instructional time in which instructors of that category took part, counting a course's full time in every category that applies to it. We classified courses into eight domains derived from the topic columns of Howick et al.'s [11] published dataset, hereafter the eight Howick domains (Additional file 1: Section S5): anthropology, history, literature, philosophy, sociology, theology and spirituality, visual arts, and other/unspecified. This is an operational definition based on disciplines. Like Howick et al.'s, it includes sociology and anthropology, which many definitions place among the social sciences, and it cannot capture interdisciplinary or critical approaches to the medical humanities that name no discipline [27]. As Howick et al. did, we treated medical ethics as one of the medical humanities but analysed it separately, because it is taught almost universally; some definitions place it outside the field.

Additional data items

To connect this study to Toyama et al.'s [15] domestic survey, we also recorded whether the institution was a comprehensive university (with humanities or social science faculties) or a single-faculty medical university. This comparison replicated that survey and bears on who is available to teach, because it asks whether provision differs when humanities and social science faculties are part of the same university. For the same purpose, and for comparison with the 2018 survey, we recorded teaching and assessment methods, which we report only in Additional file 2. Finally, we recorded institution type (national, public, or private) for an exploratory sub-analysis that neither prior survey conducted.

Data extraction and quality control

The first and second authors developed written coding criteria together (Additional file 5; Additional file 1: Sections S1–S5), and the first author decided each ambiguous or borderline classification against them, logging each decision with its date and rationale (Additional file 1: Section S6; Additional files 4 and 5). The criteria were refined during data collection and then applied to all schools. We did not use independent double coding, and neither Howick et al. [11] nor Orefice et al. [12] reported inter-rater agreement. Instead, Additional file 4 lists, by school, every counted course and every flagged candidate that we did not count, for checking against the source syllabus (Additional file 1: Section S6).

We used generative artificial intelligence (AI) in this study. Claude (Anthropic; Claude Sonnet 5, accessed through the Claude Code coding assistant) was used to (1) extract candidate courses from the syllabus text of each school and propose classifications, flagging uncertain cases; (2) write the Python scripts that calculated the statistics, and check figures in the manuscript against the source data; and (3) correct the English of the manuscript and supplementary materials at the level of usage and grammar. We used it because of the volume of Japanese-language source material (82 schools), to make the calculations reproducible, and to support English writing. The first author reviewed all extracted data, classifications, and text. The first author decided every boundary case against criteria agreed by both authors, and both authors take full responsibility for the content.

Comparative analysis

We compared domain-level prevalence (the proportion of schools offering each domain, mandatory or elective) with Howick et al. [11] for the US, Canada, and the UK, with Orefice et al. [12] for Italy and Spain, and with Dang and Yeh [13] for Vietnam. For the domestic longitudinal comparison, we restricted the results to mandatory courses in the three domains covered by Toyama et al.'s [15] survey: medical philosophy and medical ethics, medical sociology and medical anthropology, and medical history. Toyama et al. had turned Nakagawa's three perspectives into these three domains [15]. We grouped our data to match these and refer to the groups below as philosophy and ethics, sociology and anthropology, and medical history. We made this comparison in the 69 schools that Toyama et al. [15] included, and repeated it in all 82 schools.

Statistical analysis

Analyses were mainly descriptive. We report the number and proportion of schools offering each domain, the mean (standard deviation, SD) instructional hours per domain, and the median hours among offering schools. We calculated mean instructional time per school across all schools, counting schools without the domain as zero but excluding schools that offered a domain without stating its instructional time. The comparison of comprehensive and single-faculty universities was the primary institutional comparison. For continuous outcomes (the number of Howick domains offered per school, total instructional time, and medical ethics instructional time), we used the Mann-Whitney U test, and for the binary outcome (medical ethics offered or not), we used Fisher's exact test. We obtained 95% confidence intervals (CIs) for differences in means, or in medians for total instructional time, by percentile bootstrap (10,000 resamples). Because we surveyed every school, we report tests and intervals as descriptive guides to the size and consistency of differences, not as estimates of sampling error. We examined differences by institution type (national, public, or private) descriptively only, as an exploratory secondary analysis; because institution type overlaps with comprehensive status, we stratified by both instead of fitting a multivariable model to 82 schools (Additional file 2: Tables S3 and S4).

Results

Prevalence and instructional time

Medical ethics was by far the most consistently taught domain. It was offered at 77 of the 82 schools (93.9%) and was mandatory at 76 (92.7% of all 82; inferred for one of them). The mean instructional time was 24.7 hours (SD 27.6) per school, and the median among the 76 schools with a confirmed instructional-time value was 21.0 hours. Each of the eight Howick domains was offered at a minority of schools. Prevalence ranged from 11.0% for visual arts to 43.9% for philosophy and history, with sociology and anthropology close behind (Figure 1). Mean instructional time in these domains ranged from 1.1 hours (visual arts) to 7.4 hours (philosophy), and even the highest value was less than a third of the time devoted to medical ethics. Median hours among offering schools ranged from 6.0 (theology and spirituality) to 16.3 (other/unspecified), with philosophy, sociology, and literature tied at 15.0 (Figure 1). Mandatory teaching was

rarer still. The number of schools with at least one mandatory course ranged from 3 in visual arts (3.7% of all 82 schools) to 23 in sociology (28.0%), with 20 in history (24.4%), 17 in anthropology (20.7%), 14 in philosophy (17.1%), 9 in theology and spirituality (11.0%), and 5 each in literature and in other/unspecified content (6.1%). We did not count restricted-choice electives or courses of unknown status as mandatory. The year of teaching is reported in Additional file 2: Table S5, and teaching and assessment methods by domain in Additional file 2: Table S6.

Staffing

The contrast extended to who taught each domain. Clinicians (49.6% of instructional time) and humanities scholars (44.4%) co-led medical ethics. External instructors took part in about half of its teaching time (47.3%), but almost always alongside in-house faculty, who took part in 98.8% of it. In every one of the eight Howick domains, humanities scholars were the leading category of instructor (72.0–99.6% of instructional time), whereas clinicians contributed only marginally (1.5–23.4%). In philosophy, history, sociology, and anthropology, in-house faculty took part in most of the teaching (65.1–82.3%), whereas in the four least common domains (literature, theology and spirituality, visual arts, and other/unspecified content) they took part in less than half (33.4–49.0%) and external instructors, often part-time, in more than half (53.7–72.9%).

Table 1. Instructor characteristics by domain.

Domain	In-house faculty, %	External instructors, %	Leading instructor category, %
Medical ethics	98.8	47.3	Clinician (49.6)
Philosophy	82.3	18.3	Humanities scholar (95.4)
History	66.2	40.4	Humanities scholar (77.8)
Sociology	65.1	37.1	Humanities scholar (86.0)
Anthropology	76.6	34.4	Humanities scholar (72.0)
Literature	49.0	53.7	Humanities scholar (99.6)
Theology and spirituality	39.4	65.9	Humanities scholar (96.7)
Other/unspecified	33.4	72.9	Humanities scholar (74.4)
Visual arts	44.0	59.5	Humanities scholar (95.0)

All percentages in this table count a course's full instructional time in every category that applies to it (for example, a course taught jointly by in-house and external instructors counts in both), so they need not sum to 100%. Additional file 2: Table S2 instead divides a course's time equally among its categories, as Toyama et al. [15] did.

Comprehensive versus single-faculty universities

Single-faculty medical universities (no in-house humanities or social science faculty, n=34) offered substantially more Howick domains than medical schools within a comprehensive university (n=48). The mean was 3.82 domains (SD 2.10) versus 1.71 (SD 1.71), and the mean difference was 2.12 domains (95% CI 1.27–2.94; Mann-Whitney U, p<0.001). Median total instructional time was roughly 13 times higher (59.3 vs 4.5 hours; median difference 54.8 hours, 95% CI 41.8–63.4; Mann-Whitney U, p<0.001). Toyama et al. [15] found a difference in the same direction for philosophy and ethics and for sociology and anthropology, although they compared those domain groups rather than the eight Howick domains. Medical ethics showed the same direction of difference at a smaller, non-significant magnitude. It was offered at 100% (34/34) versus 89.6% (43/48) of schools (Fisher's exact test, p=0.073), and mean instructional time was 30.6 versus 20.7 hours (mean difference 9.9 hours, 95% CI -2.0 to 24.3; Mann-Whitney U, p=0.18). Because 36 of the 42 national universities (86%) are comprehensive universities, we compared the two within institution types: single-faculty universities offered more domains than comprehensive ones among both national (2.33 vs 1.50) and private universities (3.82 vs 2.78; Additional file 2: Tables S3 and S4).

Comparison with Toyama et al.

We compared mandatory courses in the three domains covered by Toyama et al. [15] (Table 2). Toyama et al. [15] analysed 69 of the 82 schools, those whose syllabi were accessible on the web in April to July 2018. The other 13 schools had higher mean hours in 2026 (philosophy and ethics 37.6 vs 24.4 hours; sociology and anthropology 6.9 vs 4.8), so comparing all 82 schools with the 69 would overstate the change. We therefore compared mean hours per school in the same 69 schools, counting schools without the domain as zero. In philosophy and ethics combined, the mean was 1.58 times higher than in 2018 (24.4 vs 15.5 hours), and a slightly higher proportion of schools offered the domain (92.8% vs 89.9%). In sociology and anthropology combined, it was 1.56 times higher (4.8 vs 3.1 hours), and more schools offered it (36.2% vs 23.2%). We isolated medical history from the general and cultural history also taught under the history domain. Its mean was about half of the 2018 level (1.6 vs 2.8 hours, 0.56 times), and fewer schools offered it (23.2% vs 42.0%). Across all 82 schools, the ratios were 1.72 for philosophy and ethics, 1.67 for sociology and anthropology, and 0.54 for medical history (Table 2; Additional file 2: Table S2e).

Staffing did not shift in one direction. In the same 69 schools, and using the 2018 survey's equal-division method, humanities scholars accounted for a smaller share of instructional time than in 2018 in philosophy and ethics combined (34.5% vs 47%) and a similar share in medical history (35.7% vs 38%). In sociology and anthropology, their share was larger (89.6% vs 65%), and clinicians' share much smaller (2.4% vs 22%). Changes in the year of teaching and in teaching methods are reported in Additional file 2: Table S2.

Table 2. Comparison with Toyama et al. [15], restricted to mandatory courses in the three domains covered by that survey.

Domain	Study	Schools, n (%)	Mean hours (SD) per school
Philosophy and ethics combined	Toyama et al. [15], N=69	62 (89.9)	15.5 (14.7)
	This study (2026), same 69 schools	64 (92.8)	24.4 (21.4)
	This study (2026), all 82 schools	76 (92.7)	26.5 (31.3)
Sociology and anthropology combined	Toyama et al. [15], N=69	16 (23.2)	3.1 (9.4)
	This study (2026), same 69 schools	25 (36.2)	4.8 (10.4)
	This study (2026), all 82 schools	31 (37.8)	5.1 (10.8)
Medical history	Toyama et al. [15], N=69	29 (42.0)	2.8 (6.5)
	This study (2026), same 69 schools	16 (23.2)	1.6 (4.1)
	This study (2026), all 82 schools	18 (22.0)	1.5 (4.0)

Howick's "philosophy" domain combined with medical ethics, to match Toyama et al.'s [15] medical philosophy and medical ethics category. Restricted to content specifically on the history of medicine, excluding the general or cultural history also classified under Howick's "history" domain.

Mean and SD across schools in each row. "Same 69 schools" restricts the 2026 data to the schools that Toyama et al. [15] analysed, and "all 82 schools" does not. Total hours are comparable only for the same 69 schools (Additional file 2: Table S2e). Schools without such courses count as 0 hours. In 2026, we excluded schools that offered the domain but did not state its time (1 for philosophy and ethics, 1 for medical history, in both the 69 and the 82).

International comparison

Japan's combined philosophy-and-ethics prevalence (93.9%) exceeded that of every comparator except Canada, where medical ethics alone was universal (100%) (Table 3). This was driven almost entirely by the near-universal presence of medical ethics, not by philosophy itself. Philosophy alone was offered at 43.9% of Japanese schools, well above the rates in the countries that code it separately from ethics (0.0–11.7%). Japan's prevalence of history (43.9%; 27 of these 36 schools taught medical history) was far lower than in Italy and Spain (97.6% and 84.6%) but higher than in Canada, the UK, the US, and Vietnam (0.0–23.4%). Sociology (42.7%) and anthropology (41.5%) were more prevalent in Japan than in any comparator (0.0–31.7% and 0.0–28.6%). Only the UK approached Japan's figure for sociology (31.7%), which is consistent with sociology and social medicine being the UK's most common humanities offering [11]. Literature (29.3%)

was second only to the US (32.5%), and theology and spirituality (26.8%) was more prevalent than in any comparator (0.0–17.9%).

Table 3. International comparison of domain-level prevalence (mandatory and elective combined): Japan, Canada, the UK, the US, Italy, Spain, and Vietnam.

Domain	Japan, % (n/82)	Canada, % (n/18)	UK, % (n/41)[a]	US, % (n/154)[a]	Italy, % (n/42)	Spain, % (n/39)	Vietnam, % (n/31)[a]
Medical ethics	93.9 (77)	100.0 (18)	61.0 (25)	84.4 (130)	see combined[a]	see combined[a]	83.9 (26)
Philosophy	43.9 (36)	5.6 (1)	7.3 (3)	11.7 (18)	see combined[a]	see combined[a]	0.0 (0)
Philosophy and ethics combined[a]	**93.9 (77)**	**100.0 (18)**	**63.4 (26)**	**84.4 (130)**	**73.8 (31)**	**89.7 (35)**	**83.9 (26)**
History	43.9 (36)	22.2 (4)	9.8 (4)	23.4 (36)	97.6 (41)	84.6 (33)	0.0 (0)
Sociology	42.7 (35)	0.0 (0)	31.7 (13)[a]	14.9 (23)	0.0 (0)	10.3 (4)	6.5 (2)
Anthropology	41.5 (34)	0.0 (0)	4.9 (2)	6.5 (10)	28.6 (12)	28.2 (11)	9.7 (3)
Literature	29.3 (24)	16.7 (3)	7.3 (3)	32.5 (50)	2.4 (1)	23.1 (9)	0.0 (0)
Theology and spirituality	26.8 (22)	5.6 (1)	2.4 (1)	15.6 (24)	2.4 (1)	17.9 (7)	0.0 (0)
Other/unspecified[a]	**19.5 (16)**	**38.9 (7)**	**26.8 (11)**	**55.8 (86)**	—[a]	—[a]	**3.2 (1)[a]**
Music[a]	6.1 (5)	see Other[a]	see Other[a]	see Other[a]	4.8 (2)	0.0 (0)	—[a]
Cinema[a]	2.4 (2)	see Other[a]	see Other[a]	see Other[a]	0.0 (0)	12.8 (5)	—[a]
Visual arts[a]	11.0 (9)	16.7 (3)	4.9 (2)	14.3 (22)	7.1 (3)	5.1 (2)	0.0 (0)

Italy and Spain data are from Orefice et al. [12], and Vietnam data from Dang and Yeh [13]. We computed the Canada, UK, and US data from the openly available school-level raw data underlying Howick et al. [11] (Supporting Information, Appendix S1). Their Table 2 reports only each country's leading domains, not a complete domain-by-country matrix, so we did not transcribe from it.

[a]Ethics is coded separately from philosophy in Japan and in Howick et al.'s [11] scheme (Canada, UK, US). Orefice et al. [12] fold bioethics and medical ethics into "Philosophy" for Italy and Spain.

Recomputed from the raw data (13/41). Howick et al.'s [11] Table 2 prints 37% for this cell (see Additional file 1: Section S5).

Howick et al.'s [11] residual category (art general/unspecified, medical humanities unspecified, performing arts, and free-text "other" entries). Orefice et al. [12] have no equivalent category for Italy and Spain (see the Music and Cinema rows).

For comparability with Orefice et al. [12], we counted music and cinema content separately. Music and cinema courses were coded as other/unspecified, so the Music and Cinema rows overlap with the Other/unspecified row, which is the row compared with Canada, the UK, and the US. We did not recode music and cinema separately for Canada, the UK, and the US, because Howick et al.'s [11] dataset has no dedicated column for them.

One row of the US data (Medical College of Wisconsin) contains formula-derived values identical to those of the Harvard Medical School row. We kept the data as published, and excluding the row would not change any comparison in the text (see Additional file 1: Section S5).

Nine of the 41 UK schools have no entry in any domain column. As with Kobe University in our own data, we kept them in the denominator and counted them as not offering; Japan would still exceed the UK for both medical ethics and sociology if they were excluded. Howick et al.'s [11] text gives counts for medical ethics that differ from the school-level data, which we used throughout (see Additional file 1: Section S5).

From Fig. 1 of Dang and Yeh [13] (all 31 Vietnamese schools; public curriculum websites, with direct contact for two schools). We omitted their communication, professionalism, psychology, and leadership categories, which our criteria and Howick et al.'s [11] exclude. Other/unspecified is their unspecified medical humanities category, and their art, performing art, and visual arts categories were all 0. They did not record music or cinema separately. For medical ethics we used their table and figure (26 schools, 83.9%).

Discussion

Medical humanities domains in Japanese medical schools differed not only in whether they were offered but in how much was taught and by whom. Medical ethics was offered at 93.9% of schools, was mandatory at nearly all of them, received a mean of 24.7 hours per school, and was co-led by clinicians and humanities scholars, with in-house faculty almost always involved. Each of the eight Howick domains was offered at a minority of schools, for a mean of no more than 7.4 hours per school, and was led by humanities scholars, with in-house faculty involved in less than half of the teaching in the four least common domains. Since 2018, mean mandatory hours have risen in philosophy and ethics and in sociology and anthropology, which also reached more schools, but fallen in medical history. The following paragraphs consider who teaches, how provision has changed, and what time and staffing add to comparisons of prevalence.

Medical ethics was taught by clinicians and humanities scholars together, and even where external instructors took part, in-house faculty almost always did too, whereas in every Howick domain humanities scholars led and clinicians contributed little, and in the four least common domains in-house faculty took part in less than half of the teaching (Table 1). Elsewhere, provision has been found to depend on whether a

school has its own teachers and a structure for the humanities. In US and Canadian schools, those with a dedicated ethics faculty member were twice as likely to have a mandatory introductory ethics course [7], and North American schools with a humanities centre or master's programme reported more required hours [9]. Reliance on external instructors has its own cost: at one Chinese university, teaching by part-time instructors from other schools may contribute to a theoretical and disconnected approach [28]. The structure we could compare in Japan was whether a medical school belongs to a comprehensive university with humanities and social science faculties, and such schools offered fewer Howick domains than single-faculty medical universities (mean 1.71 vs 3.82). This partly reflects our criteria: students at comprehensive universities often take the humanities in university-wide general-education programmes, which we counted only when the options open to medical students could be identified (Additional file 1: Section S2), so these schools' provision is probably underestimated. Medical ethics, by contrast, was offered at all single-faculty universities and about 90% of comprehensive ones, and the difference was not statistically significant.

Since 2018, sociology and anthropology, which the Model Core Curriculum added in 2016 [16], have reached more schools, whereas medical history, which it had listed for longer, has reached fewer (Table 2). Naming a domain may help it spread: across countries, too, the domains beyond ethics that reach many schools appear to be those that national documents name, such as sociology in the UK and history in Spain [29, 30] (Additional file 3: Section S-D1). Two time points cannot establish cause, however, and the 2018 survey, conducted shortly after the 2016 revision, may have preceded the uptake of its new domains. Listing a domain, even for many years, does not appear to sustain its teaching by itself: the objective on medical history, within medical ethics, was unchanged by the 2016 revision [16], yet fewer schools now teach it. What a curriculum document prescribes is adapted by teachers and learners, so its implementation cannot be assumed [14]. Medical history may also have declined for reasons that curriculum listing does not reach, such as the retirement of individual teachers, on whom humanities programmes elsewhere have been found to depend [31].

Unlike medical history, medical ethics shows what sustained support can achieve. In 1995, before the Model Core Curriculum, only 19 of the 64 schools that responded to a national survey had or planned a separate medical ethics course [32]. It has been in the Model Core Curriculum since 2001 and sustained by dedicated working groups and academic societies [17], and, counting sessions within other courses, is now near-universal, mandatory, and taught with in-house faculty almost always involved. Sustaining a domain thus appears to need people and organisations that carry it, not only its listing.

Comparing prevalence across countries shows where Japan resembles other countries and where it differs, but time and staffing reveal differences that prevalence does not. By prevalence, Japan resembled other countries in medical ethics, which was also the most widely offered domain in Canada, the UK, the US, and Vietnam (Table 3), and in literature, offered at a similar share of schools in Japan and the US (29.3% vs 32.5%). It differed in sociology (42.7%) and anthropology (41.5%), which were more prevalent in Japan than in any comparator. Time and staffing qualify both readings. In-house faculty took part in only about half of the teaching time in Japanese literature courses (49.0%, against 98.8% in medical ethics; Table 1), and sociology and anthropology, which set Japan apart, received a mean of 5.1 mandatory hours per school, against 26.5 for philosophy and ethics (Table 2). A domain offered at the same share of schools can thus be

a course taught by a school's own staff or a few sessions given by an external instructor, and only time and staffing distinguish them.

For medical schools and for the bodies that write the humanities into national frameworks, in Japan and elsewhere, these findings suggest that naming a domain may need to be accompanied by a plan for who will teach it and where it will sit in the curriculum. Duke University integrates the history of medicine as a required session within mandatory third-year clerkships, which reaches the entire class instead of a self-selected minority [33]. Schools could consider this model for medical history, whose provision in Japan is shrinking. Co-teaching between clinicians and humanities scholars is already the norm in Japanese medical ethics. Because students have objected that humanities teachers who are not physicians lack clinical experience [3], extending it to the other domains, where humanities scholars lead and clinicians contribute little, could answer that objection and let clinicians show students how the humanities serve clinical work [34].

The differences in time, staffing, and change reported here answer our question in a way that presence-or-absence data could not. Other countries could record time and staffing in the same way to see which of their humanities domains rest on sustained teaching and which on a few external instructors, and those revising national frameworks could repeat such surveys to see whether the domains they name are taught. Other East Asian curricula have not yet been mapped across the full range of domains with the same method and can be positioned against these benchmarks.

Limitations

Several limitations should be noted. First, syllabi are an incomplete record of teaching. They record the written curriculum that a school prescribes, not the enacted curriculum that learners experience [14]. They cannot detect humanities content delivered informally, through role-modelling, or via the hidden curriculum [35], nor extracurricular programmes, student groups, or institutional infrastructure, which a public-information scale includes [10]. Because we counted only teaching that names a discipline, the method is also biased against integrated curricula: 90% of US schools reported content on spirituality and health, but only 7% had a dedicated required course [36]. Reliance on publicly available syllabi may also bias against schools with less publicly documented curricula. Of the five schools with no identified medical ethics course, two had incomplete syllabi and the complete syllabi of the other three named none, although ethics may be embedded in courses we did not count, so the 93.9% is probably a lower bound (see Additional file 1: Section S6 for an exploratory check of collection effort). Within courses, 47 of 442 records did not state their class periods; estimates under a documented rule made up 19.4% of instructional time in the eight Howick domains (0.5% in medical ethics), and 18 courses fitting no rule were excluded, so these time values are less certain (Additional file 1: Section S4).

Second, comparisons with other surveys warrant caution. Toyama et al. [15] treated courses of unstated status as elective and assumed a 70-minute period at seven schools that did not state one, so their hours may be underestimated. Recalculated under their definitions, our data showed the same direction for each change in the same 69 schools (Additional file 2: Table S2f). Other changes between the two surveys, such as the COVID-19 pandemic and national accreditation, may also have affected provision. The international

comparator data are older than ours (collected in 2014–2016 and 2020, or published in 2025). Classification boundaries also differ: we excluded behavioural science and psychology, and Howick et al. [11] counted sociology only when a school's website classified it as a humanity, whereas we counted any course that a school classified as sociology, so Japan's higher prevalence of sociology and anthropology may partly reflect where this boundary is drawn (Additional file 3: Section S-D2). Because we counted single sessions within courses (Additional file 1: Section S1), which website-based surveys may miss, Japan's prevalence may be inflated. Conversely, North American schools asked directly reported more required humanities teaching than their websites showed [9]. We therefore interpret the direction, not the magnitude, of international differences.

Conclusions

Medical humanities domains in Japan differ not only in whether they are offered but in how much is taught and by whom. Medical ethics is near-universal, mandatory, taught for far more hours, and co-taught by clinicians and humanities scholars with in-house faculty almost always involved, whereas the other domains receive a few hours at a minority of schools, led by humanities scholars, with in-house faculty taking part in less than half of the teaching in the four least common. Since 2018, sociology and anthropology, added to the Model Core Curriculum in 2016, have reached more schools, and medical history, listed for longer, fewer, so listing a domain alone may not sustain its teaching. Prevalence, the measure that earlier national surveys recorded, does not show these differences. Recording time, staffing, and change extends Howick et al.'s [11] approach, and this survey offers a baseline for tracking how far named domains reach classrooms and a benchmark for other countries.

Abbreviations

AI: artificial intelligence; CI: confidence interval; SD: standard deviation; UK: United Kingdom; US: United States

Declarations

Ethics approval and consent to participate

This study involved no human participants, human tissue, or health information. It analysed the publicly available syllabi and curriculum documents of Japanese medical schools; the only information on individuals was instructors' names and affiliations as published in the syllabi, which were used only to classify staff background and are not reported. Japan's Ethical Guidelines for Medical and Biological Research Involving Human Subjects (Ministry of Education, Culture, Sports, Science and Technology; Ministry of Health, Labour and Welfare; and Ministry of Economy, Trade and Industry, 2021, as amended) apply to activities involving human subjects that are conducted to obtain knowledge that contributes to maintaining and promoting public health or to the recovery of patients from injury or illness, or to improving quality of life, or to obtain knowledge about the human genome and genes (Chapter 1, Part 2 (1) and Part 3)

[25], and this study does not meet that definition. Under these national guidelines, neither ethics approval nor informed consent to participate was required, and the study was not submitted to an ethics committee. All methods were performed in accordance with relevant guidelines and regulations.

Consent for publication

Not applicable.

Availability of data and materials

The datasets supporting the conclusions of this article are included within the article and its additional files. The record-level classification table, including the date of each boundary decision and, where recorded, its rationale, and a table of the flagged candidates that we did not count (Additional file 4, tables A1 and A2), and the written coding criteria (Additional file 5) are provided as additional files. School names are given as in the public syllabi, with English translations beside the Japanese originals. The records show our reading of the syllabi at the time of retrieval and have not been confirmed by the schools. Additional file 1: Section S6 describes the extraction, quality control, and decision record. Howick et al. [11] published school-level data, which made the recalculation in Additional file 1: Section S5 possible. We provide ours in the same way.

Competing interests

The authors declare that they have no competing interests.

Funding

Not applicable. This study received no funding.

Authors' contributions

ST led the data collection, analysis, and writing. TK contributed to the analytical decisions, including developing the coding criteria, and supervised the writing of the manuscript. Both authors read and approved the final manuscript.

Acknowledgements

Not applicable.

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Figures

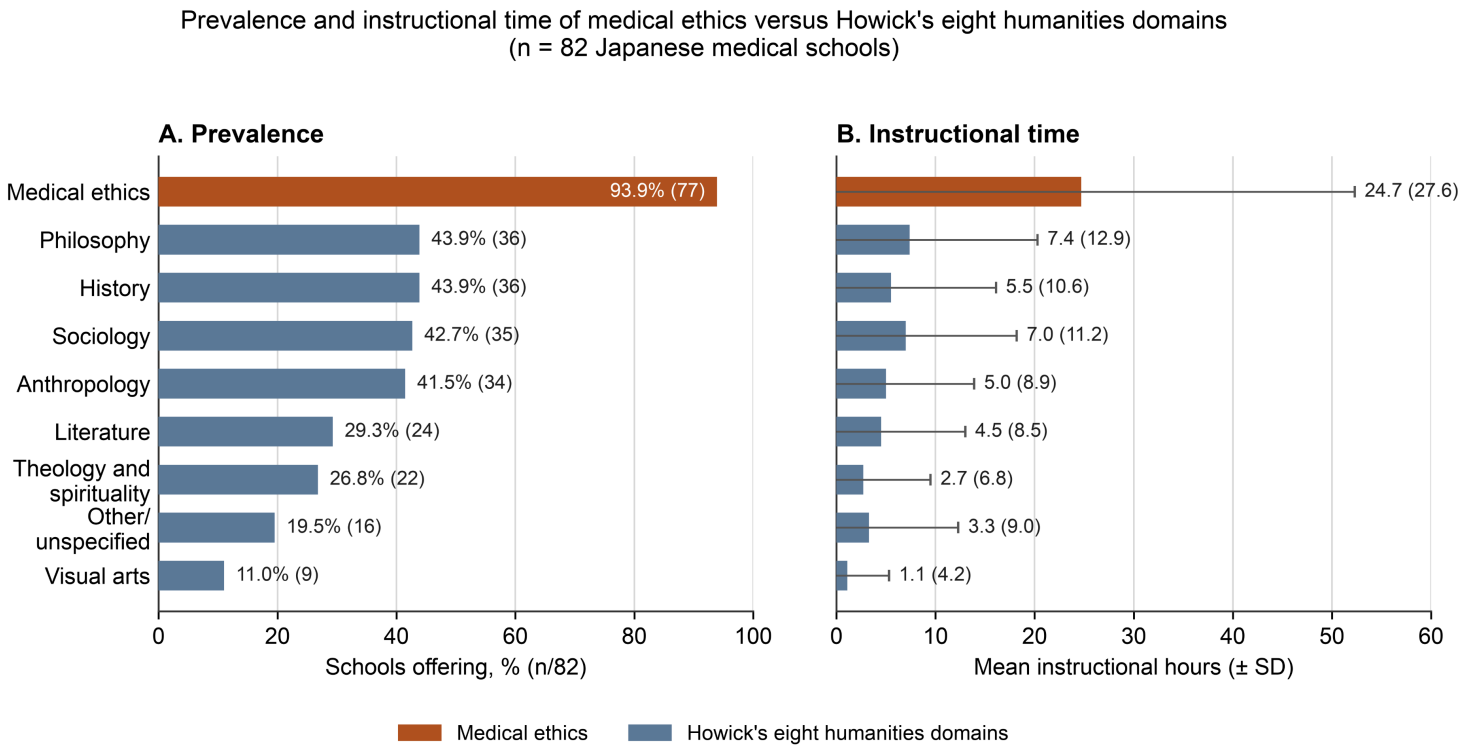


Figure 1

Prevalence and instructional hours of medical humanities domains in 82 Japanese medical schools. Panel A shows prevalence and Panel B mean instructional hours ± SD for medical ethics (orange) and the eight Howick domains (blue), ordered by prevalence. Bars are labelled with the exact values (n (%) in Panel A; mean (SD) hours in Panel B); median hours per domain are reported in the text.

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