The Harvard Macy Institute Art Museum-based Health Professions Education Fellowship: Transformational faculty development through the arts

Elizabeth Gaufberg, Corinne Zimmermann, Lisa M. Wong, Ray Williams, Brandy King, Kristin King & Ranjani Paradise

To cite this article: Elizabeth Gaufberg, Corinne Zimmermann, Lisa M. Wong, Ray Williams, Brandy King, Kristin King & Ranjani Paradise (29 Nov 2023): The Harvard Macy Institute Art Museum-based Health Professions Education Fellowship: Transformational faculty development through the arts, International Review of Psychiatry, DOI: 10.1080/09540261.2023.2283596

To link to this article: https://doi.org/10.1080/09540261.2023.2283596

View supplementary material

Published online: 29 Nov 2023.

Submit your article to this journal

View related articles

View Crossmark data
The Harvard Macy Institute Art Museum-based Health Professions Education Fellowship: Transformational faculty development through the arts

Elizabeth Gaufberg, Corinne Zimmermann, Lisa M. Wong, Ray Williams, Brandy King, Kristin King and Ranjani Paradise

ABSTRACT
Museum-based education for health professionals can lead to a variety of important learning outcomes within the domain of skills development, personal insight, perspective-taking and social advocacy. The Harvard Macy Institute's Art Museum-based Health Professions Education Fellowship was designed to develop faculty expertise in art museum-based practices, encourage scholarship, and cultivate a cohesive and supportive community of educators. The Fellowship was piloted from January to May 2019 with twelve interprofessional Fellows. Two in-person experiential sessions were held at Boston-area museums with intervening virtual learning. Fellows were introduced to a variety of approaches used in art museum-based education and developed a project for implementation at their home institution. A qualitative formative evaluation assessed immediate and 6-month post-Fellowship outcomes. Outcomes are reported in four categories: (1) Fellows' personal and professional development; (2) institutional projects and curriculum development; (3) community of practice and scholarly advancement of the field; and (4) Development of Fellowship model. A follow-up survey was performed four years after the conclusion of the pilot year, documenting Fellows' significant accomplishments in museum-based education, reflections on the Fellowship and thoughts on the future of the field.

Background
A 2018 report published by the National Academies of Sciences, Engineering, and Medicine (NASEM) (National Academies of Sciences Engineering and Medicine, 2018) recommended that in this time of increasing specialization, higher education must develop models that integrate the arts and humanities with the sciences in order to meet the challenges and opportunities of work and life in the 21st century. The report underscores the importance of intentional pedagogy, rigorous evaluation methods, interdisciplinary collaboration, and professional development as crucial to the integration process. Aligned with NASEM recommendations, the Association of American Medical Colleges (AAMC) has further advanced the integration of arts and humanities into the curricula of U.S. medical schools and teaching hospitals through the robust FRAHME (Fundamental Role of the Arts and Humanities in Medical Education) Initiative (Association of American Medical Colleges, 2023).

For healthcare professionals, an education incorporating the arts and humanities supports the development of the crucial ability to focus on objective findings and diagnostic categories while simultaneously attending to the unique aspects of human experience shared in stories and rooted in cultural, family, and community contexts (Association of American Medical Colleges, 2023). A growing evidence base
suggests that thoughtfully designed arts and humanities-based learning experiences support important health professional learning outcomes not well-covered by more technical or rote pedagogical methods. These include the Prism Model functions of: (1) mastery of core skills such as observation, interpretation and communication; (2) cultivating personal insight, (3) fostering appreciation for multiple perspectives, and (4) exploring pathways for social advocacy (Moniz et al., 2021a, 2021b). Moreover, in a time when burnout is epidemic, the humanities and arts can spark joy and restore meaning (Engel et al., 2023).

Within the broader movement to integrate arts and humanities into medical education, Museum Based Education for Health Professionals (MBE-HP) is an expanding field that uses the museum environment as a platform for professional education (Mukunda et al., 2019; Slavin et al., 2023). Early MBE-HP programs (Yale Medical School in partnership with the Yale Center of British Art (Dolev et al., 2001) and Harvard Medical School in partnership with The Museum of Fine Arts Boston (Naghshineh et al., 2008)) focused primarily on improving medical student skills of observation and interpretation to support physical examination and other clinical competencies. At Columbia University Vagelos College of Physicians and Surgeons, medical students have explored a variety of topics at New York City museums including paying attention, holding uncertainty, and the many ‘ways of knowing’ in medicine (Columbia Department of Medical Humanities & Ethics, 2023; Gowda et al., 2018). The Harvard Macy Institute (HMI) (Harvard Macy Institute, 2023a), internationally renowned for faculty development in the health professions, has offered art museum-based electives (conducted by authors CZ, RW and EG) for many years through their Program for Educators in the Health Professions, expanding teaching repertoires and facilitation skills of experienced medical educators. A 2016 New York City convening on art museum and medical school partnerships brought together more than 50 such partnerships to share conceptual underpinnings and practices that inform this field (Pitman, 2016). Despite innovative uses of the museum environment in health professions education and examples of successful collaboration, there is great variability in MBE-HP pedagogy, standards for scholarship, and faculty expertise, as well as a lack of faculty development opportunities. There is insufficient research and evaluation of MBE-HP courses and programs, particularly longitudinal evaluation (Dalia et al., 2020; Moniz et al., 2021c; Mukunda et al., 2019). We designed the MBE-HP Faculty Development Fellowship to address these gaps.

**Fellowship design**

The Fellowship was piloted in 2019 as part of the Harvard Macy Institute’s portfolio of programs and was operationally based at the Cambridge Health Alliance. The goals of the Fellowship included: (1) supporting Fellows’ personal and professional development; (2) advancing Fellows’ institutional projects and other curriculum development; (3) cultivating a community of practice and scholarly advancement of the field; and (4) developing and refining a successful Fellowship model.

Through a competitive process, we selected twelve international and interprofessional faculty Fellows with educational leadership roles in their home institutions to be Fellowship design-partners. This diverse group was composed of eight women and four men. A list of Fellows, home institutions and project titles appears in **Table 1**. All had some experience integrating the arts in their teaching, and all but two had completed the Harvard Macy Institute Program for Educators in the Health Professions (Armstrong et al., 2003; Armstrong & Barsion, 2006; Harvard Macy Institute, 2023b). To ensure relevance to healthcare and to draw upon interprofessional expertise, museum educators and medical educators worked collaboratively in designing and teaching in the Fellowship. It was built on foundations laid in the HMI Program for Educators in the Health Professions; drawing upon theories of adult learning, iterative examination of assumptions about teaching and learning, principle-based curriculum design, sound assessment methods and opportunities for practice, feedback and reflection.

We asked each Fellow to include in their application a proposal for a museum-based educational project to be implemented and evaluated at their home institution. Some Fellows brought new innovations and others sought to advance and/or revise more established curricula. Topical areas included professional identity formation, palliative care practice, leadership, wellbeing, interprofessional teamwork, cultivating wisdom, engagement with underserved communities, perceptions of chronic mental illness, empathy, self-compassion and flourishing. The Fellows’ own learners came from a variety of backgrounds including undergraduate medical education, graduate medical education, continuing medical education, dentistry, nursing and psychology, often with different disciplines learning side-by-side.
The Fellowship, which ran from January to May 2019, included pre-readings and two 2-day in-person immersive learning experiences (January and May) at the Museum of Fine Arts, Boston and the Isabella Stewart Gardner Museum. In the months between, we hosted a virtual classroom using a learning management system (CANVAS) for ongoing reflection, discussion, and resource sharing. Optional monthly online meetings allowed Fellows to reconnect personally, work on adapting museum-based educational approaches to their home settings, receive project advice, and navigate challenges with implementation and institutional support. Museum educator faculty were committed to real-time iterative program design, and offered an additional 2-day Visual Thinking Strategies (VTS) (Hailey et al., 2015) workshop prior to the May session in response to interest voiced by Fellows. Ten of the twelve Fellows (83%) participated.

The highly experiential Fellowship was grounded in the continuity and reflexivity of two domains: ‘inner work’ (engaging in reflective practice to examine one’s own values, biases, and assumptions) (Palmer, 2004), and ‘outer work’ (building MBE-HP skills, developing their institutional project, scholarly activity and educational leadership skills). The Fellowship introduced learners to a variety of pedagogical methods used in art museum-based education (Chisolm et al., 2020b; Slavin et al., 2023), including Visual Thinking Strategies (VTS) (Hailey et al., 2015), the Personal Responses Tour (Gaufberg & Williams, 2011), the creation of group poems, and back-to-back drawing. In keeping with the inclusive and expanded offerings of art museums, the group engaged in applications of music, art-making, writing and mindfulness. Micro-teaching (Dayanindhi & Hegde, 2018) allowed Fellows to share and receive feedback on their own emerging MBE-HP facilitation skills. Fellows practiced ‘elevator pitches’ to use in advocating with health professional school administration or potential grantors for curricular time and resources. In serving as peer consultants to one another, Fellows shared a rich and diverse array of prior knowledge and experience, venturing together into uncharted

<table>
<thead>
<tr>
<th>Name/Institution</th>
<th>Project Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mary Blazek MD, MEHP Geriatric Psychiatry University of Michigan</td>
<td>Empathy and Self-compassion: Building Core Competencies for Medical Students Through Museum-based Interactions with Art</td>
</tr>
<tr>
<td>Margaret Chisolm MD Psychiatry, Addiction Medicine Johns Hopkins University School of Medicine</td>
<td>The Role of Art in Human Flourishing: A Museum-based Experiential Elective for 4th Year Medical Students</td>
</tr>
<tr>
<td>Marla Eby PhD Psychology Harvard Medical School/Cambridge Health Alliance</td>
<td>Using Art as a Window into the Experience of Severe Mental Illness</td>
</tr>
<tr>
<td>Cheryl Giscombe PhD, PMHNP, RN Mental Health University of North Carolina Chapel Hill</td>
<td>Development of the Interprofessional Leadership Institute for Behavioral Health Equity and LeVeine Wellness Program at UNC Chapel Hill</td>
</tr>
<tr>
<td>Elizabeth Gunderson MD Palliative Care, Ethics, Geriatrics Schmidt College of Medicine at Florida Atlantic University</td>
<td>See You, See Me: Museum Art in the Care of Patients with Serious Illness</td>
</tr>
<tr>
<td>Sara Hart PhD, MSN, BSN Health System Science University of Utah</td>
<td>Promoting Interprofessional Teaming Using Visual Art in a Museum-based Setting</td>
</tr>
<tr>
<td>Swapnil Pawar MBBS, MD, EDIC, FCICM, CHSE Intensive Care St. George Hospital (Australia)</td>
<td>Fostering Interprofessional Health Education with Visual Thinking Strategies</td>
</tr>
<tr>
<td>Pooja Rutberg MD Pediatrics Harvard Medical School/Cambridge Health Alliance</td>
<td>Building Community: Museums as Partners for Improving Community Health and Well-being</td>
</tr>
<tr>
<td>Flora Smyth Zahra DipResDentRCS, MAClinEd, FHEA Dentistry Kings College London</td>
<td>Beyond the Instrumental to the Epistemological – Equipping Dental Students for the Pronoesis of Clinical Practice in the Museum and Art Gallery Space</td>
</tr>
<tr>
<td>Mark Stephens MD, MS Family Medicine Penn State University</td>
<td>Unmasking Burnout: Professional Identity and Mask-Making</td>
</tr>
<tr>
<td>Gordon Wood MD, MSC Palliative Care Northwestern University</td>
<td>A Multi-site Evaluation of Museum Teaching for Palliative Medicine Fellows</td>
</tr>
<tr>
<td>Ali John Zarrabi MD Palliative Care Emory University</td>
<td>The Art of Palliative Care: An Art Museum-based Course for Practitioners Who Care for Seriously Ill Patients</td>
</tr>
</tbody>
</table>
territory. In addition to the theory and practice of MBE-HP, they learned to cultivate generative partnerships with museums and museum educator colleagues (Williams & Zimmermann, 2020).

**Evaluation methods**

Prior to the Fellowship launch, an external evaluation team from the Malden, MA-based Institute for Community Health (ICH) partnered with Fellowship faculty to design a formative evaluation, with the goals of understanding early program outcomes and informing future iterations of the Fellowship. ICH worked with Fellowship faculty to develop a logic model (W.K. Kellogg Foundation, 2004) detailing Fellowship activities, predicted outcomes, and ultimate impact (Figure 1), with outcomes organized into four categories corresponding to Fellowship goals.

We collected evaluation data through several mechanisms. First, feedback surveys were administered after the January and May in-person meetings. Each survey included several open-ended items and one closed-ended matrix question for Fellows to rate the different sessions that were offered during the meetings; responses to the rating matrix are not shown in this manuscript as they were primarily intended to gauge relative satisfaction. Next, ICH facilitated two focus groups with Fellows. The first was an in-person focus group held during the May meeting, and the second was a novel asynchronous online focus group conducted on CANVAS approximately six months after the formal Fellowship program concluded. For focus group method details, see Supplementary Material. Finally, Fellows took part in a writing exercise called ‘I used to think… Now I think… Now I will’ (Project Zero, 2015) in which they reflected on the evolution of their assumptions about museum-based education and made commitments for future engagement. The logic model was used as an organizing framework for coding notes and identifying themes from the focus groups and writing exercise. In order to assess longitudinal impact, we surveyed Fellows by email four years after the conclusion of the Fellowship, with a 100% response rate. Using open-ended questions, we inquired about Fellows’ personal and professional development, scholarly contributions and professional accomplishments that Fellows believed were influenced in some way by Fellowship participation, information on their Fellowship project and their thoughts on the future of the field of MBE-HP.

**Outcomes**

We organized outcomes by logic model category, briefly summarized below, with illustrative quotes in Table 2. We use the abbreviation T1 to refer to the evaluation outcomes through 6 months post-Fellowship, and T2 to refer to outcomes data from the 4-year follow-up survey. T1 data collection was designed to identify qualitative themes, while T2 data collection included some items that could be quantified, and results are presented accordingly.

**Category 1 – Fellows’ personal and professional development**

At T1, Fellows described the program as a personally and professionally transformative experience that inspired them to broaden their aspirations and rekindle a sense of creativity and passion for teaching. They noted growth in their MBE-HP knowledge and skills, and some Fellows shared that the program helped them to find their place in medicine and validate their career paths. They drew connections between MBE skills and general (non-MBE) HP educational skills, particularly in the domains of overall facilitation, creating safe environments for meaningful conversation, and giving feedback.

By T2, Fellows recalled the Fellowship as powerfully transformative for both personal development (e.g. mindfulness, reflective thinking, joy and meaning) and professional development (e.g. knowledge acquisition, career direction, connections in the field). Seven Fellows (58%) had earned promotions or new professional positions that they believe were influenced in some way by participation in the Fellowship. Several Fellows had gone on for further MBE-HP training, including becoming certified VTS facilitators and participating in the AAMC Humanities and Arts Program Evaluation course (Association of American Medical Colleges, 2022). Fellows have received grant funding to support their MBE-HP projects, and one Fellow was awarded funding to host a national convening of invited leaders in medical education for strategic discussion about the future of MBE-HP.

**Category 2 – Fellows’ institutional projects and other curriculum development**

By T1, Fellows described applying their skills to a wide range of workshops, courses, and projects, and identified potential opportunities to use MBE-HP approaches in multiple contexts including the clinic,
Harvard Macy Institute Art Museum-based Health Professions Education Fellowship
Program logic model

INITIAL OUTCOMES

1) Fellows:
- Increase knowledge of skills and tools for using art as a pedagogical measure
- Increase comfort with arts-based teaching
- Increase knowledge of existing MBE-HP landscape (research and practice)
- Have insights about their career goals and motivations
- Identify strengths and opportunities for improvement as educators

INTERMEDIATE OUTCOMES

3) Fellows find more joy and meaning in their work

4) Fellows build careers in MBE-HP, become leaders in the field, and mentor others

LATER OUTCOMES

5) Fellows:
- Can articulate the value of MBE-HP
- Identify strengths and opportunities for improvement with their fellowship projects
- Identify more opportunities to use MBE-HP methods in their work at home institutions

6) Fellows:
- Apply skills to complete high-quality fellowship projects and develop other new MBE-HP curricula that are improved and sustained over time
- Regularly use MBE-HP methods with high quality at their home institutions
- Communicate the value of MBE-HP to students and colleagues
- Build partnerships with local museums and museum educators

7) Learners:
- Become more skilled, observant, and compassionate thinkers
- Find more joy and meaning in their work
- Continue to use arts-based skills throughout their medical careers

IMPACT

8) Fellows build relationships with co-fellows and other colleagues across disciplines in MBE-HP, and there is increased dialogue about MBE-HP

9) Professionals in the MBE-HP field begin to participate in and identify as a community of practice

10) An active community of practice is engaged in ongoing shared learning, dissemination, and advocacy (during and post-fellowship)

11) Others in health professions and museum education fields increase awareness of MBE-HP and recognize its value in advancing core medical education goals

12) MBE-HP is more valued and legitimized by health professions community, including accrediting bodies and funders

20) MBE-HP is widely recognized to advance core medical education goals

21) MBE-HP methods are deeply integrated into mission and vision of healthcare institutions and health professions schools

22) There is a culture shift toward a more compassionate and engaged medical community

Development of fellowship model

Prepared by the Institute for Community Health.

Figure 1. MBE Logic model final int rev psych.
Table 2. Fellow Quotes at T1 and T2 by Logic Model Outcome Categories.

<table>
<thead>
<tr>
<th>Category 1: Fellows’ personal and professional development</th>
<th>T2 (4 years post-Fellowship)</th>
</tr>
</thead>
</table>
| “This augmented my facilitation skills in general … I am going to go back a lot more intentional about how I facilitate across the board”. We look at patients all the time and make conclusions based on what they look like. I am much more sensitive now to looking – how I look, what might emerge from how I use my looking skills. That was really helpful”. | “After completing the Fellowship (coincident with promotion to full professor), I reflected on the question ‘What now?’ and pivoted my entire career to focus on the role of museum-based education in the professional formation of physicians and other healthcare practitioners. It is not an understatement to say that the Fellowship had the most significant impact on my career (of) any of my post-graduate education or training”.
| “I have more tools in my toolkit for my own teaching and a deeper understanding about how I can partner with [museum educators] in a way that will be magical and deep” | “Slow looking at art has helped me contemplate my own humanity and find meaning in my personal and professional triumphs and setbacks”.
| “This course has helped me to dream bigger … This bolsters my ambition to continue doing this work. The fire has been lit”. | “I was always an open-minded person, but art-based practices have deepened and expanded my ability to think reflectively and broadened the way I practice mindfulness. I think art-based approaches can be used in any situation to bring humanity, compassion, reflective thinking, equanimity, and critical thinking to the forefront”.
| | “Particularly during the pandemic I found engaging in this work not only helped my trainees, but also helped me process and be more resilient”.

<table>
<thead>
<tr>
<th>Category 2: Fellows’ institutional projects and other curriculum development</th>
<th></th>
</tr>
</thead>
</table>
| “[MBE] can be the basis for teaching an infinite number of topics and in the center of curricula as opposed to at the fringes. I used to have no idea of the potential of museum-based education. Now I see endless possibilities”. | “I have used this pedagogical approach to deepen Ph.D. students’ close-looking and holistic thinking skills, accelerate IPE teaming, and promote individual and group reflection for geriatrics and palliative care fellows”.
| “I co-led (with another Fellow and a Fellowship leader) a 2.5 hour pre-conference museum-based workshop at a national academic meeting that included methods learned during Fellowship (icebreaker, VTS, group poem, Personal Response Tour, and contemplative activities)”. | “The Fellowship has helped me approach teaching important palliative care competencies (e.g. empathy, curiosity, appreciation of multiple perspectives, avoidance of premature closure and reflection) in new ways”.
| “We led 10 teams (62 interprofessional students) through a one-hour session that included close looking (VTS) and back-to-back drawing exercises and a short, written reflection”. | “Professionally, MBE has become a formidable arrow in my quiver as an educator, especially when exploring topics like DEI and professional identity formation”.
| | “The use of VTS methodology helped to advance my debriefing skills in simulation. It not only allows us to create a psychologically safe container but also to bring out different perspectives on the same situation”.
| | “I found it hard to encapsulate all the ways I use MBE in this survey because I do use it so often in my teaching – it’s hard to imagine what I did before I had the skills to use this as a pedagogy”.

<table>
<thead>
<tr>
<th>Category 3: Community of practice and scholarly advancement of the field</th>
<th></th>
</tr>
</thead>
</table>
| “I am getting to form a community of practice. I have these experts to guide me, but also colleagues who are in the trenches. I have others who are going to go through the same questions and challenges. I feel so comfortable reaching out. I feel confident that I will have this community forever”. | “One of the most transformative parts of this has been the people – so many wonderful, thoughtful, inspiring Fellows and faculty who fill my cup and make me a better educator and doctor and person”.
| “The connections made during the Fellowship were instrumental in putting [a half-day art museum-based preconference session] together and this speaks to the important role the Fellowship has in creating a community and fostering collaboration”. | “The Fellowship has connected me to a community of educators who have been collaborators, friends and a source of inspiration”.
| “I didn't know there was this whole community out there. I now know this is real and valued and a growing community. This makes me feel less alone in my wanting to do this”. | “In my role as director of a Medical Humanities Path of Excellence, I seek to integrate visual arts and other forms of art into all aspects of medical school curricula. I have also been able to evangelize at national psychiatric education and geriatric psychiatry society meetings”.

<table>
<thead>
<tr>
<th>Category 4: Development of Fellowship model</th>
<th></th>
</tr>
</thead>
</table>
| “I don’t know how to pack this in, but it would be nice to have additional opportunities for reflection, even if brief, to further contemplate these wonderful experiences”. | (Did not inquire on this topic at T2)
| “The days felt rushed – it felt like we were often hustling to finish one exercise to go on to the next. This did not detract from the learning, but I wonder if there is a way to balance the burden/cost of longer or more days with getting such a wonderfully broad exposure”. | “The Fellowship has helped my trainees, but also helped me process and be more resilient”.
| “I would like to see the inter-professional nature have more emphasis. All references have been on medical education but the work we are doing is more inter-professional. Being more intentional about that would be good” | “In my role as director of a Medical Humanities Path of Excellence, I seek to integrate visual arts and other forms of art into all aspects of medical school curricula. I have also been able to evangelize at national psychiatric education and geriatric psychiatry society meetings”.

MBE-HP: Museum-Based Education for Health Professionals; VTS: Visual Thinking Strategy; IPE: Interprofessional Education.

Classroom and community. Half of the Fellows had developed new seminars or courses, the majority had led or co-led classes or workshops using MBE-HP techniques, and half noted they had collaborated with museum educators since the Fellowship. Fellows varied in the degree of progress they had made on their institutional projects, and several projects had evolved or changed over the course of Fellowship participation. By T2, all twelve Fellows had engaged in MBE-HP curriculum development, ten Fellows (83%)}
had implemented some variation of their institutional project, and five (42%) had conducted a formal evaluation of their project. Many projects/project evaluations resulted in publication and most projects are still active.

**Category 3 – community of practice and scholarly advancement of the field**

By T1, Fellows had begun to build a community with each other, faculty, and colleagues in the broader world of MBE-HP, and some were working on collaborative projects with co-Fellows. Many had disseminated their work in academic venues, as well as on social media, and three Fellows had collaborated on a peer-reviewed publication (Chisolm et al., 2020). While most Fellows had not yet conducted rigorous studies of the outcomes of their MBE-HP work, they identified multiple opportunities for research and scholarly work.

By T2, all Fellows continued to engage in MBE-HP. Collectively, nine Fellows (75%) had authored or co-authored 36 scholarly publications that they believed were influenced by participation in the Fellowship in some way (Aluri et al., 2023; Chisolm et al., 2020a; 2020b, 2023; Eby, 2021; Hart et al., 2021; Higgins et al., 2021; Jung et al., 2023; Kelly-Hedrick et al., 2020; Kagan et al., 2022; Kelly-Hedrick, Juliano, et al., 2022; Kelly-Hedrick et al., 2021; Kelly-Hedrick, Chugh, et al., 2022; Knight et al., 2023; Murphy et al., 2023; Robledo-Gil et al., 2022; Ryznar et al., 2022; Stouffer et al., 2021; Smyth Zahra, 2022; Smyth Zahra & Park, 2020; Spektor et al., 2023; Stephens, 2019; Stephens, 2020; Stephens, 2022; Stephens et al., 2020; Stephens et al., 2023; Stephens, 2021; Stephens, 2023; Tackett et al., 2023; Woods-Giscombe, 2021; Woods-Giscombe, 2024; Woods-Giscombe et al., 2022; Zarrabi et al., 2020; Zhang et al., 2020; Zheng et al., 2023). Twelve of these papers were written in collaboration with co-Fellows, Fellows from succeeding cohorts* or Fellowship faculty. There was a range in the number of publications authored by individuals, including two Fellows who authored or co-authored 16 publications each. The most common topics of Fellows’ publications were professional identity (n = 10), Covid-related (n = 6) and Well-being/Flourishing (n = 6), adapting museum-based education to the virtual environment (n = 3), pain/palliative care (n = 2) and social justice (n = 2). Other topics included team-building, clinical excellence and wonder. A variety of engagement strategies were featured in publications including VTS, group poem, Personal Responses Tour and mask-making. Collectively, Fellows gave dozens of local presentations and nine Fellows (75%) presented on MBE-HP at national or international convenings. Fellows’ presented on MBE-HP in relation to wide-ranging topics such as ageism, anti-racism, well-being and interprofessional training.

**Category 4 – Development of fellowship model**

At T1, Fellows shared feedback about their experience and recommendations for the program, which helped faculty identify opportunities for improving the model in future iterations. Recommendations included utilizing a more structured and developmentally-g geared approach to project development, providing greater interprofessional emphasis, and devoting more time for reflection and renewal during the immersive sessions. We did not seek additional feedback on the Fellowship model at T2.

**Future directions for the field**

Fellows at T1 and T2 were excited about new and expanded uses of MBE-HP such as advancing interprofessional teamwork in training and practice, exploring issues around culture and diversity by stimulating conversation about different viewpoints on challenging topics, and translating skills from the museum environment to the bedside. Fellows noted arts-based methods can be used with learners from many health professional disciplines, as well as with patients, families, caregivers, leaders and administrators.

Fellows suggested that museums should evolve in terms of access, affordability and logistics so that MBE-HP educators are able to make better use of the museum environment and museum resources. Fellows noted their excitement about museums starting to expand their approaches to learning, public engagement, arts and health, and social prescribing. They suggested museum educators be trained in MBE-HP as part of their routine education.

Fellows strongly endorsed that there should be a true integration of MBE into health professions education, including basic sciences, rather than considering this work an 'add-on' or an elective offering within the curriculum. Fellows agree that more rigorous research and program evaluation should be conducted in order to understand quantitatively and...
FRAHME Recommendation (abbreviated) | Fellowship design
--- | ---
1. Assert that the practice of medicine is an art as well as a science, requiring a grounding in humanistic values, principles, and skills. | The Fellowship purposely fostered humanism through curricular design incorporating reflection, relationships and renewal, and through exploration of topics such as empathy, compassion, wellbeing and examining biases. Fellows themselves described humanism as a key motivator to enter the health professions, to join the Fellowship, as well as to continue to engage in the practice of MBE-HP.
2. Create more effective arts and humanities integrative models for competency-based teaching and learning in medicine. | The Fellowship was designed according to principles of adult learning and sound curriculum planning. Fellows learned how to apply these practices and principles to their own curricula. Their educational activities within MBE-HP have fostered the development of a wide range of HP competencies.
3. Enhance the research and evaluation of programs that integrate the arts and humanities into medical education. | The Fellowship itself was designed to include a logic model-based program evaluation plan, which extends longitudinally. Each Fellow works on a home-institutional project and received some instruction of the development of evaluation strategies. Fellows have gone on for further training in program evaluation.
4. Design approaches to enhance well-being that integrate the arts and humanities into medicine. | Fellows report that the Fellowship itself is restorative and enhances joy and a sense of meaning. Many of their MBE-HP curricula and related publications focus on novel ways to foster well-being in health professions learners.
5. Increase collaboration among scholars of higher education, medical professionals, arts organizations, creative arts therapists, artists, humanities scholars, learners, and patients. | The Fellowship is collaborative by design, co-created and led by museum educators and medical educators for an interprofessional cohort of co-design Fellows. Many of the Fellows’ curricula are interprofessional and inclusive of colleagues and learners from a variety of backgrounds and disciplines. There are opportunities for even greater inclusivity, for example by including practicing artists, arts therapists or patients.
6. Provide faculty development in the design of curricula and programs that integrate the arts, humanities, and medicine in training. | The Fellowship is the first MBE-HP faculty development program, and has been highly successful in training faculty to design and implement integrative MBE-HP curricula and programs.
7. Investigate effective integrative pedagogical practices and recognize an expansive view of scholarship in academic promotion and tenure processes. | Fellows are advancing and legitimizing the field through publications, presentations, institutional teaching and leadership roles. They are paving the way for the academic advancement of others through their own success and generosity with mentorship.

MBE-HP: Museum-Based Education for Health Professionals.

qualitatively whether and how MBE-HP is effective, including studying intervention dosage and durability of impact, and examining effects across multiple sites/settings and across different levels of learners.

**Limitations**

Our evaluation had three main limitations. First, the findings are specific to this cohort of Fellows, all of whom had prior experience with arts-based educational methods and could not be generalized to Fellows of differing backgrounds and levels of experience. Second, in some of our evaluation methods, the respondents were not anonymous, and we cannot know whether this affected responses in any way. And lastly, while some Fellows attributed some of the outcomes to the Fellowship, we cannot fully gauge the extent to which these outcomes would have occurred without the Fellowship intervention.

**Discussion**

The program evaluation of the Harvard Macy Institute Art Museum-based Health Professions Education Fellowship showed promising outcomes at six months after the conclusion of the pilot year. A follow-up survey performed four years post-Fellowship suggests that this promise is being realized; Fellows moved from achieving virtually all short-term outcomes predicted on the Logic Model (Figure 1) at T1, to achieving intermediate and some longer-term outcomes by T2. Fellows attribute, at least in part, their remarkable accomplishments in teaching, leadership, and scholarly activity to their participation in the Fellowship.

The Fellowship was designed and implemented prior to the publication of the seven AAMC FRAHME recommendations for the integration of the arts and humanities into medical education (Association of American Medical Colleges, 2023); yet our results suggest that the Fellowship helped to advance each of these recommendations (Table 3). Future arts and humanities educators may give consideration to FRAHME Recommendations, as well as other curriculum development resources such as the Prism Model (Moniz et al., 2021a, 2021b) in the design of their programs.

Additional thematic highlights from our evaluation and implications for the field include:

**Continuity between personal insight and professional transformation**

From the very beginning, it became clear that Fellows craved personal as well as professional growth, and in fact described the two as inseparable. Intentionally cultivating self-awareness and exploring personal values, assumptions and life trajectories serve as drivers...
for professional transformation, a lesson for others engaged in designing professional development offerings. MBE-HP helps to normalize reflective practice as a core professional skill for healthcare learners and professionals (Gaufberg & Williams, 2011).

**Collaboration and community**

Intentionally contributing to a community of practice within the wider academic community is a key objective of faculty development efforts within established and emerging fields. One of the most meaningful findings of our evaluation was the gratitude Fellows expressed for their new community, their great pleasure in their peers’ success, and their many collaborative programs, presentations, and publications. A valuable lesson from the HMI Program for Educators in the Health Professions is that longitudinal Fellowship models with more than one immersive session, and opportunities for connection and reflection throughout, foster deepening of relationships over time. A warm and generative ‘informal curriculum’ (Gaufberg, 2010) that complements the ‘formal curriculum’ should be explicitly cultivated and named. This is particularly important because the rates of clinician burnout are epidemic, and doing work that is meaningful within a supportive community is known to be protective (Gooding et al., 2016).

Fellows and faculty are now planning opportunities for participants from succeeding cohorts* to attend alumni gatherings at alternating host institutions. We anticipate that ongoing interactions among Fellows will be deeply sustaining, and that they will continue to collaborate and support one another for years to come. Ultimately, we envision that a cohesive community of practice, including Fellowship graduates and others in the MBE-HP field, with shared language, frameworks, pedagogical approaches, and evaluation methods will grow. Through this community of practice, MBE-HP will become a valued and integrated part of health professions education.

**Advancement of MBE-HP in the academy**

Through teaching, research, program evaluation and advocacy within their own institutions; scholarly contributions to academic journals; and national and international presentations, most Fellowship graduates have established leadership roles in our rapidly growing field. Aligned with FRAHME recommendations, MBE-HP educators must continue to advocate for recognition of the value of this work through curricular time, resources, promotion, and other forms of advancement within academic medicine. Faculty development in research and evaluation methodologies particularly applicable to MBE-HP, such as provided by the AAMC Humanities and Arts Program Evaluation course, should be expanded. Research and evaluation that seeks higher Kirkpatrick level findings (associated with learner behavior change and demonstrated patient outcomes) (Kirkpatrick & Kirkpatrick, 2016) is a priority for the field, as are longitudinal studies. There are opportunities to create more structure around curriculum development and learner assessment, including working in a systematic way with frameworks such as the Kern Six-Step Approach for Curriculum Development (Thomas et al., 2016) and the Prism Model (Moniz et al., 2021a, 2021b) to help guide project development. MBE-HP (and arts and humanities more generally) are rapidly adjustable based on new challenges, such as those associated with the Covid-19 pandemic (Howley et al., 2023; Murphy et al., 2023), the need to adapt MBE-HP for virtual platforms (Kelly-Hedrick et al., 2021; Stouffer et al., 2021), as well as to find safe and generative ways to discuss equity and social justice (Robledo-Gil et al., 2022; West et al., 2023).

**Improvement of the fellowship model**

Some Fellows described challenges related to entering the Fellowship at varying levels of expertise in MBE-HP and institutional project maturity. Others described a tension between their desire for intensive learning of MBE-HP techniques and practicing their new skills, and their desire for sufficient time for reflection and renewal. Taking into consideration individual needs while still delivering a cohesive group curriculum, which may require real-time adjustments, is an important balance to strike within our own Fellowship design, as well as more broadly in health professions education.

Sustainability and financial solvency, while a common topic in institutional curriculum meetings, is, in our experience, infrequently discussed in academic publications. Costs for the Fellowship pilot year were fully covered by participant tuition, with in-kind donations from our museum partners in the form of admission tickets, meeting space and reductions in catering costs, and a small grant for the external evaluation. A key goal is reducing financial barriers to Fellowship participation so that diverse cohorts (for example, more inclusion of participants from community-based institutions and more inclusion of non-physicians who may not...
have access to the same support as physicians) can participate. We are exploring scalability of the model, which requires consideration of museum-imposed limits on the number of people gathered around a given work of art, as well as our ability to hire additional faculty or to run more than one cohort per year.

In closing we share a Fellow’s end-of-Fellowship reflection about museum-based education for health professionals: ‘I believe that by looking slowly and deeply at a work of art—with the utmost rigor and attentiveness—we can craft, unravel and synthesize meaning in a wondrous way that challenges our assumptions, humbles our clinical hubris and reveals truths that are fundamental to how we see the world. I believe that awareness of ourselves, and particularly how we see and interact with others, strengthens our relationships with our colleagues and our patients.’

*Additional cohorts*

Shortly after recruitment of a second cohort, the Covid-19 pandemic struck and it was necessary to conduct our second and third cohorts virtually. We followed a similar longitudinal format (two virtual immersions with virtual learning in between) and incorporated some of the Fellow feedback from the pilot cohort (including adding two additional immersion days with more in-depth VTS practice, and adding alumni project coaches who guided Fellows through a structured approach to project development). However, the need for significant adaptation and revision of the Fellowship curriculum due to new limitations precluded following a similar evaluation protocol with these subsequent cohorts. The fourth cohort, once again conducted in-person, recently concluded in Spring 2023.

**Acknowledgements**

The authors would like to acknowledge the contributions of the 2019 Fellows, as well as Elizabeth Armstrong, Brooke DiGiovanni Evans, Todd Fowler, Sandra Gold, Holly Gooding, Ellen Hedstrom, Judy Murray, Subha Ramani and Shari Tishman.

**Ethical approval**

CHA’s Institutional Review Board (IRB) determined that the Fellowship evaluation did not constitute generalizable research, and that the evaluation activities thus did not require IRB review.

**Disclosure statement**

No potential conflict of interest was reported by the author(s).

**Funding**

The pilot-year MBE-HP Fellowship and evaluation was funded through participant tuition, with additional financial and/or in-kind support from the Cambridge Health Alliance Center for Professional and Academic Development, the Sandra and Arnold Gold Humanism Research Fund, the Harvard Medical School Arts and Humanities Initiative, the Museum of Fine Arts, Boston and the Isabella Stewart Gardner Museum.

**References**


