

A Rapid-Response Curricular Approach to Teaching Politically Charged Topics

Janet B. Henrich , MD
 Katherine A. Gielissen , MD, MHS
 Cynthia F. McNamara , MD
 Shefali Pathy , MD, MPH
 Allister F. Hirschman , BS, PA-C
 Joseph X. Canarie, MD

Mukta Dhond , MD
 Ilana Richman , MD, MHS
 Tracy L. Rabin , MD, SM
 Luz Vazquez , MD
 John Encandela , PhD

ABSTRACT

Background Residency education in the United States faces challenges from evolving external influence on evidence-based reproductive and gender-affirming health care (R/GAHC). Curricula must incorporate information and resources to assist residents in navigating changes.

Objective To illustrate a process for expeditiously adapting curriculum in response to changing laws affecting R/GAHC.

Methods A 6-step model was used to tailor an R/GAHC module within an existing curriculum. Steps included identifying the medical education problem; conducting needs assessments with residents and educators; and designing, implementing, and evaluating the curriculum. The module was piloted in 2022 with internal medicine residents in 3 training programs at one institution during 4-hour small-group academic half-days. We evaluated the module's feasibility with time and cost analysis and residents' self-reported readiness to provide R/GAHC through essential tasks and knowledge. We evaluated acceptability by assessing whether residents and educators engaged in and completed the curriculum, and evidence of administrative support.

Results A needs assessment clarified the educational problem as an urgent need to educate residents on the implications of legal changes affecting R/GAHC. Curriculum planning occurred over 2 months and implementation over 3 months. Of 175 eligible residents, 164 (94%) were trained. Evaluation showed that the curriculum was well received by residents, whose post-training self-assessment showed readiness to provide R/GAHC. Faculty time to plan and implement the module was substantial (estimated 207 person hours), yet participation was consistent, and administrative commitment constant.

Conclusions We demonstrated a generalizable approach for expeditiously tailoring curricula to prepare residents to navigate changing laws affecting health care provision.

Introduction

Medical residency training programs must prepare residents to navigate the complexities of laws and proceedings that impede evidence-based health care. There are limited medical education resources that offer guidelines for designing and implementing curricula that broach potentially polarizing topics introduced through legislative changes.¹ To prepare residents to provide quality care in a dynamic political and legal environment, educators must be able to rapidly develop and continually adapt curricula.

Recent restrictions on reproductive and gender-affirming health care (R/GAHC) create challenges for medical education in the US residency programs in states with restrictive laws, where residents face difficulties in providing comprehensive training due

to limitations on R/GAHC services. In less-restrictive states, residency programs must adapt to changing regulations to ensure their curricula remain relevant and comprehensive. Without concerted support from residency programs, there is a growing concern that fewer clinicians will be adequately trained in abortion-related and gender-affirming care. This concern is underscored by a 2022-2023 decline in obstetrics and gynecology (OB/GYN) residency applications in states with abortion bans, and other primary care residency programs may also be similarly affected.^{2,3} The educational challenge lies in tailoring residency curricula to meet the evolving socio-political climate and policy changes, ensuring that future clinicians are prepared to provide evidence-based, equitable care.

We aim to demonstrate the results of a 6-step curriculum development process conducted in 2022 and applied in a constrained timeframe. We discuss the curriculum's feasibility and acceptability by stakeholders, including preliminary learning outcomes achieved by trainees.

DOI: <http://dx.doi.org/10.4300/JGME-D-24-00140.1>

Editor's Note: The online supplementary data contains the curriculum development discussion guide and the survey used in the study.

Methods

Setting and Participants

We used Kern's 6-step approach for curriculum design⁴ to incorporate new content into an existing women and gender health (WGH) curriculum (TABLE 1). Though these steps are presented sequentially, in practice they require an iterative approach.⁴ Due to the urgency of our curriculum revision, the first 3 steps were consolidated. Fortunately, a WGH curriculum retreat earlier in the year anticipated potential legal changes affecting R/GAHC, laying the groundwork for rapid curriculum revision once the changes actually occurred.

The revised curriculum was planned and implemented in the Department of Internal Medicine (DIM) at a large, Northeast US academic medical center. Curriculum planning occurred between July and September 2022, and the revised curriculum was implemented from September to December 2022. The curriculum was designed for the 175 internal medicine (IM) residents in 3 DIM training programs (traditional, primary care, and medicine/pediatrics). The module was taught by 9 WGH curriculum faculty from IM, OB/GYN, and surgery, in consultation with a reproductive health law expert. Presented as an academic half-day, the same module was offered 8 times to small groups of residents. Minor modifications, such as adjusting the content within sessions, were made during implementation. Details about methods used to conduct the 6-step curriculum development and implementation process are explained in TABLE 1 and the online supplementary data. Methods for evaluating the curriculum are explained below, supplemented by TABLE 1.

Evaluation Methods

Evaluation methods illustrated a rapid approach to evaluating the curriculum in the short 5-month planning and implementation timeframe.

Feasibility was assessed in several ways. To determine whether it was feasible for the curriculum to produce desired learning outcomes, we tailored an existing evaluation form using 5-point, Likert-scale items to measure residents' self-assessment of readiness to apply R/GAHC knowledge and essential tasks (online supplementary data). Data were analyzed by a statistically trained investigator (K.A.G.) using descriptive statistics. Feasibility was also assessed by documenting faculty time involved with planning and implementation, and costs for administering the curriculum. Faculty person time was determined by multiplying time allotted by the number of faculty members attending each planning and training session.

Acceptability was assessed by using the same evaluation form as above to gather resident responses to

2 open-ended questions about the module's effectiveness and needed improvements. Qualitative data were analyzed by the first author (J.B.H.) for themes, which were then reviewed for consensus, accuracy, and evaluator bias by other investigators (L.V., C.F.M., J.E.). For both the quantitative and qualitative portions of the resident evaluation, anonymous responses were collected online via Qualtrics (Qualtrics). This portion of the evaluation received an exemption from full review by the university's institutional review board. Faculty and administrative acceptability were also assessed (TABLE 1).

Results

The first 5 of the 6 steps in the curriculum development process produced distinct results that are described in TABLE 1. Curriculum evaluation results are presented below.

Evaluation Results

Of 175 eligible residents, 164 (94%) attended the module (some were excused due to extenuating and logistical circumstances). Of those who attended, 121 of 164 (74%) completed the post-module survey. The majority of residents agreed they felt equipped with the knowledge and skills required to deliver vital aspects of R/GAHC. For example, they agreed they could describe the steps of gender-affirming therapy (115 of 121, 95%), recommend contraception (114 of 121, 94%), and describe the steps of medication abortion (112 of 121, 93%) (FIGURE 1).

Considering faculty time dedicated to planning and implementation, we estimated a total of 55 person hours for planning, and 152 person hours for delivering the curriculum 8 times, for an estimated total of 207 person hours. Though future implementation of the module after this inaugural year should take less planning time, 152 person hours will likely continue to be needed if 8 repetitions of the module per year are maintained.

The WGH curriculum did not underwrite faculty salaries for service provided. Since faculty came from 3 academic departments, each was required to negotiate teaching time with their respective departments. In most cases, this entailed integrating time dedicated to the WGH curriculum with other departmental teaching responsibilities. Beyond administrative support for the WGH curriculum director (J.B.H.), the only other cost was less than \$200 for information-technology support. Therefore, while investment of faculty resources was considerable, additional costs were minimal.

TABLE 1
Framework for Rapid Curriculum Adaptation to Meet Legal Challenges

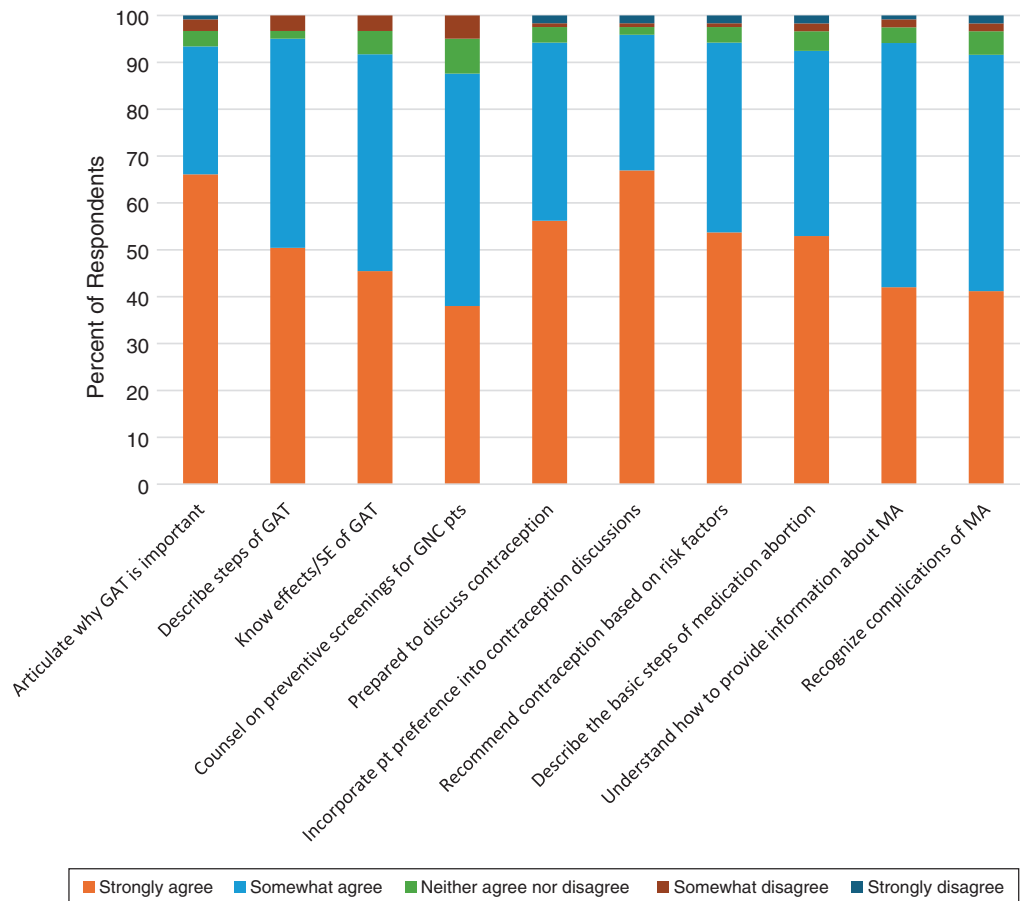
Kern's 6 Steps for Curriculum Development	Immediate Action Steps	Methods	Results
Problem development and general needs assessment	- Obtain stakeholder consensus on the educational problem. - Conduct general needs assessment to identify if/how the problem is addressed elsewhere.	- Consensus from WGH faculty on educational problem (see below explanation of modified nominal group process used) - General needs assessment: - Literature review - Legal expert input on policies affecting R/GAHC and medical education Note: general needs assessment took place iteratively with defining local targeted needs and drafting goals and objectives. 	- Educational problem: IM residents need curriculum on legal changes affecting R/GAHC - Critical needs & helpful resources: Provider needs: - Understanding of abortion procedures and laws⁵ - Expansion of contraceptive services by non-OB/GYN clinicians⁶ - Updated contraception options for gender-diverse individuals⁷ - Countering dis-information on gender-affirming health care⁸ Teaching resources: - Strategies for teaching controversial topics - Web-based resources on R/GAHC legal changes
Targeted needs assessment (TNA)	- Assess local needs to tailor curriculum. - Review with IM residents for feedback.	- Urgent in-person meeting (July 2022) with WGH faculty - Follow-up in-person discussion with residents during scheduled meetings 	Needs identified: - Provide overview of legal changes affecting R/GAHC - Update existing half-day module on GAHC and contraception - Develop new module content on medication abortion (MA) - Make training as interactive as possible
Goals and objectives	Set curriculum goals and learning objectives.	Consensus meeting (same as above), July 2022 7 WGH faculty - Facilitated by director of WGH program (J.B.H.) - Structure: In-person meeting, discussion, and consensus. - Process: Modified nominal group⁹ in which faculty presented ideas at each decision point; facilitated discussion held until group consensus determined by general agreement with no major objections; open and transparent discussion (<i>without</i> anonymous voting typical of nominal groups)	Goals and learning objectives for 3 module topics detailed in TABLE 2
Educational strategies	- Identify strategies and pedagogy for a 3-month delivery timeframe. - Decide on learner assessment and curriculum evaluation approaches.	Virtual subgroup meetings (July-August 2022): 5 subgroups by curriculum topics - Ongoing email correspondence between subgroups and full team - Follow-up in-person, full-team consensus meeting	- Learner-centered, interactive-didactic methods¹⁰ - Feasibility and acceptability suggested as evaluation foci (defined further in Evaluation below)
Implementation	Deliver curriculum within 3-month timeframe.	Present revised material on gender-affirming care and contraception and new topic on MA in integrated 4-hour sessions, repeated 8 times over 3 months to allow smaller group participation	TABLE 2 provides curriculum details

TABLE 1

Framework for Rapid Curriculum Adaptation to Meet Legal Challenges (continued)

Kern's 6 Steps for Curriculum Development	Immediate Action Steps	Methods	Results
Evaluation and feedback	1. Collect evaluation data from planning to implementation. 2. Analyze data and report findings.	Feasibility data: • Resident post-module self-assessment of necessary knowledge and practices for providing R/GAHC • Faculty planning meeting and teaching times (person hours), implementation costs • Consistency of administrative support Acceptability data: • Resident participation and written narrative feedback • Documented faculty engagement at meetings and training sessions; intent to continue teaching • Continued administrative support	Feasibility and acceptability results provided in the Results section of the article

Abbreviations: WGH, women and gender health; R/GAHC, reproductive and gender-affirming health care; IM, internal medicine; OB/GYN, obstetrics and gynecology; MA, medication abortion.

**FIGURE**

Residents' Self-Reported Readiness to Implement Training (N=121)

Abbreviations: GAT, gender affirming therapy; SE, side effects; GNC, gender non-conforming; pt, patient; MA, medication abortion.

TABLE 2

Overview of Half-Day Curriculum Module, “Hormones Across the Gender Spectrum: Reproductive Health and Gender-Affirming Care”

Curriculum Goal: Equip IM residents to provide evidence-based R/GAHC that responds to recent changes in laws affecting this care.		
Topic 1. Gender-affirming care; initiation of gender-affirming hormone therapy (HT)	Topic 2. Contraception options in patients with co-morbidities	Topic 3. Medication abortion (MA)
8:00-9:30 am	9:40-11:10 am	11:15 am-12:00 pm
<i>Learning objectives:</i> 1. Apply sexual orientation and gender identity (SOGI) data and anatomy relevance to primary care practice 2. Order age, anatomy, risk-based preventive screening 3. Discuss, initiate, and monitor gender-affirming HT 4. Recognize and describe implications of barriers to gender-affirming care 5. Appreciate gender diverse community perspectives	<i>Learning objectives:</i> 1. Describe US maternal mortality rates by race 2. Identify and prescribe contraception options in higher risk populations and gender-diverse individuals 3. Apply US Medical Eligibility Criteria for Contraceptive use	<i>Learning objectives:</i> 1. Apply US abortion map by state to describe its implications 2. Describe MA actions, complications, and laws regulating use 3. Recognize MA complications and describe how to refer patients 4. Apply doctrine of informed consent to counsel patients on pregnancy options 5. Apply laws regulating MA at your outpatient clinical sites (VA, FQHC)
<i>Instructional methods:</i> case-based discussion; small group practicums on starting/monitoring HT; role play scenarios	<i>Instructional methods:</i> interactive case-based discussion; practicum on US Medical Eligibility Criteria for Contraceptive use	<i>Instructional methods:</i> interactive case-based discussion; practicum on accessing abortion resources; panel discussion with core faculty experts
<i>Teachers:</i> IM and surgery core faculty	<i>Teachers:</i> IM core faculty	<i>Teachers:</i> IM and OB/GYN core faculty, in consultation with a legal expert in reproductive health
<i>Resident preparatory assignments:</i> LGBTQIA+ Terminology: A Brief Summary” (Yale SOM Dean’s Advisory Council publication) Video: Health Care for Transgender and Gender Diverse People (National LGBTQIA+ Health Education Center)	<i>Resident preparatory assignments:</i> none	<i>Resident preparatory assignments:</i> none

Abbreviations: IM, internal medicine; R/GAHC, reproductive and gender-affirming health care; VA, Veterans Administration; FQHC, Federally Qualified Health Center; OB/GYN, obstetrics and gynecology; SOM, school of medicine.

Acceptability results indicated support from all stakeholders. Faculty meeting and training session attendance showed that all 9 faculty remained engaged from planning through the final half-day session, and all committed to continue teaching in the module after the inaugural year. Department administrative support remained constant throughout with intent to continue the curriculum.

Residents valued the curriculum’s timeliness, diversity, practical applications, and interactive formats. Recommendations for improvement included shorter sessions or more breaks during sessions, and more detail on legal topics.

Discussion

The curriculum module was effective in preparing residents to provide R/GAHC in light of legal changes. Residents provided positive feedback, suggesting only

minor logistical and content adjustments. Faculty engagement was strong throughout, with ongoing administrative support.

The 6-step approach proved valuable for organizing and implementing the curriculum; consolidating the initial steps in a shorter timeframe was beneficial. The module was delivered as planned, with full faculty participation and most residents attending; those who did not had valid personal or career-related exemptions. Key to implementation was the module’s integration into an existing interdisciplinary WGH curriculum with established resources and knowledgeable faculty, factors that minimized costs. The flexibility of this curricular approach will allow us to respond quickly to ongoing legal challenges to R/GAHC and can be adapted by other institutions. A main barrier to implementation may be constraints on teaching curriculum content by state-specific political climate and laws.

Resident feedback indicated their acceptance of the curriculum and self-reported readiness to implement aspects of training; however, we do not have outcome data on post-curriculum resident behavior and patient outcomes, measures we are incorporating into current ongoing R/GAHC modules.

Based on our experience, we recommend the following:

- Conduct an organizational capacity assessment before curriculum revision. We were fortunate to have faculty and administrative commitment, but such crucial engagement is not always guaranteed and needed faculty time may be substantial.
- Remain flexible with Kern's 6-step model; eg, revisiting literature and adjusting learning objectives iteratively.
- Develop an evaluation strategy concurrently with curriculum content to ensure essential data collection. Also, though the most robust outcome assessment may not be possible in the pilot stages, determine to build in robustness once the curriculum proves viable, a step we are now taking.

Conclusions

We demonstrated a generalizable approach for expeditiously tailoring curricula to prepare residents to navigate changing laws affecting health care provision.

References

1. Yale Poorvu Center for Teaching and Learning. Teaching controversial topics. Accessed January 28, 2024. <https://poorvucenter.yale.edu/teaching/ideas-teaching/teaching-controversial-topics>
2. Association of American Medical Colleges. Orgera K, Mahmood H, Grover A. Training location preferences of U.S. medical school graduates post Dobbs v. Jackson Women's Health Organization decision. Accessed September 13, 2024. <https://www.aamcresearchinstitute.org/our-work/data-snapshot/training-location-preferences-us-medical-school-graduates-post-dobbs-v-jackson-women-s-health>
3. Harris LH. Navigating loss of abortion services—a large academic medical center prepares for the overturn of Roe v. Wade. *N Engl J Med*. 2022;386(22):2061-2064. doi:10.1056/NEJMp2206246
4. Thomas PA, Kern DE, Hughes MT, Chen BY. *Curriculum Development for Medical Education: A Six-Step Approach*. Johns Hopkins University Press; 2015.
5. Cohen IG, Murray M, Gostin LO. The end of Roe v Wade and new legal frontiers on the constitutional right

to abortion. *JAMA*. 2022;328(4):325-326. doi:10.1001/jama.2022.12397

6. Bernard R. Responding to the overturning of Roe v. Wade: 6 immediate actions for primary care internists. *J Gen Intern Med*. 2023;38(1):219-220. doi:10.1007/s11606-022-07869-8
7. Mumford K, Kight A. An update on contraception for transgender, non-binary, and gender-expansive individuals. *Curr Obstet Gynecol Rep*. 2023;12:76-82. doi:10.1007/s13669-023-00362-x
8. McNamara M, Lepore C, Alstott A. Protecting transgender health and challenging science denialism in policy. *N Engl J Med*. 2022;387(21):1919-1921. doi:10.1056/NEJMp2213085
9. Delp P. *Systems Tools for Project Planning*. International Development Institute; 1977.
10. Badyal DK, Singh T. Learning theories: the basics to learn in medical education. *Int J Appl Basic Med Res*. 2017; 7(suppl 1):1-3. doi:10.4103/ijabmr.IJABMR_385_17



Janet B. Henrich, MD, is Professor, Section of General Internal Medicine, Department of Internal Medicine, and Director, Women & Gender Health Education Program, Department of Internal Medicine, Yale School of Medicine, New Haven, Connecticut, USA; **Katherine A. Gielissen, MD, MHS**, is Assistant Professor Adjunct, Section of General Internal Medicine, Department of Internal Medicine, Yale School of Medicine, New Haven, Connecticut, USA, and Assistant Professor, and Program Director, Internal Medicine/Pediatrics Training Program, Division of General Medicine, Department of Medicine, Emory University, Atlanta, Georgia, USA; **Cynthia F. McNamara, MD**, is Assistant Professor and Associate Program Director, Traditional Residency Program, Department of Internal Medicine, Yale School of Medicine, New Haven, Connecticut, USA, and Residency Site Director, VA Connecticut Health Care System, West Haven, Connecticut, USA; **Shafali Pathy, MD, MPH**, is Associate Professor and Director, Women's Health, Women's Center, and Clerkship Director, Department of Obstetrics, Gynecology & Reproductive Sciences, Yale School of Medicine, New Haven, Connecticut, USA; **Allister F. Hirschman, BS, PA-C**, is Clinical Instructor, Yale School of Medicine and Yale New Haven Hospital, New Haven, Connecticut, USA; **Joseph X. Canarie, MD**, is Assistant Clinical Professor, Department of Pediatrics, Yale School of Medicine, New Haven, Connecticut, USA, and Chief Medical Officer, Anchor Health, Hamden, Connecticut, USA; **Mukta Dhond, MD**, is Assistant Professor, Section of General Internal Medicine, Department of Internal Medicine, Yale School of Medicine, New Haven, Connecticut, USA, and Medical Director, Women's Health, VA Connecticut Health Care System, West Haven, Connecticut, USA; **Ilana Richman, MD, MHS**, is Assistant Professor, Section of General Internal Medicine, Department of Internal Medicine, Yale School of Medicine, New Haven, Connecticut, USA; **Tracy L. Rabin, MD, SM**, is Associate Professor and Director, Office of Global Health, and Director, Global Health and Equity Distinction Pathway, Section of General Internal Medicine, Department of Internal Medicine, Yale School of Medicine, New Haven, Connecticut, USA, and Program Co-Director, Global Health Ethics Program, Yale Institute for Global Health, Yale University, New Haven, Connecticut, USA; **Luz Vasquez, MD**, is retired Assistant Professor of Medicine, Section of General Internal Medicine, Department of Internal Medicine, Yale School of Medicine, New Haven, Connecticut, USA, and former Medical Director, Women's Health, VA Connecticut Health Care System, West Haven, Connecticut, USA; and **John Encandela, PhD**, is Executive Director for Evaluation and Assessment, Center

for Medical Education, Yale School of Medicine, New Haven, Connecticut, USA.

Funding: The authors report no external funding source for this study.

Conflict of interest: The authors declare they have no competing interests.

Disclaimer: The views expressed in this article are those of the authors and do not necessarily reflect the position or policy of the Department of Veterans Affairs or the US Government.

A poster describing the curriculum module reported in the manuscript was presented at the Society of General Internal Medicine Annual National Meeting, May 13, 2023, Aurora Colorado, USA, and Medical Education Day at Yale, May 31-June 7, 2023, New Haven, Connecticut, USA.

Corresponding author: Janet B. Henrich, MD, Yale School of Medicine, New Haven, Connecticut, USA, janet.henrich@yale.edu

Received February 6, 2024; revisions received June 5, 2024, and August 26, 2024; accepted September 6, 2024.