Interactive Microlearning to Promote Reproductive Planning:
Optimizing Care for Women with Chronic Medical Conditions

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  Medical Director, Reproductive Psychiatry, Project TEACH, NYS Office of Mental Health
  Professor of Psychiatry, Molecular Medicine, and OB/GYN, Zucker School of Medicine
  Professor, Institute of Behavioral Science, Feinstein Institutes for Medical Research
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  Residency Program Site Director, Department of Internal Medicine, LIJ Medical Center
  Assistant Professor, Medicine, Zucker School of Medicine

Grant Focus: Graduate Medical Education (GME)

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PROPOSAL ABSTRACT

Problem/Educational Issue: Reproductive planning—making informed decisions about if, when, and how to have children—is crucial for patients with chronic medical conditions, as it includes both safe pregnancy prevention and preparation to optimize health outcomes. Many women with chronic diseases are unaware of pregnancy risks due to limited counseling, lack of preconception care, and a focus on disease management over reproductive health. Some also have misconceptions about fertility or don't fully understand pregnancy-related complications associated with their condition.

Goal: To develop, implement, and evaluate microlearning interventions for postgraduate medical trainees to improve their awareness and knowledge of reproductive planning for women with chronic medical conditions. These interventions will enable them to better support women with chronic diseases in making informed reproductive decisions, managing risks, and seeking appropriate care to optimize maternal and fetal health outcomes.

Approach: In collaboration with appropriate medical specialists, we will develop evidence-based, asynchronous microlearning tools on reproductive planning for women with specific chronic medical conditions, covering: 1) the effects of the condition on pregnancy, 2) the effects of pregnancy on the condition, and 3) safe and effective contraceptive options. Three medical conditions that are commonly encountered in pregnancy will be addressed in this initial project: 1) hypertension, 2) diabetes, and 3) depression. For each topic, participants will be divided into two groups: one receiving a concise, evidence-based infographic document and the other group receiving both the infographic and an interactive, gamified experience with clinical simulations and quizzes to enhance engagement and retention. Participants will complete baseline and post-intervention surveys to assess knowledge, awareness, and counseling confidence. Descriptive statistics will summarize demographics, and non-parametric tests will compare outcomes between groups, while thematic analysis of free-text responses will capture participant perceptions.

Predicted Outcomes: We expect participants to have low baseline levels of confidence and knowledge in addressing reproductive planning for patients with chronic medical conditions. We also anticipate that participants who engage with the gamified microlearning experience will show greater improvements in confidence and knowledge compared to those who only received the infographic.

Anticipated Impact (including dissemination plan): Results will be shared in peer-reviewed journals and at national academic meetings. The microlearning modules and infographics will be made accessible to trainees and faculty across our health system, and this approach could be used to develop future microlearning content in other clinical areas.

PROPOSAL NARRATIVE

Rationale & Statement of the Problem

Reproductive planning, the process of making informed decisions about if, when, and how to have children, is especially important in patients with chronic medical conditions. Many reproductive-age women with chronic diseases, including diabetes, hypertension, and depression, are unaware of the risks associated with pregnancy. This gap in awareness can stem from limited reproductive counseling during routine healthcare visits, lack of access to preconception care, and a focus on disease management over reproductive health. Additionally, some women with chronic conditions may have misconceptions about their fertility or may not fully understand the potential complications that pregnancy could pose to their health.

Several professional societies, including the American College of Obstetricians and Gynecologists (ACOG), emphasize preconception counseling and pregnancy prevention for reproductive-age women with high-risk conditions.[1] The American Diabetes Association (ADA) underscores the importance of tight glycemic control for women with diabetes, as poorly managed blood sugar levels can increase the risk of congenital anomalies, preterm birth, and other complications; they advocate for optimizing blood glucose levels prior to conception to promote a safer pregnancy.[2,3] Similarly, the American Heart Association (AHA) recommends thorough pre-pregnancy counseling and cardiovascular risk assessment for women with heart disease, as pregnancy places additional strain on the heart that can exacerbate pre-existing conditions, posing risks for both mother and fetus.[4,5] According to the American Psychiatric Association (APA), depression during the preconception period is a significant concern, as untreated depression before pregnancy can negatively impact fertility, pregnancy outcomes, and the developing fetus; they strongly recommend seeking treatment for depression prior to attempting to conceive, often utilizing psychotherapy as a first-line approach.[6] Together, these organizations recognize reproductive planning as essential for women with complex health needs.

Physicians face multiple barriers to staying informed on best practices for reproductive planning in women with chronic conditions, which impacts the quality of counseling provided to patients. Time constraints, heavy workloads, and the fast pace of medical advancements make it challenging for providers to stay updated on evolving evidence-based guidelines.[7,8]

Our goal is to develop, implement, and evaluate microlearning interventions for postgraduate medical trainees to improve their awareness and knowledge of reproductive planning for women with chronic medical conditions. These interventions will enable them to better support women with chronic diseases in making informed reproductive decisions, managing risks, and seeking appropriate care to optimize maternal and fetal health outcomes.

Specific Aims

1) Develop infographic documents focused on reproductive planning for the following medical conditions: hypertension, diabetes, and depression.
2) For those same conditions, develop an interactive, gamified microlearning experience with clinical simulations and quizzes to enhance engagement and retention.
3) Assess changes in participant knowledge, awareness, and confidence in patient counseling before and after the microlearning intervention and compare the effectiveness of the two microlearning approaches.

Hypothesis: We hypothesize that targeted microlearning interventions will improve understanding of reproductive planning for women with chronic medical conditions, and that the interactive, gamified learning experience will be more effective than the infographic alone.

Background & Theoretical Framework

Pre-existing comorbidities increase the risk of maternal mortality and severe maternal morbidity by worsening pregnancy-related complications such as preeclampsia, hemorrhage, and cardiac events.[9] These risks are heightened in marginalized populations due to structural inequities, including limited access to quality prenatal and preconception care, lower socioeconomic status, and chronic stress from systemic racism, contributing to disproportionately high rates of maternal morbidity and mortality among Black and Indigenous women. Healthy People 2030 emphasizes the importance of preconception care and family planning to improve maternal and infant health outcomes.[10] Key objectives include increasing access to family planning services, reducing unintended pregnancies, and ensuring that individuals receive preconception care, especially those with high-risk medical conditions. Birth equity aims to ensure that all women, regardless of race, socioeconomic status, or health conditions, have access to the necessary resources and support for safe pregnancies and births. Achieving birth equity requires both expanded healthcare access, including preconception care, and addressing broader social determinants to improve outcomes for all mothers.

Primary care providers, emergency medicine practitioners, and specialists frequently serve as the first point of contact for reproductive-age women with complex chronic conditions who face significant risks if they conceive. However, there is a lack of systematic approaches to identify such women who are not using contraception and to provide appropriate counseling or referrals, as providers often concentrate on their specific area of expertise.

This project aims to close this gap by creating educational tools that empower providers across specialties to proactively identify reproductive-age patients at risk who may need contraception or specialized counseling. Using microlearning and on-demand modules, along with a standardized referral pathway, providers will be better equipped to guide patients to appropriate family planning resources. The goal is to improve patient safety, reduce unintended pregnancies in high-risk individuals, and ensure that patients receive preconception counseling and health optimization if they wish to conceive. This initiative is expected to enhance coordination between primary and specialty care, reduce adverse maternal-fetal outcomes, and promote patient-centered care.

Microlearning educational interventions are short, focused lessons designed to help learners quickly grasp specific concepts or skills.[11] Delivered in brief, accessible segments that can include videos, quizzes, or flashcards, microlearning is flexible and often on-demand. Adding gamification elements, like quizzes and clinical scenarios, further boosts engagement, motivation, and retention by presenting information in small, digestible chunks.[12] This approach is particularly valuable in fields like healthcare, where frequent reinforcement of knowledge is essential, allowing busy learners to fit training into their schedules and immediately apply new skills.

Infographics and microlearning complement each other well. Infographics present information visually, breaking down complex ideas into easily digestible visuals, which aligns perfectly with microlearning principles.[13] In a microlearning module, an infographic can serve as a powerful tool to summarize key points, reinforce concepts, and make learning engaging and

efficient, especially for busy learners who benefit from short, visually appealing content. Together, they enhance comprehension, retention, and accessibility in learning environments.

Several pedagogical frameworks support microlearning interventions by enhancing engagement, retention, and practical application. Constructivist Learning Theory emphasizes that learning is an active process of building on prior knowledge, which microlearning facilitates by delivering small, digestible bits of information that learners can integrate and apply.[11,14] Cognitive Load Theory supports microlearning by suggesting that breaking down complex information into manageable chunks prevents overload and improves retention.[15] Additionally, spaced repetition and retrieval practice principles show that information is retained more effectively when reviewed over time; microlearning naturally incorporates this by delivering short, frequent bursts of learning. Just-in-Time Learning complements microlearning by providing knowledge when it's needed most, allowing learners to immediately apply new information, which reinforces learning. Microlearning also aligns with Self-Directed Learning, offering flexibility and autonomy for learners to engage with content at their convenience, promoting ownership of the learning process. Furthermore, Behaviorist Theory, which focuses on reinforcement and feedback, is reflected in microlearning's use of immediate feedback mechanisms that reinforce correct understanding and quickly adjust any misconceptions. Together, these frameworks make microlearning an effective, learner-centered approach, particularly beneficial in professional fields like healthcare, where retention, practical application, and ongoing skill enhancement are essential.

Approach

Setting, Participants, and Recruitment: Participants for this study will be recruited from internal medicine and obstetrics and gynecology residency programs affiliated with the Zucker School of Medicine. Recruitment will occur via email, QR codes shared at departmental meetings/grand rounds, and direct outreach to department heads and GME leadership. After completion of the study, the microlearning content will be available to trainees in these departments regardless of participation.

Description of Innovation/Intervention: In collaboration with appropriate medical specialists, we will develop evidence-based, asynchronous microlearning tools on reproductive planning for women with specific chronic medical conditions, covering: 1) the effects of the condition on pregnancy, 2) the effects of pregnancy on the condition, and 3) safe and effective contraceptive options. Three medical conditions that are commonly encountered in pregnancy will be addressed in this initial project: **1) hypertension, 2) diabetes, and 3) depression**. For each of these conditions, we will develop two microlearning interventions: 1) a concise, evidence-based infographic document, and 2) an interactive, gamified experience with clinical simulations and quizzes to enhance engagement and retention.

The infographic documents will be created in Microsoft PowerPoint, then exported as PDFs, designed to match the style and format used in the Northwell Just in Time Teaching (JiTT) App developed by Dr. Alice Fornari, EdD, FAMEE, RDN. The interactive microlearning modules will be built in Microsoft Power Apps, incorporating short videos and animations for engaging, on-demand learning. Some videos will be recorded and edited to feature Northwell physician experts, providing personalized insights and clinical expertise. Others will be AI-generated using Synthesia, allowing for more rapid production and easy updates, ensuring the content remains current with evolving guidelines and practices. This mix of expert-led and AI-generated videos will offer both high-quality, authoritative guidance and the flexibility for quick

content adjustments as needed. The Power Apps software is currently available to the study team on Northwell computer systems. Power Apps provides a mobile-friendly framework for short, focused lessons, with embedded videos allowing expert-led explanations and patient-provider scenarios. Interactive quizzes and branching scenarios will test comprehension and simulate clinical decision-making, giving immediate feedback to users. Data tracking within Power Apps allows educators to monitor progress, and feedback forms enable continuous improvement. The modules, securely accessible through Microsoft 365, will offer an effective, accessible training tool.

Participants will be divided into two groups, one receiving the infographic alone and the other group receiving both the infographic and the interactive, gamified experience. Participants will complete baseline and post-intervention surveys to assess knowledge, awareness, and counseling confidence. Descriptive statistics will summarize demographics, and non-parametric tests will compare outcomes between groups, while thematic analysis of free-text responses will capture participant perceptions.

Anticipated Barriers and Solutions: Testing microlearning tools among physicians may face several barriers, including time constraints, engagement challenges, technological issues, resistance to digital formats, and difficulties in gathering feedback. To address time limitations, modules will be brief (5-10 minutes) and accessible on-demand. To increase engagement, we'll use gamification elements (quizzes, progress tracking) and ensure easy access on multiple devices to fit participants' busy schedules. Additionally, real-world relevance, peer endorsements, and periodic reminders will further motivate participants to complete the modules and improve retention. Compatibility with multiple devices will be tested and confirmed to minimize technical issues, and introductory sessions will ease resistance to digital learning by showcasing the advantages of microlearning. Finally, integrated feedback mechanisms, such as in-module surveys and quizzes, will capture real-time insights to measure impact and adjust content as needed.

Outcomes and Evaluation Plan

Anticipated Outcomes: We expect participants to have low baseline levels of confidence and knowledge in addressing reproductive planning for patients with chronic medical conditions. We also anticipate that participants who engage with the gamified microlearning experience will show greater improvements in confidence and knowledge compared to those who only received the infographic (measured by pre- and post-intervention surveys). Additionally, the intervention aims to create a replicable educational model, with participant feedback assessing its utility and effectiveness.

Evaluation/Data Analysis: Participants will complete baseline and post-intervention surveys to assess knowledge, awareness, and confidence in counseling patients on these topics. We will use descriptive statistics for demographics and baseline characteristics, and non-parametric tests (such as the Mann-Whitney U test) to compare outcomes between the passive and interactive groups. Paired tests (e.g., Wilcoxon signed-rank test) will assess within-group changes, and free-text survey responses will undergo thematic analysis to capture participant perceptions.

Measures of Program Success: Success will be measured by improvements in participant knowledge, confidence, and awareness (as reflected in pre- and post-intervention surveys). We will use the Kirkpatrick Model of Evaluation, which is commonly used to evaluate training outcomes in healthcare education. This framework assesses program effectiveness across

four levels: 1) Reaction (participant satisfaction), 2) Learning (knowledge or skill gains), 3) Behavior (application of knowledge in practice), and 4) Results (impact on broader outcomes). This effectively measures both immediate feedback and long-term effects, providing a comprehensive understanding of program impact. For Kirkpatrick Level 3 (Behavior), we will track engagement with the microlearning tools through metrics such as time spent, frequency of use, and completion of embedded quizzes, to understand how deeply participants interact with the content. Usage data, like quiz performance and interaction rates, will provide insight into engagement and help determine the relationship between usage patterns and knowledge gains. Finally, while we do not anticipate measuring patient-level outcomes (Kirkpatrick Level 4) in this initial study, we expect that, by enhancing provider knowledge and confidence in reproductive planning for patients with chronic conditions, the educational intervention will lead to improved patient care and outcomes over time. This foundational work will enable future studies to assess patient outcomes, such as increased referrals for preconception counseling, and provide the groundwork for evaluating long-term impacts on patient health.

   Impact on Future Learners and Patient Care: This project will improve participants' knowledge of how chronic conditions affect reproductive health, increasing their confidence and skills in providing counseling for these clinical situations. By promoting safer, informed reproductive choices and enabling timely referrals for preconception counseling and contraceptive options, this initiative will ultimately enhance patient-centered care and improve reproductive health outcomes.

   Sustainability Plan: We anticipate that this initial project, focused on three chronic medical conditions, can expand into a sustainable educational initiative across our institution. Funding from the Academy of Medical Educators Innovations Fund will allow our team to build a robust library of microlearning modules for healthcare providers and trainees. This content can be integrated into GME curriculums, ensuring consistent exposure and reinforcement. A review committee will periodically evaluate and update the modules to align with new clinical guidelines, maintaining their relevance. We plan to use outcomes data to seek additional funding through departmental resources or external grants. There is also potential to monetize the content for external use, providing a sustainable funding source for ongoing development. In the future, we aim to directly assess patient outcomes and the impact of these microlearning tools on provider knowledge and practice.

Dissemination Plan

   We will present this project and its findings at an event sponsored by the Academy of Medical Educators within 18 months of the award start date. Additionally, we will submit the project for presentation at national conferences, including ACGME and ACOG, to reach a broad audience of educators and obstetricians. A manuscript will be submitted to a peer-reviewed journal focused on reproductive health or medical education, such as the American Journal of Obstetrics and Gynecology or the Journal of Graduate Medical Education, to share the project's development, outcomes, and implications. Additionally, the modules will be made accessible on our institution's digital platform, and insights will be promoted through social media and professional networks to maximize reach and encourage adoption in both clinical and educational settings.

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Project Timeline

Material Production	Test and Feedback	Refinement	Implementation and Data Collection	Evaluation
Production of infographics, modules, and questionnaires	Test infographic and interactive modules for feedback	Refine infographics, modules, and questionnaires	Implement intervention across departments	Assess results of intervention and submit for presentation to AME and ACOG
Jan-Feb 2025	**Mar-Apr** 2025	**May-Jun** 2025	**Jul-Aug** 2025	**Sep-Oct** 2025

Budget

Item	Cost ($)	Justification
Gift Cards	2000	Offering gift cards enhances engagement by providing a tangible benefit for participants who invest their time in the study, helping ensure sufficient sample size for reliable data.
Synthesia	1000	This AI-powered video creation platform allows us to produce engaging educational videos with AI characters. This software will enable the creation of easily updatable video content, which is important for quickly adapting to evolving guidelines and educational needs.
Canva	130	Canva will be used to design visually appealing presentations and graphics for educational materials. It allows for efficient production of high-quality visuals that enhance comprehension and retention, particularly in microlearning modules where visual impact is essential.
Final Cut Pro	330	Final Cut Pro is professional video editing software that will be used to edit the videos created for the project. High-quality video editing is crucial to maintain coherence and clarity in the instructional videos, helping ensure that content is polished and professional.
Stock images	200	Access to high-quality images will enrich the educational content and improve understanding, particularly for topics that benefit from visual representation.
Teleprompting software	70	This will be used during expert interviews and instructional videos to guide speakers and enhance the quality and accuracy of their delivery. This tool ensures that content is conveyed clearly and professionally, contributing to effective communication of complex information.
Additional equipment (tripod, lighting, microphone)	400	This equipment is necessary for capturing high-quality video footage of Northwell physician experts in a professional setting. Quality audio and video are essential for producing engaging and comprehensible educational content that resonates with the audience.
Mama-U Models	500	Mama-U models are high-quality anatomical models that will be used in instructional video modules to realistically demonstrate procedures like IUD placement. These models are crucial for visually representing reproductive health interventions to trainees.
Model of Female Reproductive Organs	150	This model will serve as a prop in the educational videos to facilitate understanding of reproductive anatomy. It will help illustrate key anatomical features, enhancing comprehension for trainees.
Total	**$4780**	

BIOGRAPHICAL SKETCH

NAME: Matthew J. Blitz

POSITION TITLE: Director of Clinical Research, Maternal-Fetal Medicine; Program Director, Maternal-Fetal Medicine Fellowship, South Shore University Hospital; Assistant Professor, Zucker School of Medicine at Hofstra/Northwell and the Feinstein Institutes for Medical Research

EDUCATION/TRAINING

INSTITUTION AND LOCATION	DEGREE	Completion Date	FIELD OF STUDY
University of Southern California	BA	05/2000	Cinema-Television
California State University, Los Angeles	BS	12/2005	Biology
Marshall School of Business, University of Southern California	MBA	05/2011	
Keck School of Medicine, University of Southern California	MD	05/2011	
North Shore University Hospital and Long Island Jewish Medical Center, Manhasset, NY	Resident	06/2015	Obstetrics and Gynecology
North Shore University Hospital and Long Island Jewish Medical Center, Manhasset, NY	Fellow	06/2019	Maternal-Fetal Medicine

A.   Personal Statement

As Program Director of the Maternal-Fetal Medicine (MFM) Fellowship Program at South Shore University Hospital (SSUH), I am deeply involved in the teaching, mentoring, and supervision of medical students, residents, and fellows. I have a strong commitment to advancing medical education and improving reproductive health outcomes, particularly for women with chronic medical conditions. I have developed several educational innovations to enhance the learning experience, including 3D-printed simulators for ultrasound-guided prenatal diagnostic procedures and AI-generated clinical vignette-style questions comparable to expert-crafted ones. I have also created content on obstetrical ultrasound and high-risk pregnancy for Northwell Health's Just-in-Time Teaching (JiTT) app.

In my system role as Director of Clinical Research for the Division of MFM, I foster interdisciplinary collaboration, enhance research productivity, and promote clinically relevant studies. As a mentor, I guide trainees and junior faculty in the research process, helping them formulate clinical questions and develop as independent investigators. In total, I have authored more than 70 peer-reviewed publications, formally supervised more than 40 students and trainees, and served as a peer reviewer for more than 20 academic journals in my field.

In our current project proposal, I aim to leverage my expertise in both maternal-fetal medicine and educational innovation to develop and evaluate microlearning tools that enhance physician knowledge and counseling skills in reproductive planning for high-risk patients. Collaborating with specialists and using evidence-based approaches, I am confident that we can create a sustainable model to address this critical gap in medical education.

B.   Positions Held

2023-Present	Program Director	Maternal-Fetal Medicine Fellowship, South Shore University Hospital Northwell Health
2021-2023	Associate Program Director	Maternal-Fetal Medicine Fellowship, South Shore University Hospital Northwell Health
2021-present	Assistant Professor	Institute of Health Systems Science Feinstein Institutes for Medical Research, Northwell Health
2020-Present	Director of Clinical Research	Division of Maternal-Fetal Medicine, Northwell Health
2019-present	Assistant Professor	Department of Obstetrics and Gynecology Donald and Barbara Zucker School of Medicine at Hofstra/Northwell

C.   Honors and Awards

2020   Nominee for Clinical Research Principal Investigator of the Year, Northwell Health

D.   Contributions to Medical Education

1. **Blitz MJ**, Kouba I. OB Ultrasound—Umbilical Artery Doppler: Teaching Tips. Northwell Health Just-in-Time-Teaching (JiTT) mobile app. February 2022.
2. **Blitz MJ**, Kouba I. Fetal Growth Restriction: Teaching Tips & Best Practices. Northwell Health Just-in-Time-Teaching (JiTT) mobile app. February 2022.
3. Kouba I, **Blitz MJ**. OB Ultrasound—Cervical Length Measurement: Tips to Teach & To Perform. Northwell Health Just-in-Time-Teaching (JiTT) mobile app. May 2022.
4. Keller NA, Neuwirth AE, Jackson FI, Kouba I, Muscat J, Bracero LA, **Blitz MJ**. Three-Dimensional Printed Simulators for Ultrasound-Guided Prenatal Diagnostic Procedures. *Submitted for publication.*
5. Jackson FI, Keller NA, Kouba I, Bracero LA, **Blitz MJ**. Human expert vs. large language model clinical vignettes and multiple-choice questions for postgraduate medical education. *Submitted for publication.*

E.   Additional Information: Research Support and/or Scholastic Performance

1. Co-Investigator, 5% effort, Environmental Influences on Child Health Outcomes (ECHO), Pregnancy and Pediatric Cohort, RFA-OD-22-018 (UG3/UH3), Study Sponsor: National Institutes of Health (NIH), Environmental Factors in FEtal to Childhood Trajectories (EFFECT) Cohort (mPI: Annemarie Stroustrup and Burton Rochelson)

BIOGRAPHICAL SKETCH

NAME: Sharon Gerber

POSITION TITLE: Director of Complex Family Planning, Department of Obstetrics and Gynecology at Huntington Hospital and South Shore University Hospital; Assistant Professor, Obstetrics and Gynecology, Zucker School of Medicine at Hofstra/Northwell

EDUCATION/TRAINING

INSTITUTION AND LOCATION	DEGREE	Completion Date	FIELD OF STUDY
University of Pennsylvania, Philadelphia, PA	BA	05/2006	Religious Studies
Temple University, Philadelphia, PA	MD	06/2012	
North Shore University Hospital and Long Island Jewish Medical Center, Manhasset, NY	Resident	06/2012	Obstetrics and Gynecology
Icahn School of Medicine at Mount Sinai, New York, NY	Fellow	06/2018	Complex Family Planning
Mailman School, Columbia University, New York, NY	MPH	06/2018	Health Policy and Management

A.   Personal Statement

As the Director of Complex Family Planning at Huntington and South Shore University Hospitals, I have dedicated my career to improving reproductive health education and expanding access to comprehensive family planning services. I am passionate about educating medical trainees and have developed robust programs, including the Ryan Residency Program for abortion training, which provides residents with essential skills in abortion, contraception, miscarriage management, and reproductive justice. I have also implemented curriculum innovations to bridge gaps in knowledge, using interactive modules and values clarification workshops to foster sensitivity and competence in complex family planning.

My expertise and commitment extend beyond clinical teaching; I am actively involved in public advocacy for reproductive health. As a faculty member and an advocate, I emphasize the intersection between reproductive health and broader social determinants of health, ensuring that trainees understand the nuanced needs of diverse patient populations. My work has consistently focused on equipping providers with the skills to support women with chronic conditions in making informed reproductive choices that align with their health needs.

With this project, I am excited about developing microlearning tools aimed at improving awareness and knowledge of reproductive planning for women with chronic medical conditions. This aligns with my mission to empower both providers and patients, helping ensure that women with complex health needs receive the highest quality reproductive counseling and care. By advancing provider education through innovative microlearning

strategies, this project holds the potential to drive meaningful improvements in patient care and outcomes in reproductive health.

B.   Positions Held

2022-Present	Assistant Professor, Department of Obstetrics and Gynecology, Zucker School of Medicine
2022-Present	Director of Complex Family Planning, Department of Obstetrics and Gynecology Huntington Hospital and South Shore University Hospital, Northwell Health
2018-2021	Assistant Professor, Division of Family Planning, Department of Obstetrics, Gynecology and Reproductive Science Icahn School of Medicine at Mount Sinai
2018-2021	Attending Physician, Division of Family Planning, Department of Obstetrics, Gynecology and Reproductive Science Icahn School of Medicine at Mount Sinai and NYC Health + Hospitals/Elmhurst
2016-2021	Associate in Obstetrics, Gynecology and Reproductive Science, Icahn School of Medicine at Mount Sinai

C.   Honors and Awards

2024-2025	New York State Expanding Safe Surgical and Medical Abortion, Awardee $93,854
2023	New York State Expanding Safe Surgical and Medical Abortion, Awardee $62,569
2015	Ryan Resident Scholarship Recipient

D.   Contributions to Medical Education

1. Nexplanon Instructor, Organon. Certified to train residents, physicians and APCs to place the contraceptive implant. Resident, physician and APC workshops yearly.
2. Professionalism and Values Clarification Workshop. Resident workshop yearly.
3. "Updates in Family Planning: Modern Preconception Counseling and Contraception in HIV and Transgender Care." Federal Training Center Collaborative: Atlantic Region, Mid Atlantic AIDS Education and Training Center, Washington DC. 2018
4. Abortion in Context: Reproductive Justice and Social Determinants of Health Department of OBGYN, NYU Long Island School of Medicine, Mineola NY
5. Contraceptive Updates for the Generalist/Grand Rounds, Department of OBGYN, South Shore University Hospital, 2022.

E.   Additional Information: Research Support and/or Scholastic Performance

1. **Gerber S**, Nattel N, Doty N, Xiayo L et al. "Pelvic pain and early IUD discontinuation: a prospective cohort study." International Journal of Reproduction, Contraception, Obstetrics and Gynecology, 8.3 (2019): 792-796.
2. **Gerber S**, Porsch L, Markowitz J, Dayananda I, Lunde B, Dean G. Acceptance of HPV vaccination at the abortion visit at a clinic in New York City in 2017-2018. Contraception. 2021 Oct;104(4):426-431.
3. Rattner P, DeBolt C, Toner L, Stoffels G, **Gerber S**, Vieira L. Assessing the Impact of the COVID-19 Pandemic on Postpartum Contraception Uptake. ISMMS Journal of Science and Medicine. 2021; 1(1): 22, pp. 1–2. DOI: https://doi.org/10.29024/ijsm.50
4. McNamara K, Poverman M, Nádas M, Mallow M, **Gerber S**. Privileging Midwives for Abortion Care. J Midwifery Womens Health. 2023 Oct 18. doi: 10.1111/jmwh.13577. PMID: 37850529.

Peter Finamore, MD, MA, FACOG
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12 November 2024
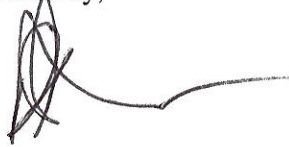
Dear Academy of Medical Educators,

I am pleased to offer my full support for Dr. Matthew J. Blitz's grant application as Co-Principal Investigator alongside Dr. Sharon Gerber. I have had the privilege of working closely with Dr. Blitz for the past 5 years and can attest to his exceptional skills and dedication to advancing women's health, particularly in the realm of maternal-fetal medicine (MFM). His experience as Director of our MFM fellowship program, System Director of clinical research for the division of MFM, and his active involvement in several high-impact studies underscore his capability to lead innovative educational projects that will have a lasting impact on both provider knowledge and patient care.

Dr. Blitz has consistently demonstrated a deep commitment to improving healthcare education through his work. Notably, he has developed a variety of educational resources to support trainee learning. His initiatives include the creation of 3D-printed simulators for ultrasound-guided procedures, enabling hands-on practice in prenatal diagnostics, and the use of artificial intelligence to generate clinical vignette-style exam questions that meet rigorous standards for postgraduate medical education. Additionally, Dr. Blitz contributes to the Northwell Health Just-in-Time Teaching (JiTT) mobile app, which provides on-demand resources for obstetrical ultrasound and high-risk pregnancy management, enhancing learning through targeted, easily accessible content. His dedication to teaching excellence and curriculum innovation positions him as an outstanding candidate for support in his educational endeavors.

In collaboration with Dr. Gerber, Dr. Blitz's proposed project aims to develop an innovative, evidence-based educational program to address a significant gap in reproductive planning for women with chronic medical conditions. Through the creation of asynchronous microlearning tools, this initiative will educate healthcare providers across specialties on critical aspects of reproductive planning, including the effects of chronic conditions on pregnancy and vice versa, as well as safe contraceptive options. This program will feature both infographic-based materials and interactive gamified modules, integrating clinical scenarios and quizzes to maximize engagement, comprehension, and retention. By enhancing provider awareness and counseling skills, the project seeks to empower patients with chronic illnesses to make informed reproductive choices, manage risks, and access appropriate care to optimize maternal and fetal outcomes. This work not only aligns with current standards from professional societies like ACOG, AHA, ADA, and OMA but also has the potential to serve as a model for educational interventions in other complex clinical areas.

I am highly confident that Dr. Blitz's work will lead to transformative advancements in women's health education and care delivery. His dedication, leadership, and vision not only make him an exceptional candidate for this grant but also position him to make a lasting impact on the field. The proposed project has strong potential for wide dissemination across healthcare systems and could serve as a model for similar educational interventions in other high-risk areas. Furthermore, Dr. Blitz's commitment to rigorous evaluation and publication will ensure that the insights gained are shared broadly with the academic and medical communities, contributing to best practices in reproductive health and chronic disease management. I wholeheartedly endorse his application and eagerly anticipate the positive outcomes of his important work.

Sincerely,

PETER FINAMORE MD, MA, FACOG

Northwell Health — **Physician Partners** *

DONALD AND BARBARA
ZUCKER SCHOOL *of* MEDICINE
AT HOFSTRA/NORTHWELL.

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Dear Academy of Medical Educators,

I am pleased to offer my full support for Dr. Sharon Gerber's grant application as Co-Principal Investigator alongside Dr. Matthew J. Blitz. Over the past several years, Dr. Gerber has distinguished herself as an innovative educator and a leader in reproductive health. As Director of Complex Family Planning at Huntington and South Shore University Hospitals and an Assistant Professor in the Department of Obstetrics and Gynecology at the Zucker School of Medicine at Hofstra/Northwell, she has consistently demonstrated a commitment to improving clinical practice and medical education, particularly for women with complex health needs. Her deep expertise and dedication to education make her an exceptional choice to lead this project.

Dr. Gerber's background in family planning and her experience in teaching and mentoring are evident in her work with both trainees and practicing physicians. She has a proven track record of developing educational programs, including hands-on workshops and didactic sessions on contraception, abortion, and reproductive health. Dr. Gerber's teaching contributions include developing simulation-based training, such as her manual vacuum aspiration workshop, and serving as a certified in-house trainer for long-acting reversible contraception (LARC) procedures. She is the creator and director of our Ryan Program, a designation given to OBGYN residencies that have formal training in abortion and contraception. Dr. Gerber has mentored numerous residents and fellows, helping to build their skills and confidence in family planning and complex reproductive care. She also serves as a mentor for medical students across the country through the American Medical Student's Association (AMSA) Reproductive Health Mentorship Sprint Program. Her extensive experience in designing and implementing effective training programs will be invaluable to this project.

In collaboration with Dr. Blitz, Dr. Gerber's proposed project seeks to address a critical gap in reproductive health education for women with chronic conditions. By developing interactive microlearning modules that focus on the intersection of chronic diseases and reproductive health, this initiative will equip providers across specialties with the skills and knowledge needed to offer high-quality reproductive counseling and care. The program will include both infographic-based learning materials and gamified, scenario-based modules designed to enhance engagement and retention. This approach will allow providers to better counsel high-risk patients on safe contraceptive options and prepare them for pregnancy-related challenges, ultimately improving patient outcomes. Dr. Gerber's background in public health and complex family planning brings a unique perspective to this project, ensuring that the educational content is both clinically relevant and aligned with the latest evidence-based practices.

I am confident that Dr. Gerber's work will lead to significant advancements in reproductive health education. Her leadership, clinical expertise, and commitment to innovation make her an outstanding candidate for this grant. This project holds great potential for wide dissemination across healthcare systems, setting a new standard for reproductive planning education. Dr. Gerber is committed to rigorous evaluation and aims to publish the findings to contribute to best practices in women's health. I wholeheartedly endorse her application and look forward to seeing the positive impact of her work.
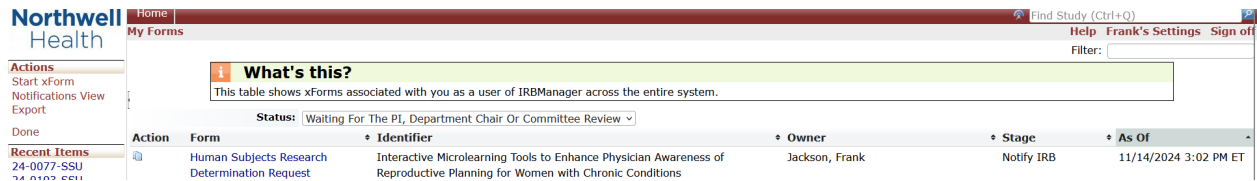
Sincerely,

PETER FINAMORE MD, MA, FACOG

Institutional Review Board (IRB) Approval

We have submitted a human subjects research determination (HSRD) request to the Northwell Health IRB to determine whether our project requires formal IRB review. Although a survey of postgraduate medical trainees to evaluate an educational intervention may be considered human subjects research, requiring ethical review to ensure protections such as informed consent and confidentiality, it could qualify for exemption if classified strictly as internal quality improvement or program evaluation without intent to contribute to generalizable knowledge.

Action	Form	Identifier	Owner	Stage	As Of
	Human Subjects Research Determination Request	Interactive Microlearning Tools to Enhance Physician Awareness of Reproductive Planning for Women with Chronic Conditions	Jackson, Frank	Notify IRB	11/14/2024 3:02 PM ET