

Breastfeeding | Human Medicine
INTER-PROFESSIONAL EDUCATION

**Instructor's Guide,
Competencies, and
Learning Objectives**

TABLE OF CONTENTS

	Pages
I. Introduction	2-4
A. Overview	
B. Target audience	
C. Development and funding	
D. Disclaimers	
II. Goals, Competencies, and Learning Objectives	4-6
III. Testing Approach	7-8
IV. Integrating the Module into Curricula	8-11
V. Instructions for Use	11-12
A. How to access the module	
B. Technical support	
VI. Acknowledgments	12
VII. Bibliography	12

I. INTRODUCTION

A. Overview

Breastfeeding: Human Medicine

Course Description: This online module includes 'real life' video scenarios with entertaining narratives, interactive Q&A, interviews with health care professionals, and short PowerPoints™ to provide 3 to 4 hours of evidence-based Inter-Professional Education (IPE) content for health professions students. Students will learn why human milk is critical for infant, maternal, and public health, and how professionals can use a multidisciplinary approach to support breastfeeding in clinical and community settings. Topics include the human milk microbiome, the impact of sociodemographic factors on breastfeeding rates, and the promotion of breastfeeding best practice in the hospital and workplace. On completion of the course, the student will have a solid knowledge of how health professionals can work together to improve patient outcomes, protect breastfeeding, and ensure equitable access to this vital 'human medicine'.

Breastfeeding: Human Medicine is a self-paced, interactive learning module that offers students of all disciplines a basic understanding of the importance of breastfeeding and the need for health care professionals to work together to support breastfeeding mothers. The module will take approximately 3 to 4 hours to complete, depending on the level of previous exposure to the content and the learner's interest in exploring the optional reference resources.

Learners may choose to complete the module in one session or pause and return to the module, completing it in multiple sessions.

The module is divided into five cases, which follows the natural course of a mother and infant from pregnancy through her birthing experience, pediatric checkups, and return to work and the community setting. One case addresses the bigger picture in the US and the public health implications of breastfeeding.

The cases are based on real life scenarios, but the details of the patients, clinicians, and health care settings are fictional. The case study on Mississippi includes interviews with representatives of organizations and institutions currently operating in Mississippi in 2020.

Learners take a preliminary learning assessment to gauge their knowledge of the content before beginning cases 1, 2, 3 and 4 and will complete a learning assessment after completing cases 1, 2, 3, and 4 to evaluate what they have learned. Learners receive a certificate upon completion at the conclusion of the entire module. Additionally, each learner who completes the module may receive a university or college designated digital credential, if available, for sharing what they have learned.

B. Target Audience

The primary target audiences are students in schools of medicine, nursing, pharmacy, public and population health, allied health and health related professions, dentistry, dietetics and nutrition, biomedical research and education. Additional learners may include other health professions students and health professionals in practice, including providers and faculty from health care institutions.

C. Development and Funding

This module was developed collaboratively among Inspire Health, Communities and Hospitals Advancing Maternity Practices (CHAMPS), and the University of Mississippi Medical School.

CHAMPS is a program of the Center for Health Equity, Education and Research (CHEER) based at the Boston University School of Medicine and directed by Anne Merewood, PhD, MPH, who was responsible for scripting, content, and oversight. Medical direction and oversight were provided by Lori Feldman-Winter, MD, MPH, who is the physician lead for CHAMPS. UMMC faculty from all disciplines provided specialist knowledge and feedback on course content. Additional collaborative partners include Reaching Our Sisters Everywhere, EveryMother, MS Women, Infants and Children (WIC), MS State Department of Health, and the American Academy of Pediatrics-Section on Breastfeeding.

All content is evidence-based. A full list of references can be found in the bibliography. The link to the bibliography is provided on page 12 of the IPE Instructor's Guide.

Funding for this module is made possible by Inspire Health.

The views expressed in the module do not necessarily reflect the official policies of the organizations represented above. The mention of trade names, commercial practices, or organizations does not imply endorsement by any of the entities

participating in this project.

D. Disclaimers

The case scenarios in this IPE are based on actual cases highlighting patients that are cared for in the prenatal, in-hospital and community settings. However, the details of the patients, clinicians, and the local support groups are fictional and any similarities to real individuals or settings are coincidental.

II. **GOALS, COMPETENCIES, AND LEARNING OBJECTIVES**

The major goals of the module are to present:

- Clinicians' roles in promoting, protecting and supporting breastfeeding throughout the timeline of a mother's pregnancy, early and late postpartum experience
- Public health professionals' roles in taking complete, patient-centered and culturally congruent histories related to breastfeeding, and provide clinical evidence-based care to support women to meet their breastfeeding goals
- Opportunities for clinicians from various disciplines and public health professions to engage in interprofessional, collaborative practices to protect and improve health
- Importance of communication, information sharing, and understanding of one another's roles/responsibilities
- Aspects of the breastfeeding experience that are relevant to public and population health necessary to provide a network of continual support for the breastfeeding dyad

The module aligns with Competency RR10 from the Interprofessional Education Collaborative's (IPEC's) Core Competencies for Interprofessional Practice, "Describe how professionals in health and other fields can collaborate and integrate clinical care and public health interventions to optimize population health." Successful learners will be able to demonstrate this overarching competency.

Successful learners will also exhibit the following sub-competencies:

- Describe how basic science, pharmacy, clinical, social, and public health information is used to promote, protect and support breastfeeding
- Describe the responsibilities of multiple health professionals, individually and collaboratively, during the management of breastfeeding
- Describe how the interprofessional interventions used to promote, protect and support breastfeeding can be applied to other health promotion and disease

prevention initiatives

Six learning objectives align with these sub-competencies and are featured in the following table:

OBJECTIVES:

1. Describe national goals and recommendations for breastfeeding in the US
2. Describe the evidence-base behind the benefits of breastfeeding
3. Recognize how a team-based approach impacts breastfeeding success
4. Identify best practices in promoting optimal maternal child health outcomes
5. Identify sociodemographic factors that underlie current breastfeeding trends
6. Describe the scope of different health care professionals as they relate to breastfeeding support, promotion, and success

Interprofessional Competencies

IPEC Competency	Sub-competencies	Learning Objectives (Sub-competency number)
<p>[RR10.] Describe how professionals in health and other fields can collaborate and integrate clinical care and public health interventions to optimize population health</p>	<ul style="list-style-type: none"> (1) Describe how basic science, pharmacy, clinical, social, and public health information is used to promote, protect and support breastfeeding (2) Describe the responsibilities of multiple health professionals, individually and collaboratively, during the management of breastfeeding (3) Describe how the interprofessional interventions used to promote, protect and support breastfeeding can be applied to other health promotion and disease prevention initiatives 	<ul style="list-style-type: none"> 1. Describe national goals and recommendations for breastfeeding in the US (1) 2. Describe the evidence-base behind the benefits of breastfeeding (1,2) 3. Recognize how a team-based approach impacts breastfeeding success (2,3) 4. Identify best practices in promoting optimal maternal child health outcomes (2,3) 5. Identify sociodemographic factors that underlie current breastfeeding trends (1,3) 6. Describe the scope of different health care professionals as they relate to breastfeeding support, promotion, and success (2,3)

III. TESTING APPROACH

Cases 1, 2, 3, and 4 each have a pre-test and two attempts at a post-test. Case 5 is summation of the module and has no testing components.

Pre-tests

The questions for the pre-test and post-test are identical; however, the order of the answers vary. Each pre-test is offered to establish a baseline of a learner's knowledge before exposure to the content and to provide an introduction to key concepts presented in the cases. The scores of the pre-test are not used in the overall score. Content in the pre-test and post-test aligns with the learning outcomes of the module.

Post-tests

The educational module offers two opportunities to pass the post-test in each of the four cases. During post-tests #1, with each incorrect answer, the learner is directed to the specific section in the case to locate the correct answer. On post-tests #1, if a passing score of 70% is not achieved the user is given a second attempt with post-test #2. Scoring for each case is based on the number of correct responses in the case divided by the number of questions in the case. For example, in case 1 if 6 of the 7 questions are answered correctly in post-test #1 the score is $6/7 = 86\%$.

Scoring guide

Scores are presented with the percent correct shown two ways as seen in Figure 1

- a ratio of raw score (number correct) over total number of points possible,
- and the resulting percentage correct.

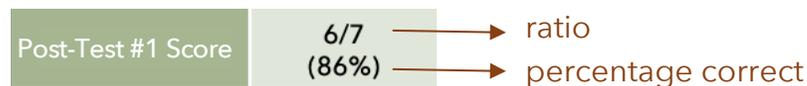


Figure 1. Raw Score Diagram

The raw score ratio is presented in the format of:

$$\frac{\text{\# of items correct}}{\text{Total \# of questions}}$$

The cumulative score for the module is calculated by totaling the number of correct answers from each case, using the higher post-test score. This sum is then divided by the total number of questions for the entire module.

From the example in Figure 2, the calculations would be $6 + 8 + 9 + 10 = 33$ for # correct answers $33 / \text{total \# of questions } 37 = 89\%$.

Figure 2. Sample course scoring

	Case 1 Prenatal Preparation	Case 2 The Birth Experience	Case 3 The Big Picture	Case 4 The Growing Baby	Case 5 Community Support
Pre-Test Score	6/7 (86%)	8/10 (80%)	7/10 (70%)	9/10 (90%)	N/A
Post-Test #1 Score	7/7 (100%)	9/10 (90%)	6/10 (60%)	10/10 (100%)	N/A
Post-Test #2 Score	N/A	N/A	9/10* (90%)	N/A	N/A

IV. INTEGRATING THE MODULE INTO CURRICULA

This module can be integrated into health professions curricula as an individual activity, small-group exercise, or classroom learning activity.

- Learners may choose to complete the module in one session or pause and return to the module, completing it in multiple sessions.
- If assigned as an independent activity, learners can explore the content of the module and submit a digital or printed certificate of completion to the instructor as documentation. Instructor may include debriefing after learners have completed the module.
- Learners who are early in their health professions training are likely to require more time to complete the module. Assigning the completion of one case at a time may facilitate their learning.
- Prompts for potential group discussion are listed below by case.

CASE 1: Prenatal Preparation		PROMPTS FOR POTENTIAL GROUP DISCUSSION
Part		
1	Prenatal Patient with Diabetes	<p>What skills can health care professionals use to encourage women to breastfeed?</p> <p>Why might it be hard to collect data on the risks of maternal medications for breastfeeding infants? How might advice be given in the absence of abundant data?</p> <p>How could an initiative like the Baby-Friendly Hospital Initiative be implemented, and what barriers might exist to implementation?</p>
2	Pregnant Patient Medication Review	
3	Breastfeeding and Medications	
4	Provider Preparation for Breastfeeding	
5	Skin-to-Skin Care	
6	Physician Pharmacist Consult	
7	Nurse Practitioner Prepare for Breastfeeding	
8	The Baby-Friendly Hospital Initiative	
9	When is Breastfeeding Contraindicated?	
CASE 2: The Birth Experience		
Part		
1	The New Family Meets the Pediatrician	<p>We often hear about the health benefits of breastfeeding. What benefits can you identify that go beyond the physical health of mothers and babies?</p>
2	The Composition of Human Milk	
3	Exclusive Breastfeeding Matters	<p>Why do you think breastfeeding is sometimes portrayed as a 'controversial' subject? What political, personal, and economic factors may play in to individual or collective perspectives on breastfeeding?</p>
4	In Hospital Lactation Consult	
5	Human Milk Oligosaccharides Part 1	
6	Human Milk Oligosaccharides Part 2	<p>Were you aware of the wealth of bench science behind breastfeeding? How might this type of information be shared effectively with the general public?</p>
7	The 48 Hour Checkup	
8	Weight Loss and Gain in Newborns	
9	Learn about Lactogenesis	

CASE 3: The Big Picture		
Part		
1	International Health and Infant Feeding in Emergencies	<p>How and why might an international approach to promoting optimal infant feeding differ from a national or local approach?</p> <p>The state in which you are employed as a health care professional encounters a sudden public emergency (major hurricane, earthquake, pandemic, etc). What would be the most critical, immediate considerations for mothers with infants? What plans involving inter-professional collaboration would need to be in place to manage such a disaster? Can you envision your role?</p> <p>Why do certain groups in the US carry an increased burden of morbidity and mortality? What factors are in play?</p> <p>Consider US initiatives to promote and support breastfeeding. Do you think they have been effective? Can you think of different strategies or approaches that might improve the current situation?</p>
2	Importance of Breastfeeding	
3	Breastfeeding in the US: The Big Picture	
4	Sociodemographics and Disparities	
5	US Government Initiatives	
6	Breastfeeding and WIC	
7	Recent Breastfeeding Initiatives in Mississippi	
8	Great Progress in Mississippi!	
9	Data on Mississippi's Progress	
10	Breastfeeding: Human Medicine	

CASE 4: The Growing Baby		
Part		
1	A Stressed Mom at Baby's Checkup	<p>How might you design a multi-faceted program to support new mothers on their return to work?</p> <p>The setting in which you work launches an initiative to increase exclusive breastfeeding in the workplace. How could you effectively collect data or information to determine if the initiative was effective?</p> <p>Consider other public health initiatives with which you are familiar (campaigns to reduce tobacco use, obesity prevention, etc). What factors have really driven change, if any?</p>
2	Infant Growth and Growth Charts	
3	More Support for a Stressed Mom	
4	Expressing Breast Milk	
5	Breastfeeding and Going Back to Work	

CASE 5: Community Support	
Part	
1	Breastfeeding and Community Support
	<p>A facility in your area has received low scores in patient satisfaction, and you are hired as a consultant to improve provider/patient relations. How would you do this? What would be your key considerations?</p> <p>As scientists, we are taught to rely on the evidence. How might an individual 'story' or 'experience' influence our judgement, for better or for worse?</p> <p>We are all patients sometimes. How does your involvement in the professional side of health care influence the way you approach or interact with clinicians when you are the patient?</p> <p>You need to convince a skeptical colleague that inter-professional collaboration is critical to your field of expertise. What is your 'elevator speech' about the importance of this collaboration?</p> <p>How might some of the considerations addressed in this module impact your future as a health care professional?</p>

IV. INSTRUCTIONS FOR USE

A. The Breastfeeding | Human Medicine IPE module can be accessed by clicking the link below. Participants will register with their university or college email and a self-created password. While creating the log in credentials, an email will be sent to the participant's university or college email to verify access to the module.

It is not required to finish the module at once, however it must be completed sequentially. The module is designed to require 3-3.5 hours to complete. It is possible to log out and log back into the module; all previous work will be saved.

Click below to access Breastfeeding | Human Medicine:

elearning.inspire-health.org

B. The Breastfeeding | Human Medicine IPE module can be accessed by clicking the link above. Participants will register with their university or college email and a self-created password. While creating the log in credentials, an email will be sent to the participant's university or college email to verify access to the module.

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VI. BIBLIOGRAPHY

All references for the entire IPE are included in the bibliography.
<https://breastfeeding.inspire-health.org/bib/IPEBibliography.pdf>