

# Project Milestone 2

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## Continuing Medical Education for Transgender and Nonbinary Patient Care

Content Development by Elizabeth Shivers

**Abstract**—Every year medical providers are required to participate in Continuing Medical Education (CME) to maintain their licenses. Educational Technology is providing an avenue for delivering CME content effectively and efficiently. At the same time, the need for increased medical provider knowledge regarding both medical and cultural aspects of care for patients who are Transgender and/or Nonbinary has not been addressed. The goal of this project is to develop Transgender and Nonbinary CME content, utilizing Educational Technology to address a rapidly changing landscape of care for these patients as well as address key cultural knowledge that is often omitted from purely technical areas of education, improving overall provider knowledge and, as a result, quality of care.

### Accompanying Video Presentation:

<https://youtu.be/Qiu8lGgu81Y>

### Web Application URL:

<https://cs6460-eshivers.herokuapp.com/>

## 1 PROJECT PROPOSAL SUMMARY

*The following section is included from the project proposal (and modifications made in milestone 1) in order to provide an overview of the project, including justification and goals. Some redundant sections have been removed. Section 2 of this document provides*

*additional details as it relates to milestone 2 and moving forward towards the final project. If you do not need the context provided here, please skip to Section 2.*

### **1.1 Project Introduction**

Transgender and Nonbinary patients face stark challenges in receiving healthcare and report encountering medical provider ignorance and bigotry at alarming rates [1][2]. These patients also require unique, specialized medical care to meet their needs in addition to facing high rates of mental health issues and other comorbid conditions such as obesity. Even casual interactions with Transgender and Nonbinary patients may have lasting impact on their well being and undermine trust in their medical providers. For example, misgendering<sup>1</sup> is a very common issue faced often not even recognized by medical providers which may have severe psychological impact on patients [3].

To maintain licenses to practice, medical providers are required to receive yearly accredited Continuing Medical Education (CME). While some modern medical curriculums are catching up to the reality of Transgender and Nonbinary patients, most practicing medical providers are not trained in proper care for those patients [4]. As with any developing area of medicine, CME provides the opportunity to deliver this training to providers. (Note: Accreditation is a long-term goal, but not within the scope of the current iteration of this project.)

The goal of this project is to develop content to support the treatment of Transgender and Nonbinary patients from a comprehensive viewpoint that discusses both surrounding cultural/social concerns for those patients as well as in the unique medical knowledge required to both improve treatment outcomes and care quality.

The target audience are any practicing medical providers or others involved in patient care who wish to improve their understanding of transgender and nonbinary. Segments of the content proposed may also have broader implications for more generalized training outside of the medical community, though the focus will be medical provider driven.

<sup>1</sup> Misgendering is the use of pronouns or other gender signifiers regarding a transgender/nonbinary individual in opposition to their identified gender or pronouns.

Content will begin by providing foundational information on transgender and nonbinary individuals, as well as illustrate some of the challenges faced historically by the community in both medical and broader contexts. The purpose of this is to illustrate the importance of both the rest of the content and to illustrate the potential impact of even simple failures in interaction on the well being of transgender and nonbinary patients, as with misgendering [4]. This portion of the content will also be used to introduce terminology and context required to fully understand the second focus of the content on medical concerns, such as HIV prevention or surgeries. The final section of content will provide information on cultivating a positive environment for transgender and nonbinary patients within a clinical setting, as well as touch upon how to address the issues with colleagues or others who are not informed upon the topic.

## **1.2 Related work**

### **1.2.1 Current Options**

Several major sources currently offer CME courses in Transgender healthcare, though only one was identified that explicitly discusses Nonbinary individuals as distinct from Transgender. While complete reviews of the content are not possible with the resources of this project, both due to costs and lack of online availability, the following sections discuss what could be identified.

#### ***Fenway Institute – Advancing Excellence in Transgender Health***

Website: <https://www.lgbthealtheducation.org/conferences/advancing-excellence-in-transgender-health-2019/>

The Fenway Institute provides a multi-day conference on Transgender health. Their website lists the following conference topics [5]:

- Gender-Affirmative Health Care: Terminology, Demographics, and Epidemiology
- Gender Identity Development in Children and Adolescents
- Transgender Adults Community Panel
- Family Systems of Transgender Children
- Diagnosis, Treatment, and Prevention of Sexually Transmitted Infections for Transgender People
- Behavioral Health Assessment and Referrals for Gender-Affirming Surgery
- Primary Medical and Preventative Care Needs of Transgender Clients
- Reproductive Options for Transgender Persons

- Gender-Affirming Hormone Therapy
- Behavioral Health Care for Gender-diverse Children and Adolescents
- Transgender Youth Community Panel
- Transgender People and HIV
- PrEP and Transgender Communities: Evidence-Informed Practices
- Gender-Affirming Surgeries
- Collecting Sexual Orientation & Gender Identity Data in EHRs
- Transgender and Gender-diverse People of Color
- Creating a Trans Youth Clinic
- Behavioral Health Care Outside the Binary
- What Health Care Providers Need to Know about Transgender Legal Issues

### ***Mayo Clinic – Principles in the Care of Transgender and Intersex Patients***

Website: <https://ce.mayo.edu/psychiatry-and-psychology/content/principles-care-transgender-and-intersex-patients-2020>

The Mayo Clinic offers a similar style conference to the Fenway Institute. They have not announced their 2020 schedule, but describe their conference with the following abstract:

“In the last several years, healthcare providers have seen an influx of transgender and intersex people seeking sensitive and appropriate care. This pioneering course will offer cutting-edge perspectives and practical evidence-based principles for working with these patients before, during and after transition. Experts from Mayo’s Transgender and Intersex Multidisciplinary Clinic will instruct attendees in medical, surgical, psychosocial, legal and ethical issues in transgender and intersex care. Participants will leave with the skills to provide progressive and informed care to this emergent patient population.” [6]

Their 2019 schedule is too large to include here or discuss in detail, but can be located at <https://ce.mayo.edu/psychiatry-and-psychology/content/principles-care-transgender-and-intersex-patients-2019#group-tabs-node-course-default2>.

### ***UCLA - Comprehensive Medical Care for Transgender and Gender-Nonbinary Patients***

On February 8<sup>th</sup>, 2020, UCLA hosted a one-day conference on this topic. Their schedule listed the following panels [7]:

- Health Disparities in Transgender and Gender Nonbinary People
- Trans 101/Lexicon
- Creating a Welcoming Environment in Your Health System
- Behavioral Health Considerations for Transgender and Gender Diverse Individuals
- Gender Incongruence and Hormone Therapy
- TRANSliterating Current Healthcare Maintenance Guidelines for Disease Prevention in Gender-Diverse Patients
- Transcending Gender: Medical Care for Gender-Diverse Youth
- Fertility Considerations in Transgender and Gender-Nonbinary Patients
- Gynecology
- Genital Gender Affirming Surgery: Update and Overview
- Care of the Transgender Voice (prerecorded)
- Transgender Top Surgery
- Facial Feminization Surgery

### ***1.2.2 A Different Approach***

While the above three conferences are not an exhaustive list, they were the only identified CME discussing the topic from a comprehensive approach. Unfortunately, there are a few major areas that these conferences are lacking, which this project will hope to address.

1. **Format** - All three options above were at a single geographic location—Boston, Phoenix, and Los Angeles respectively—over a few specific days, severely limiting access to the material. Access is less likely to providers who are most in need of that education outside of major urban areas. In contrast, this project is intended to be an entirely online comprehensive course, offering accessibility to anyone regardless of geographic location.
2. **Cost** - Cost is another large concern regarding accessibility, as travel and conference expenses are extensive. While the hope is that this project may become accredited, even if a cost is added to support this accreditation, a version of this material will be explicitly provided freely online to remove potential barriers. (This will be considered a nonnegotiable tenant of this project in seeking accreditation, as it is preferable the course is widely available.)

3. **Perspective** - While it is likely individual areas of content are developed by transgender or nonbinary individuals, at no point is this fact advertised. Anecdotally speaking, in my personal experience these sorts of presentations are almost universally developed by cisgender<sup>2</sup> individuals. Another goal of this project is to provide this material directly from transgender and nonbinary voices wherever possible. I believe this is particularly important when discussing the creating of a welcome and affirming environment, a central focus of this project. This can perhaps best be seen by the fact that only one of these conferences has a distinct mention of nonbinary individuals in the subject header, while another leaves discussion of nonbinary identities until the end. The approach seen there cultivates the phenomenon identified during research in which even in otherwise gender affirming spaces will neglect nonbinary individuals [8].
4. **Content** – There are certain areas of content that are lacking from the identified conferences which will be addressed as part of this project. This goes hand in hand with perspective. While they touch upon some general cultural concerns, it does not appear that they delve into more contentious topics such as avenues of oppression or historical failures by the medical community, yet I believe these are required areas of education to fully understand how to provide transgender and nonbinary patients the care they require.

### 1.3 Proposed Work

#### 1.3.1 *Research Survey*

As previously discussed, a survey has been developed and submitted for IRB approval to solicit experiences from the transgender and nonbinary community in order to identify needed areas of content. As of this proposal, approval is still pending. Should approval not be granted in time to make use of the survey, this should not impact the development of content, but rather potentially the quality of that content, and no fallback plans are required for this phase of development.

#### 1.3.2 *Iterative Design and Development*

This project is conceived as a long-term iterative design process. That is to say, it is fully intended to be carried past the end of this semester of CS6460. The purpose

<sup>2</sup> **Cisgender** is defined as having a gender identity that aligns with sex/gender assigned at birth.

of this design is two-fold. The first is that the nature of the proposed content should always be subject to continued evaluation and revision. Second, as no project team support was procured, there are severe resource limitations within the scope of this course which can reasonably assumed to be barriers to accreditation and reduce content quality.

The first iteration of this project will be considered to be what is developed during the course of this semester, along with supporting documentation discussing how to move forward towards future iterations and eventually accreditation. Parts of the content will be developed with this in mind, intended to be refined through an iterative evaluation process. Portions of content which are weakly sourced may also necessitate proposals for future research.

### ***1.3.3 Content to be Developed***

#### ***Content Overview***

While some revision may be deemed necessary, there will be seven primary areas of content divided into units, described below that will be developed during the course of this semester. Units may be of varying lengths, though will be targeted to be around 30 minutes each.

1. Introduction and General Information on Transgender and Nonbinary People
  - Unit 1 will provide a brief introduction to need, including the challenges faced historically in seeking medical care by the transgender and nonbinary community. General terminology will be introduced, in particular differentiating the terms transgender and nonbinary, as well as related identities such as genderqueer. Other topics not exclusive to either transgender or nonbinary identities will be discussed here as well.
2. Further Information on Transgender People
  - Unit 2 will delve into more detail on transgender individuals specifically, expanding upon the material introduced in unit 1. Common areas of confusion regarding terminology will be a large focus. Additionally, an introduction will be given to transitional medical care from a very broad perspective along with the challenges often faced. It is important to note that there will be large elements of overlap between this and the following unit, which will be used to highlight that

a transgender person may or not identify as nonbinary and a nonbinary person may or may not identify as transgender.

3. Further Information on Nonbinary people
  - Unit 3 will build upon the information introduced in unit 1 as well as build connections with unit 2. The bulk of the content will be explaining the nuances of nonbinary identities using the binary focus of unit 2 as a springboard to understanding.
4. Society and Marginalization
  - Unit 4 will provide a sociological overview with an element of epidemiology involved. Further attention will be paid to some of the historical failures in medicine which are discussed in unit 1, while a broader non-medical specific context will also be provided. In terms of epidemiology, particular attention will be paid to how marginalization may lead into comorbid conditions such as depression and obesity, connecting the material to the audience's concerns as medical providers.
5. Sexuality and Gender Identities
  - Unit 5 will discuss sexuality as it relates to gender identity and provide a backdoor introduction to a few key points of patient care. The opportunity will also be taken to explain common facets of transgender and nonbinary sexuality for the benefit of mental health providers, particularly as it relates to writing letters of care<sup>3</sup>.
6. Medical Concerns of Transgender and Nonbinary Patients
  - Unit 6 will provide the general guidelines that providers should know when treating transgender patients, such as common standards of care or potential transitional treatments and surgeries. This will be presented from a primary care perspective, as the resources of this project do not allow for going too deep into care given by specialists.
7. Creating a Positive Clinical Environment
  - Unit 7 will be the focal point of the previous material to which everything culminates. The goal here is not to provide raw information but

<sup>3</sup> Under some standards of care, mental health providers are required to provide letters supporting decisions to undergo treatment or surgeries. There are often concerns about this approach as untrained providers can fall prey to assumptions based in gender role stereotypes or transgender community stereotypes [9], and part of the aim of this unit is to address some of that issue.



rather to explain how providers may foster a welcoming environment both professionally and personally.

### ***Limitations in Content Development***

Transgender and nonbinary care is notoriously under researched. Some areas of content may lack robust scholarly support, even if universally anecdotally accepted—an issue which may not be possible to identify until that portion of content is actually in development. In such cases, the content will still be developed as part of meeting the goals of this project and will be explicitly marked as unsourced with the explicit intention that research will be developed to properly support that content in future iterations of this project.

### ***Medium***

Content will be split between both video presentations and written material. It should be noted that I am not an expert presenter, nor do I possess professional media equipment. While all effort will be made to make high quality video content, due to this limitation any video presentations produced will be considered demonstrative, and this will be a noted area for future iterative development.

### ***Participant Engagement and Evaluation***

Short quizzes will be included within each unit to test understanding. These will not be graded in any fashion and are intended only to improve course participant understanding for this iteration. Future iterations may include more rigorous testing in order to satisfy accreditation requirements.

## **2 MILESTONE 2 PROJECT UPDATE**

Please see the video link at the top of this document for additional details. The material provided here is considered to be a summary/supplementary.

### **2.1 Task Status Chart**

Weeks have been omitted from this chart as this is not intended to be a schedule update, simply documenting status. A status of “mostly complete” indicates that content is written and structured, but that there may be some outstanding items still not finished. Completeness does not account for potential revisions or reorganization such as for task 13, only the actual subject content. Additional Details

for each task for this milestone are provided in section 2.2. Supplementary tasks which were not present in the original schedule are not given a number.

*\* “Actual time” is a running tally for in progress tasks.*

Task	Task Description	Time		Status
		Est.	Act.	
1	Complete "Table of Contents"	2	3	Complete
2	Setup and Learn Development Environment	3	0*	No Longer Applicable
*	Research Development/Hosting Alternatives		5	No Longer Applicable
3	External Resource Procurement	3	1*	Cancelled
4	Content Development for Unit 1	6	12	Complete
5	Content Development for Unit 2	6	25	Complete
6	Content Development for Unit 3	6	6	Complete
7	<b>Milestone 1 Preparation</b>	4	4	Complete
A	Web Application Development		20*	Mostly Complete
8	Content Development for Unit 4	10	20	Complete
9	Content Development for Unit 5	10	20	Complete
10	Content Development for Unit 6	10	10	Complete
11	<b>Milestone 2 Preparation</b>	4	4	Not Started
12	Content Development for Unit 7	6		Not Started
13	Contents Review and Reorganization	4		Not Started
14	Unit Video Production	8		Not Started
15	Evaluation Development	2		Not Started
16	<b>Final Project Documentation</b>	10		Not Started
17	<b>Final Project Presentation</b>	5		Not Started

## 2.2 Task Details

### 2.2.1 Task 2 – Setup and Learn Development Environment

This task is no longer considered applicable to the project due to the shift in presentation to a web application hosting the content, developed specifically for this project.

### ***2.2.2 Task 3 – External Resource Procurement***

Due to complications with the covid-19 pandemic, discussion with organizations originally going to supply material for the project content (ex: images/charts/etc.) is no longer feasible. As of unit 4, appropriate supplementary material is being developed as part of the content where possible, or public domain photos will be utilized.

### ***2.2.3 Task A (NEW) – Web Application Development***

Due to issues securing appropriate hosting and the costs involved with using services such as Azure or AWS, I opted to develop a simple Angular2+ Web Application deployed through Heroku to host content. For more information and a demonstration on this application, please see the presentation video.

The time for this task thus far was split between actual development and converting the content to JSON for use by the application.

(Note: This is entirely meant to be a proof of concept and lacks some major features at this stage in development.)

### ***2.2.4 Task 8 - Content Development for Unit 4***

Unit 4 discusses society and marginalization as it relates to the Transgender/Non-binary community. This was a particularly difficult unit, and I have serious concerns about some of the content in a few different ways. During the final phase of this project, this unit might be broken down and the sections within integrated into the other units in appropriate places. Regardless, the current version is considered up to MVP standards, though there is no doubt this will be a unit that sees significant revision after evaluation in future iterations of this project outside the scope of CS6460.

### ***2.2.5 Task 9 - Content Development for Unit 5***

Unit 5 talks about the connection between sexuality and gender identity. This unit took surprisingly long to write, and it was intended originally to be one of the shortest units. The issue here was partly due to scope creep in expanding upon related topics while moving through the most important material. It may require notable editing for conciseness and relevance, with some sections reduced to simple terminology lists.

### ***2.2.6 Task 10 - Content Development for Unit 6***

As I am not a clinician, material produced for unit 6 avoided clinical detail I am not qualified to provide, making it a comparatively easy write-up. (Note: This was always the intent from early in the project, as for proper long-term accreditation it will require clinician input.) Most of the time spent on this task was related to research and citations.

### ***2.2.7 Task 11 – Milestone 2 Preparation***

Milestone 2 preparation is accounted for by the submission of this document and accompanying video.

## **3 REFERENCES**

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