WEARING WELLNESS:
A COMPARATIVE ANALYSIS OF CONTINUOUS GLUCOSE MONITOR NARRATIVES IN A SELF-SURVEILLING WELLNESS CULTURE

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ABSTRACT

Building from established work on wearable rhetorics and wellness culture (Brady, 2024; Derkatch, 2022; Elman, 2018; Gouge and Jones, 2016; J. Jones et al., 2017; Lawrence, 2023; Shew, 2020; 2022; 2023), this project examines marketing narratives surrounding the emergence of over-the-counter continuous glucose monitors (OTC CGMs) in the United States (Abbott, 2024; U.S. Food and Drug Administration, 2024). I explore how audiences and kairotic moments impact health and wellness narratives around continuous glucose monitors (CGMs) by engaging with the following research questions: (1) How does the introduction of OTC CGMs shape Type 1 Diabetic (T1D) and non-Type 1 Diabetic (non-T1D) CGM narratives? (2) What are the affordances and implications of the narratives told to each audience group? (3) What can this case tell us about the current state of health and wellness culture in the United States? To conduct my study, I use a modified conventional content analysis framework (Hsieh and Shannon, 2005) informed by Tracy's (2020) iterative content analysis and inductive coding methods to identify emerging themes across six CGM websites made up of two audience groups. Overall, blood glucose is positioned as an emergent health indicator, and CGM narratives have shifted toward wellness as a primary factor for CGM adoption in both audience groups. I identify four discursive pillars of CGM narratives, including interface, agency, experience, and outcomes, which offer a lens to examine the narratives of wearable technologies. Ultimately, this case illustrates how narratives shape our understanding of technologies and communicate the current culture's values and concerns surrounding health and wellness.

To the people, places, and pets that challenged, supported, and comforted me in times hardship and joy

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LIST OF ABBREVIATIONS

BG Blood Glucose

CGM Continuous Glucose Monitor

T1D Type 1 Diabetes

T2D Type 2 Diabetes

CHAPTER 1

INTRODUCTION

I am a bad diabetic. I begin with such a statement to intentionally situate myself within the narratives I analyze in this study. Positioning myself as a bad diabetic both contextualizes myself within the narratives presented here and pushes back against them. In doing this, I begin with my own narrative: how I came to be both a Type 1 Diabetic (T1D) and later, a "bad diabetic." I do this to emphasize the importance of narrative in technical professional communication (TPC) and rhetorics of health and medicine (RHM), following in the tradition of Natasha Jones (2016). Jones (2016) intentionally centers narrative and genre in TPC scholarship, particularly when engaging with networked organizations. Thus, I intentionally work with narratives within marketing genres to reveal how continuous glucose monitors (CGMs) shape wellness culture. In the following sections, I define my terms, tell my story, and offer a connection between my narrative and CGM narratives.

1.1 A Definitions Prologue

Diabetes is largely broken down into two main categories: Type 1 Diabetes (T1D) and Type 2 Diabetes (T2D). Both types impact how the body interacts with insulin, a hormone that breaks down glucose in the bloodstream (Cleveland Clinic, 2024). T1D is an autoimmune condition where the body no longer produces insulin (Cleveland Clinic, 2024). In contrast, T2D is a hormonal condition where the body develops insulin resistance despite producing insulin (Cleveland Clinic, 2024). Despite a shared name, T1D and T2D are unique conditions, each with their own narratives. I define both types here to create a clear differentiation. T1D and T2D are often misunderstood in the wider cultural zeitgeist and are often conflated. When discussing diabetes, it is especially important to define both types and identify which is discussed to avoid misinformation. This study primarily engages with T1D and non-diabetic narratives to understand how audience influences CGM narratives.

In the past decades, wearable diabetic technology has seen an explosion of innovation (Arduser, 2018; Braune et al., 2021; Funtanilla et al., 2019; Hirsch, 2018; Klonoff et al., 2017; Skyler, 2009). T1Ds rely on assistive technologies, including CGMs and insulin pumps, as an integral part of their overall treatment plan. Most notably, CGMs have rapidly gained traction as an increasingly common part of diabetes self-management (Funtanilla et al., 2019; Klonoff et al., 2017). After strictly being used in medical settings for decades, CGMs came onto the market in 2005 as a prescription assistive technology for T1Ds (Skyler, 2009). These wearables are designed to monitor blood glucose (BG) levels over the course of one to two weeks by taking BG readings up to every five minutes using a "subcutaneously implanted sensor [...], an algorithm that converts sensor signals into glucose values, a display device that provides glucose values to the user, and a mechanism for transmitting data from the sensor to the display device." (Klonoff et al., 2017; U.S. Food and Drug Administration, 2025a). Thus, CGMs are an invaluable tool that provide T1Ds with real-time BG data to make better informed diabetes management decisions and increase positive health outcomes (Funtanilla et al., 2019; Klonoff et al., 2017).

T1D is a data-dependent condition that relies on BG data for effective self-management. Without CGMs, T1Ds manually test their BG approximately 4-10 times per day by collecting a small blood sample from the tip of their finger using a lancing device (American Diabetes Association, n.d.-a; Mayo Clinic Staff, n.d.). In addition to the general discomfort of these fingersticks, this manual testing provides users with an extremely limited dataset to make medical decisions, requiring more fingersticks to obtain more data. Thus, CGMs fill a necessary role in T1D treatment and management. By providing T1D users with more data, CGMs reduce the number of daily medical decisions required to manage users' T1D and maintain a healthy lifestyle. In turn, this reduces the amount of disabled labor required of T1Ds, which I define as the mental, physical, and emotional labor required of disabled people to maintain homeostasis in their self-management.

1.1.1 A Note on Terms

To emphasize the many roles CGMs occupy for T1Ds and non-T1Ds, I use several terms interchangeably to refer to CGMs' numerous classifications. In particular, I refer to CGMs as assistive technologies, wearable health technologies, wearable diabetic technologies, and wellness technologies. These terms may change depending on the discussion's context, especially when discussing audience-specific CGM usage. Terms such as diabetes technologies or wellness technologies are exclusively discussed within audience-specific contexts, while other terms are more interchangeable. I intentionally discuss my terminology to make clear how CGMs' roles change contextually and invite a richer discussion of CGM narratives.

1.2 A Type 1 Diabetic Narrative

Receiving a T1D diagnosis is an inherently violent process. At age 9, my life nearly ended and then it changed overnight because of my T1D diagnosis. As a child, I had to learn how to manage my diabetes without assistive technologies. I relearned those management strategies with my first insulin pump two years post-diagnosis and my first CGM over a decade into my T1D journey. I relearned how to eat, learning how to count carbs, calculate insulin ratios, and deliver insulin. I relearned how to move through the world. I was forcibly turned into a living data set. In an instant, I was no longer a child. Instead, I was a disabled child, a T1D, a collection of numbers that determined my worth as a person.

My diagnosis as a "bad diabetic" was more insidious, triggered by years of disabled labor, diabetes burnout, and systemic injustice. Every diabetes "joke," every kid that thought I was contagious, every well-meaning refrain of "my grandpa, uncle, mom, aunt has diabetes too" when they're actually talking about T2D, every "at least it's not cancer," every "I didn't bring anything for you because you're diabetic," every assumption that I ate too much sugar and caused my own diagnosis, every fingerstick and injection slowly made me angrier. To be a "bad diabetic" is to be non-compliant. T1D is a data-dependent

and data-driven disease that requires constant surveillance and large amounts of disabled labor. When either surveillance or disabled labor deteriorate, a T1D is non-compliant. This term signifies an intentional disregard for self-management, which ignores the complex and often systemic causes of non-compliance. I define these terms to offer a medical understanding of the "bad diabetic" that contrasts my lived experience.

Over a decade after my initial T1D diagnosis, I was given my first CGM and hybrid closed-loop insulin pump to "cure" my non-compliance. For me, these assistive technologies had both positive and negative effects on my diabetes management, well-being, and sense of self. Using these technologies, I successfully increased my time in range and lowered my A1C, medically "curing" my previous non-compliance. However, CGM reduced me to a collection of BG data. Every second, my body was being tracked via technology. At the time of this study, hybrid closed-loop insulin delivery systems are the closest to a fully autonomous technological intervention for T1Ds. Using a networked system of CGM data, predictive algorithms, and embodied experiences, hybrid closed-loop systems predict and prevent hypo- and hyperglycemia. Thus, these technologies shift the burden of disabled labor from manual tracking via fingersticks and injections to self-surveillance via CGM data. For T1Ds, technology is perceived as a cure for an incurable condition. In particular, assistive diabetes technologies such as insulin pumps and CGMs allow users more insight into their health and control over their disabled bodies. Ultimately, assistive technologies provide a means for improved self-management, functionally "curing" the user from disabled labor by creating semi-autonomous systems that mimic the body's natural rhythms. This, however, is an idealistic way of understanding assistive diabetic technologies, aligning with Hutter and Lawrence's 2021 caution against the often-ableist grand narrative of technological innovation. Instead, these assistive technologies shift the disabled labor of T1Ds toward a constant surveillance state.

1.3 Why Narrative?

I tell my story and position myself within the narrative to emphasize the complexity of T1D and CGM narratives on an individual and systemic level. I cannot divorce myself from my T1D as a researcher, and thus, this study cannot, nor should not, be disentangled from my own identity and narrative. I chose to center my embodiment as a T1D in the framing of this study to emphasize how narratives "reflect culture—norms, values, and identities" (N. N. Jones, 2016, p. 298). Jones 2016 points to the need for narrative and genre to be understood as "interrelational and coconstructive on a theoretical level" (p. 315). Thus, I intentionally use narrative as a method for examining and understanding CGMs and situating my experience within this study.

The narrative of healthy living and positive health outcomes promoted by T1D CGM use has recently been adopted by a secondary, wellness-oriented audience of non-T1Ds for non-medical purposes. In the United States, most CGMs require a prescription and are typically prescribed to T1Ds as a part of their overall treatment plan (Funtanilla et al., 2019; Klonoff et al., 2017), which might additionally include the use of an insulin pump or artificial pancreas system for insulin therapy (Templer, 2022). However, the CGM market has recently undergone a shift with the introduction of CGM subscription services and later, over-the-counter continuous glucose monitors (OTC CGMs) (Abbott, 2024; U.S. Food and Drug Administration, 2024). This has made space for non-T1D users to adopt CGMs for wellness-oriented, non-medical purposes. Emerging before the FDA approval of OTC CGMs, CGM subscription services helped non-T1Ds obtain CGM prescriptions from service-affiliated physicians. Despite being tested and FDA approved exclusively for T1D users (U.S. Food and Drug Administration, 2025a), prescription CGMs are situated as luxury wellness technologies for non-T1D audiences by these subscription services. This phenomenon reflects what Derkatch (2022) calls wellness optimization, which is a "form of multi-dimensional self-actualization, an inspirational state driven by the logic of enhancement toward becoming 'better than well.'" (p. 139). In this model, users

are encouraged to track health data and implement wellness technologies and interventions to signal health and wellness.

To understand how OTC CGMs impact health and wellness narratives surrounding CGM use, this thesis explores the following research questions:

1. How does the introduction of OTC CGMs shape T1D and non-T1D CGM narratives?
2. What are the affordances and implications of the narratives told to each audience group?
3. What can this case tell us about the current state of health and wellness culture in the United States?

In this paper, I analyze T1D and non-T1D CGM narratives across two kairotic moments to understand how the introduction of OTC CGMs has shaped each audience group. While numerous non-T1D users might benefit from glucose monitoring, including users with T2D, gestational diabetes, insulin resistance, hypoglycemia, and/or various metabolic health conditions, the narrative presented in the non-T1D group explicitly points to a non-medical, non-diabetic user (Arduser, 2017; Hannah et al., 2024). Thus, this study examines the narratives presented to and about T1D and non-T1D audiences. I primarily focus on the language, structure, and arguments of six CGM websites in two audience groups. This approach allows me to establish a clearer understanding of the evolution, challenges, and moral dilemmas of these technologies as audience and access continues to shift with the rapid development, marketing, and dissemination of prescription health wearables for secondary audiences.

CHAPTER 2

LITERATURE REVIEW

2.1 Technological Narratives and Frameworks

To begin to understand technological narratives, I first present a non-T1D narrative that might echo the narratives presented in this study. Katie Linder (n.d.), host of the *You've Got This* podcast, documented her experience with monitoring her BG levels over the course of four weeks with Lingo, an OTC CGM. This experiment creates an explicit narrative around intentional self-surveillance and individual choices and interventions. Linder n.d. discusses how specific combinations of diet and exercise impact BG, citing exercise alongside meals and increased protein intake as key factors for maintaining more controlled BG levels. Linder's (n.d.) individual findings align with a common narrative that posits having more data leads to better decision making, particularly in the pursuit of improving health or wellness. However, movement toward widespread public adoption of commercial health wearables raises questions of ethics and access, particularly as it overlaps with pre-existing prescription health wearables (Elman, 2018).

In the past decades, many technologies have expanded into personal health and wellness spaces, particularly in the wearables sector, with technologies such as the Fitbit, Apple Watch, and Oura Ring (Elman, 2018). These technologies exist both inside and outside of the traditional healthcare system. While data from wearable technologies may aid healthcare professionals in patient treatment and diagnosis and improve patient self-management for chronic conditions (Arduser, 2018; Braune et al., 2021; Hannah et al., 2024; Ni et al., 2024), commercial technologies are not designed for specific patient care, unlike prescription health wearables and other assistive technologies. Rather, commercial health wearables bridge the gap between systemic and individualistic healthcare. Many of these technologies facilitate or promote biohacking, which Lindfors (2024) defines as a "loose assembly of somatic and semiotic techniques of the self and an accompanied ethos of self-directed bodily transformation" (p. 84). This form of self-transformation via

technology reflects a "'better than well' approach to humanity" (Lindfors, 2024), which Derkatch (2022) situates as a form of wellness optimization. Thus, commercial health wearables are presented as a way for users to "opt-in" to personal health surveillance for any number of health or wellness concerns, including sleep, heart rate, or BG levels (Lindfors, 2024). This provides users with concrete health data that the user and healthcare professionals can use to make more informed choices.

As part of expanding technological narratives, Hutter and Lawrence (2021) examine the grand narrative of technological innovation through three case studies and posit that these narratives actively "work to uphold technological paternalism" (p. 151). Their analysis presents "four discursive patterns" (Hutter and Lawrence, 2021, p. 153) that characterize the grand narrative of technological innovation and frame their ultimate call to action that asks us to question and criticize the way we discuss emergent technologies. Their framework explicitly situates technological innovation within narratives, positioning pathos-forward storytelling as a key element. Within this narrative, users are characterized within a deficit model, while technologies are situated as the simplest and easiest solution to fix user deficit and restore human rights (Hutter and Lawrence, 2021). Thus, the grand narrative of technological innovation (Hutter and Lawrence, 2021) operates as a form technoableism, which Shew (2020) defines as a "rhetoric of disability that at once talks about empowering disabled people through technologies while at the same time reinforcing ableist tropes about what body-minds are good to have and who counts as worthy" (p. 43). Both Shew (2020; 2022; 2023) and Hutter and Lawrence (2021) ultimately call for accountability in the way we frame "revolutionary" technology. While Hutter and Lawrence (2021) do not explicitly mention accessibility, they actively draw from accessible user-centered design principles in their analysis and subsequent critique of technologies aimed to "fix" disabled users by moving them toward normative practices.

Oswal et. al (2019) highlight the User Experience (UX) field's failure to include disabled voices and experiences. They present a six-step process to move toward an "ac-

cessible user experience model (AUX) of design" (p. 1) that centers disabled users as co-creators and co-collaborators and pushes back against the established "'medical model of accessibility design' that retrofits normative designs to the needs of users with disabilities" (p. 1). Thus, AUX provides clear heuristics for evaluating texts, user experiences, and design processes for accessibility in a way that centers disabled users, which Willers (2024) applies to Microsoft's Inclusive Design Toolkit. Willers' (2024) analysis concludes that "AUX holds promise as a diagnostic and planning tool to promote accessibility and inclusion in TPC" (p. 130) and further posits that applying an AUX framework "both diagnoses problems and guides in addressing them" (p. 130). Ultimately, AUX situates disabled users as experts of their own experiences and access needs, pushing back against ableist and technoableist narratives of the medical model (Shew, 2020; 2022; 2023).

2.2 Surveillance

With rising healthcare costs and increasingly complex insurance coverage in the United States, many users have turned to do-it-yourself (DIY) approaches to healthcare. These DIY approaches often serve as a means of surveillance, a term Welhausen (2017) describes as "the planned and ongoing process of gathering information about health-related activities among humans in order to make decisions designed to improve public health" (p.52). Under this model, surveillance is an inherently political act, where users provide individual health data to contribute to a larger corpus of open-source medical data that directly impacts individual decision-making practices. When examining the participatory surveillance of DIY influenza tracking via mobile health (mHealth) technologies, Welhausen (2017) argues that DIY healthcare offers alternatives to non-critical, mainstream medical intervention that can provide specific end users a means to "save money, express creativity, invent something new, improve upon or customize an existing design, and/or otherwise address some kind of unmet need" (p. 57). The U.S Bureau of Labor Statistics reports that 81% of full-time workers had some amount of sick leave (U.S. Bureau of Labor Statistics, n.d.-b) and 89% had "access to medical care benefits" in 2024 (U.S. Bureau

of Labor Statistics, n.d.-a), with significantly lower rates of sick leave and insurance coverage amongst part-time workers. Therefore, DIY participatory infectious disease surveillance is an especially important method for "personalized risk assessment" (Welhausen, 2017), p. 57) to prevent infection and "lower [the] risk of developing chronic conditions" (Welhausen, 2017), p. 59). Thus, risk assessment and disease prevention through participatory surveillance and DIY healthcare act as cost reduction measures for consumers under a capitalistic healthcare system in the United States.

While Welhausen (2017) is primarily concerned with participatory surveillance within DIY approaches to healthcare, DIY diabetic wearables provide a case study for a simultaneously participatory and individualistic approach to surveillance (Arduser, 2018; Braune et al., 2021). Diabetes wearables, including insulin pumps and CGMs, offer T1Ds and select T2Ds a means to track their individual BG data (Funtanilla et al., 2019; Klonoff et al., 2017;) Skyler, 2009). This data is tracked in real time via an implanted biosensor (U.S. Food and Drug Administration, 2025a; U.S. Food and Drug Administration, 2025b), offering users a means of individualistic surveillance, which itself draws from Welhausen's (2017) definition. However, traditional diabetes wearables depart from the collectivist goal of Welhausen's (2017) definition of surveillance regarding the larger impact of data collection on public health. Instead, these technologies primarily focus on individual patient data, medical decisions, and goals, which are largely kept private. Despite this clearly individualistic form of surveillance, DIY diabetes wearables have taken a collectivist, participatory approach to surveillance and usability research (Arduser, 2018).

Artificial pancreas systems, also called hybrid closed-loop insulin delivery systems, integrate insulin delivery and continuous glucose monitoring to automate certain aspects of diabetes self-management (Templer, 2022). Thus, this form of integrated and automated self-surveillance increases insight into BG data while decreasing the overall amount of disabled labor. In 2013, the first DIY Artificial Pancreas System (DIYAPS) emerged in response to the slow FDA approval process of the first commercially avail-

able APS, under the mantra #WeAreNotWaiting (Braune et al., 2021; Templer, 2022). This movement operated under an open-source ideology that centralized community innovation and participatory usability testing (Arduser, 2018; Braune et al., 2021). As a result of the open-source nature of the DIYAPS movement, participatory usability allows users to "address some kind of unmet need" (Welhausen, 2017, p. 57), thus, contributing to a different form of participatory surveillance. In this way, users contribute usability data to a DIY community by participating in self-surveillance, which, in turn, increases both individual and public health within a subset of the T1D community. In 2019, the OPEN Project (The OPEN Project, n.d.), "a patient-led research project" backed by over 40 researchers from around the world, set out to study the DIYAPS movement, including patient motivations and clinical outcomes. Braune et al. (Braune et al., 2021) found improved glycemic and quality of life outcomes as a result of DIYAPS adoption. Ultimately, DIY health wearables push back against slow regulatory processes and demonstrate how collective invention, participatory usability, and self-surveillance contribute to positive health outcomes.

2.3 Agency, Control, and Chronicity

Chronicity appears as a common theme in conversations surrounding health wearables, T1D, and chronic illness. Arduser and Bennett's (2022) Rhetoric of Health and Medicine special issue on the rhetoric of chronicity engages with tensions present between chronicity, agency, and identity in medical discourses (Arduser and Bennett, 2022). This expands previous work by Arduser (2017) on chronicity and patient agency in T1D populations, where she proposes "a more fluid, multidimensional definition of patient agency" that privileges patient-centered methods and approaches (p. 22). In this model, patient agency shifts from singular compliance to a "constellation of maneuvers" (Arduser, 2017, p. 166) that inform how T1Ds and other people living with chronic conditions approach self-management. Arduser and Bennett's 2022 special issue also points to Bennett's (2019) previous work surrounding management, which is "not a transparent

marker of chronic conditions but operates as a shorthand for multiple rhetorics that deal with disparate phenomena such as sociality, relationality, food consumption, institutional support, ideologies of health, medical edicts, and perhaps most important, moral worth" (Arduser and Bennett, 2022, p. 125). This idea of "moral worth" (Arduser and Bennett, 2022, p. 125) as an element of both chronicity and management is further reflected in Cole's (2022) work on "direct-to-consumer pharmaceutical advertising" (p. 214). Her work posits that the relationship between "biomedical intervention" and normalization narratives "encourages chronically ill people to see themselves as burdens to, rather than burdened by, the rhythms of normalcy" (Cole, 2022, p. 214). Thus, wearables are positioned as a means of assimilation that simultaneously impact the unique temporality of disabled bodies.

As part of an explicitly chronic condition, T1D users must balance several factors, including diet, exercise, stress, and sleep to maintain an artificial homeostasis in their self-management. Arduser (2017) notes that "balance" is often synonymous for "control" in T1D and other medical discourses, often perpetuating ideas of compliance and non-compliance that shape how users perceive agency in chronicity. Thus, CGMs and other diabetic wearables emerge as management technologies that communicate chronicity and impact users' agency.

2.4 Wellness

Wellness is closely tied to optimization (Derkatch, 2022), particularly when discussing the optimization of diet and exercise. In the introduction to the *Rhetoric of Health and Medicine* special issue on the rhetoric of food and health, Hanganu-Bresch (Hanganu-Bresch, 2021) examines the contemporary and historical implications of food as medicine, with "the rhetoric of food as *pharmakon*, both medicine and poison" (p. 123). This notion effectively separates foods into distinct categories, good and bad, which are then mapped onto individual morality. Therefore, the act of consuming "good" or "bad" foods determines moral worth, with "good" foods associated positive attributes such as health,

wellness, wealth, and attractiveness and "bad" foods associated with negative attributes such as sickness, disability, and obesity.

Stambler (2021) further categorizes food as wellness, medicine, and economics in her case study of the University of Minnesota's Employee Wellness Program (UMN EWP). Her case study is a "salient example of how large institutions wield power in shaping ideas about wellness and food" (Stambler, 2021, p. 178), particularly when examining how food-as-wellness and food-as-medicine operate through Stambler's (2021) idea of food-as-economics. In this model, "good" food operates as a means for both maintaining or improving employee wellness and "healing illness/disease" (Stambler, 2021, p. 164). This works within Derkatch's (2022) discussion of wellness optimization, where interventions such as diet, exercise, and health wearables might operate as tools for increasing wellness to become "better than well" (Derkatch, 2022; Lindfors, 2024). While this wellness optimization might function as a necessary health intervention to maintain a healthy workforce, in the case of the UMN EWP, Stambler (2021) argues that both food-as-wellness and food-as-medicine serve to enhance food-as-economics. Ultimately, maintaining wellness or preventing disease through food, which is positioned and incentivized as an individual choice, allows UMN to reduce university healthcare costs, asserting that food is money (Stambler, 2021, p. 178). This situates wellness optimization as both luxury and necessity in the United States, which perpetuates wellness practices, such as biohacking (Lindfors, 2024) and tracking the body via health wearables (Elman, 2018; Gouge and Jones, 2016; Hickey, 2021).

CHAPTER 3

METHODS

To conduct my analysis, I use a modified conventional content analysis framework (Hsieh and Shannon, 2005) informed by Tracy's (2020) iterative content analysis methods. To understand how the introduction of OTC CGMs shape audience-specific narratives, I examine two kairotic moments: the pre-OTC CGM market in April 2024 and the post-OTC CGM market in February 2025. These two moments demonstrate a shift in the CGM market toward wellness as a primary motivation, which I center around the emergence of OTC CGMs. Thus, I intentionally use inductive coding (Tracy, 2020) to identify emerging themes in each audience group and track how marketing narratives shift in response to OTC CGMs. I first provide an overview of each kairotic moment before discussing the audience selection, site selection, and coding processes.

3.1 Kairotic Moments

This study focuses on two primary kairotic moments: the pre-OTC CGM market and the post OTC CGM market, building from previous work on T1D and non-T1D CGMs (Brady, 2024). Below, I discuss the current state of the CGM market and define the pre- and post-OTC CGM kairotic moments.

3.1.1 Background

To understand the two kairotic moments examined in this study, it is first important to contextualize the ongoing shift of primary audiences in the CGM market. CGMs primarily operate as assistive technologies for T1Ds and, more recently, some T2Ds (Funtanilla et al., 2019; Hannah et al., 2024; Klonoff et al., 2017; Ni et al., 2024; Skyler, 2009). As class III prescription health wearables (U.S. Food and Drug Administration, 2025b), CGMs provide users with increased BG data via automatic BG readings, which has a positive impact on diabetics' self-management (Funtanilla et al., 2019; Klonoff et al., 2017; Skyler, 2009). However, CGM subscription services recently entered the previously medical-oriented CGM market to provide wellness-oriented non-T1Ds with CGMs for non-medical pur-

poses. Despite catering to an explicitly non-T1D and non-medical audience, CGM subscription services primarily operate within a prescription medical system in the United States. At the time of my original study (Brady, 2024), all CGMs required a prescription. Thus, CGM subscription services worked around United States prescription requirements by connecting users with service-affiliated physicians to obtain CGM prescriptions. In response to the introduction of these CGM subscription services, my original study sought to understand how audience impacts marketing narratives present in both T1D and non-T1D CGM websites. This thesis builds from my original study to examine how OTC CGMs impact the CGM market and audience-specific marketing narratives. In the following sections, I define and discuss the pre- and post-OTC CGM kairotic moments to establish the scope of my research.

3.1.2 April 2024: The Pre-OTC CGM Moment

The pre-OTC CGM kairotic moment acts as a baseline to understand T1D and non-T1D marketing narratives. This builds from my previous research on audience-specific marketing narratives presented by CGM manufacturers and CGM subscription services in the United States (Brady, 2024). Prior to August 2024, all CGMs required a prescription in the United States. As a result, CGM subscription services helped users obtain a CGM prescription for non-medical use via affiliated physicians. This created a clear distinction in CGMs' roles for T1D and non-T1D audiences, with CGMs marketed toward T1Ds understood as assistive technologies and CGMs marketed toward non-T1Ds understood as luxury wellness technologies (Brady, 2024). Thus, the pre-OTC CGM market can be broken down as follows:

- Prescription CGMs for T1D users via CGM manufacturers; and
- Prescription CGMs for non-medical, non-T1D users via CGM subscription services

3.1.3 February 2025: The Post-OTC CGM Moment

The post-OTC kairotic moment introduces OTC CGMs to the market. In March 2024, the FDA approved the first OTC CGM systems for non-T1D audiences (U.S. Food and

Drug Administration, 2024), which were released to the public in August and September 2024. Produced by the two major CGM manufacturers in the United States, Dexcom and Abbott, these OTC CGMs target an explicitly wellness-focused audience (Abbott, 2024; U.S. Food and Drug Administration, 2024), aligning with the marketing narratives presented by CGM subscription services in the pre-OTC CGM moment (Brady, 2024). Stelo, produced by Dexcom, and Lingo, produced by Abbott entered the CGM market in late summer 2024, prompting a shift in the larger CGM discourse. Wellness-oriented audiences no longer need to rely on CGM subscription services for prescriptions to participate in wellness surveillance. Rather, OTC CGMs allow some users to track their BG without a prescription. Despite this change, both T1D-focused CGMs and non-T1D CGM subscriptions require a prescription or research opt-in to facilitate access. Thus, the post-OTC CGM market can be broken down as follows:

- CGMs for T1D users requiring valid prescription via CGM manufacturers
- CGMs for non-medical, non-T1D users requiring a prescription from affiliated physicians or research opt-in via CGM subscription services
- OTC CGMs for non-medical, non-T1D users

3.2 Audience Selection

A major goal of this study is to examine how marketing narratives are shaped by audience. Thus, for the scope of this study, I examine texts from two distinct audiences: T1Ds and non-T1Ds, which might also be distinguished via medical and non-medical use cases. To determine my audience groups, I performed a preliminary examination of CGM websites to identify key audience markers, including FAQs, homepage content, and getting started pages. Using these audience markers, I first distinguished my audience as T1D and non-diabetic in my preliminary research (Brady, 2024). I further refined my audience groups to include OTC CGMs in the original non-diabetic group. For the sake of clarity, I chose to adjust my audience groups to T1D and non-T1D. As I note in the preliminary findings of my pilot study, T2Ds and prediabetics are often left out of the

conversation around CGMs despite the positive health outcomes of CGM adoption in these groups (Brady, 2024; Hannah et al., 2024; Ni et al., 2024). By shifting my language from non-diabetics to non-T1Ds, I both narrow my scope and acknowledge users that might be excluded when discussing the non-T1D group as non-diabetic. However, for the scope of this study, I chose to focus my analysis on the primary audience for each CGM type as discussed in more detail in the following sections.

3.2.1 T1D Group

The T1D group operates as a control group when examining audience-focused CGM narratives. As established by the literature, CGMs primarily operate as a T1D-focused wearable assistive technology (Funtanilla et al., 2019; Klonoff et al., 2017; Skyler, 2009; Templer, 2022). Thus, CGM narratives originated as T1D-specific narratives before later expanding into T2D and non-T1D audiences. In the United States, the FDA classifies CGMs as class III health wearables, which require the greatest amount of regulation (U.S. Food and Drug Administration, 2025a; 2025b). As a result, T1D CGMs function as prescription technologies in the United States. While T1D CGMs may be prescribed to some T2Ds as a form of self-management, the T1D group is primarily concerned with promoting CGMs as a T1D-specific assistive technology. Thus, I chose to focus on the sites' dominant T1D-focused narratives and T1D-specific audiences. Below, I break down the major audience types within the T1D group. Based on the current state of the prescription CGM market, I break down the T1D audience into primary and secondary audiences using textual and visual markers across the T1D CGM sites. Both sites explicitly mention diabetes management in multiple places across the site, often using the phrase your diabetes, to denote individual responsibility and diabetes management (Abbott, n.d.-a; n.d.-b; Dexcom, n.d.-a; n.d.-b). Across both T1D CGM sites, wearing a CGM signals T1D status. No children are represented in any of the imagery in the sites across both kairotic moments, with the exception of a non-CGM wearing child appearing in an image alongside a CGM-wearing adult (see figure 3.1) (Dexcom, n.d.-b). Finally, each homepage

operates as a marketing tool for the sale of specific CGMs, implying that the user has a current CGM prescription or has interest in obtaining a CGM prescription. Based on these markers, the primary audience consists of T1Ds who meet the following criteria:

- Formal diagnosis of T1D
- Over the age of 18
- Responsible for individual diabetes management; and
- Have a CGM prescription or have an interest in obtaining a CGM prescription

Figure 3.1 Dexcom G7 Type 1 Diabetic Audience Marker

The secondary audience consists of non-T1D caregivers of T1D minors. While not represented by textual or visual markers across the sites, minors make a significant amount of the T1D population in the United States. According to the U.S Centers for Disease Control and Prevention (2024), 304,000 children and adolescents have diagnosed diabetes, which accounts for approximately 17 percent of the total T1D population in the United States (American Diabetes Association, n.d.-b; U.S. Centers for Disease Control and Prevention, 2024). Thus, non-T1D caregivers of T1D minors make up a significant part of the T1D audience ecosystem. For the sake of this study, I define non-T1D caregivers of T1D minors as the primary caregiver of a T1D under the age of 18. Caregivers might include, bio-

logical or adopted parents, guardians, or state-sanctioned caregivers. For the sake of this study, I focus on the primary audience represented by the T1D CGM group. While the needs of non-T1D caregivers of T1D minors represent an important part of the discussion around CGM narratives, especially in the context of dominant child-centered online T1D narratives, caregivers and children are not present in the textual and visual makers in the T1D group.

3.2.2 Non-T1D Group

As an emerging audience, the non-T1D group operates as the experimental group when examining CGM narratives. My pilot study identified emerging themes presented by CGM subscription services to understand how audience impacts marketing narratives in a shifting CGM market (Brady, 2024). Thus, I used these emerging themes in addition to textual and visual markers across the sites to identify the key characteristics of the non-T1D audience. Below, I break down non-T1D audience archetypes and identify my primary non-T1D audience.

In contrast to the T1D group, the non-T1D audience is made up of a constellation of users concerned with health and wellness. I break down the non-T1D group into two categories: medical and non-medical audiences. Medical audiences include users with diagnosed medical conditions, such as prediabetes, T2D, and insulin resistance, who might benefit from glucose monitoring as part of their overall treatment plan. As discussed previously, CGMs were designed to meet the specific needs of T1D users and act as a targeted assistive technology. However, expanded use of CGMs for other medical use cases correlates with positive health outcomes for many non-T1D populations (Hannah et al., 2024; Ni et al., 2024). Thus, medical audiences must be acknowledged in the audience selection process.

When examining site-specific audiences, I used key audience markers and non-T1D narrative themes (Brady, 2024) to identify and define the non-medical audience. Emergent narrative themes point to the non-medical audience as primarily concerned with

wellness optimization via health insights, agency, and outcomes (Brady, 2024). Site FAQs and getting started sections echoed user-specific wellness optimization and outlined specific qualification criteria. Based on my examination, the non-medical audience includes the following traits:

- Over the age of 18
- Not taking insulin
- No formal medical diagnosis that would require glucose monitoring
- Desire to improve or optimize health and wellness; and
- Interest in body tracking via wearable technology

I make the distinction between medical and non-medical use cases in the non-T1D group to acknowledge the positive impact CGMs have on non-primary medical audiences. However, the sites I examine here focus primarily on non-medical audiences in their narratives. Thus, I solely focus on wellness-oriented non-medical audiences in the non-T1D group.

3.3 Site Selection

My data set consists of six CGM websites from two audience groups, including two T1D-specific CGMs, two non-T1D CGM subscription services, and two non-T1D OTC CGMs (see table 3.1). To understand how OTC CGMs have impacted the CGM market, I examine these sites across two kairotic moments: the pre-OTC CGM market and the post-OTC CGM market. This builds from my previous work with CGMs that examined the homepages of two T1D CGM manufacturers and two non-T1D CGM subscription services (Brady, 2024). At the time, CGM subscription services existed to connect non-T1D and non-medical audiences with prescription CGMs in the United States. As a result, my pilot study was interested in understanding the narratives presented to T1D and non-T1D audiences. However, this thesis examines narratives surrounding the release of the first OTC CGMs in the United States, building from my preliminary research. As a result, I expanded my data set to include the two currently available OTC CGMs in the non-T1D

group. In the following sections, I outline the site selection process for each audience group, building from established methods (Brady, 2024).

Table 3.1 Site Selection Matrix

Audience Group	Site	CGM Type	Kairotic Moment
T1D	Abbott	Prescription	Both
	Dexcom	Prescription	Both
Non-T1D	Levels	Subscription Service	Both
	Nutrisense	Subscription Service	Both
	Lingo	Over the Counter	Post-OTC
	Stelo	Over the Counter	Post-OTC

3.3.1 Type 1 Diabetic Group

To establish my T1D-focused data set, I identified a list of FDA-approved CGMs for personal use that do not require users to pair their system with a specific insulin pump (American Association of Clinical Endocrinology, n.d.). From there, I removed any CGMs that required manual BG calibration. This left me with a small range of devices from two major CGM companies in the United States: Dexcom and Abbott. These two companies account for the majority of CGMs currently on the market for both T1Ds via direct sales and insurance coverage and non-T1Ds via CGM subscription services (American Association of Clinical Endocrinology, n.d.; Funtanilla et al., 2019; Shirk, n.d.).

3.3.2 Non-Type 1 Diabetic Group

The non-T1D sites can be broken down into two general categories: CGM subscription services and OTC CGMs. At the time of my original study, OTC CGMs had not yet been approved by the FDA nor were they on the market. Thus, the CGM subscription service sites made up the original non-T1D group in my pilot study (Brady, 2024). Below, I discuss the site selection process for the original non-T1D group and introduce OTC CGMs.

3.3.2.1 CGM Subscription Services

To establish the non-T1D sites in my pilot study (Brady, 2024), I identified a list of five CGM subscription services marketed toward wellness-oriented non-T1Ds (Shirk, n.d.). I then identified the associated CGM hardware for each subscription to make sure my sample included hardware from both Dexcom and Abbott. One of the five services offered both Dexcom and Abbott CGMs and the remaining four only used Abbott CGMs. Thus, I narrowed my sample to include Levels, which offers both Dexcom and Abbott CGMs in addition to secondary wellness services in the form of metabolic blood tests. To determine my second CGM subscription service, I read through marketing materials on the remaining sites for any secondary wellness services. I was then left with Nutrisense, which offers Abbott hardware in addition to nutritionist support as a secondary wellness service. I chose to include two subscription services that offered secondary wellness services to further examine the wellness orientation of these sites.

3.3.2.2 OTC CGMs

At the time of this study, three OTC CGMs have been approved by the FDA (Abbott, 2024; U.S. Food and Drug Administration, 2024). Of the three OTC CGMs, two are produced by Abbott and one is produced by Dexcom. To establish my data set, I read through the press releases and FDA classification information for each CGM to identify the intended audience. Of these CGMs, two were designed for wellness-oriented non-diabetics and one was designed for T2Ds. Thus, I removed the T2D-specific OTC CGM to focus on non-medical non-T1D narratives. This left me with two non-medical OTC CGMs: Stelo, produced by Dexcom and Lingo, produced by Abbott. At the time of this study, both OTC CGMs were available in the United States and had their own web presence. In order to understand how OTC CGMs shape CGM narratives in the non-T1D group and in the overall CGM market, I include both available OTC CGMs in my data set.

3.4 Coding Process

To understand how OTC CGMs have shaped CGM narratives following their release in late summer 2024, I analyzed the homepages of T1D and non-T1D sites across two kairotic moments. Because this study expands on previous research, I coded the pre-OTC CGM sites and published my preliminary findings before designing this study (Brady, 2024). I used the same coding process for both kairotic moments. However, due to increased experience with inductive coding from the first round to the second and the length of time between rounds of data collection, results may vary between kairotic moments. Below, I outline the coding process for both kairotic moments, including minor adjustments from the first round to the second.

Following my audience selection and site selection criteria, I read through each site's homepage, creating descriptive first-level codes from repeated or significant textual and visual elements. Codes were created in one of two ways:

1. From repeated terms or phrases, including grammatical variants; and
2. From repeated ideas using different language

In both cases, I primarily worked with full clauses to identify codes. However, due to web content's unique ways of situating and structuring text, some codes were identified via individual words or short phrases of note. In addition, I chose to include several codes with limited frequency due significant textual or visual significance.

Following the initial coding process, I grouped the codes to identify emerging themes. However, the code grouping process differed slightly between rounds of coding due to the differing goals of each round of data collection. In the first round of data collection, I worked one site at a time to group codes into site-specific themes. I then created a list of the themes present in each audience group to begin to identify any patterns across sites before creating a final condensed set of themes for each audience group. This process allowed me to begin to see the overarching themes present in each site, in each audience group, and across all four sites. In the second round of coding, I was more interested in

examining how the introduction of OTC CGMs has impacted overarching CGM narratives. Thus, I first grouped codes by audience group and used affinity diagramming to group and name themes, identifying major and minor themes in each audience group. Major themes included the highest number of codes or the highest frequency of code repetition, while minor codes had fewer codes or a lower rate of repetition. This distinction allowed me to create my final condensed set of themes for each audience group.

CHAPTER 4

RESULTS

The data for the pre-OTC CGM market was first collected and analyzed in my pilot study, which examined CGM narratives across two audience groups in response to shifting CGM audiences (Brady, 2024). Data for the post-OTC CGM moment was collected following the publication of my initial results (Brady, 2024). Thus, some codes and themes discussed in the following sections pull directly from the pre-OTC CGM moment and others completely diverge.

When breaking down themes by audience group, clear thematic patterns emerge, which situate CGMs as audience-specific technologies with targeted user experiences that engage with cost and coverage. To highlight narrative similarities and differences across kairotic moments, I have chosen to report my results by audience group rather than kairotic moment. In doing so, I have combined pre-OTC and post-OTC themes into audience-specific themes. Below, I identify, define, and provide examples for the themes in each audience group across both kairotic moments to establish how CGMs are situated in audience-specific marketing narratives.

Table 4.1 T1D Narrative Components

Theme	**Narratives**	**Frequency**
Diabetes Technology	CGMs as Networked Technologies	62
	CGMs as Assistive Technologies	
	CGMs as Real-Time Data Visualizations	
Embodied Experience	CGMs Acknowledge T1D Embodiment	51
	CGMs Reduce Disabled Labor	
	CGMs Increase T1D Agency	
Cost and Coverage	CGMs as Affordable Technologies	17
	CGMs are Covered by Insurance	

4.1 T1D Themes

The T1D group focuses on an explicitly T1D-focused narrative that centers diabetes management by addressing diabetes technology, embodied experiences, and cost and coverage. I have broken down each theme into narrative components that orient CGMs around the user (see table 4.1). These narrative elements provide a framework to examine the codes and themes that have emerged from my preliminary research (Brady, 2024) and this study.

Table 4.2 Diabetes Technologies Codes, Themes, and Frequency

Moment	Theme	Code	Frequency
Pre-OTC	Technology Use & Integration	Pump Integration	2
		Upgrading	1
	Diabetes Management	Accuracy	4
		Better Decision Making	1
		Big Picture Decision Making	1
		Data Visualization	2
		Diabetes Management	12
		Monitoring	1
		Time in Range	1
Post-OTC	Diabetes Technology	Accuracy	2
		Connectivity	4
		Expertise	1
		Innovation	1
		Tech Support	4
		Technology	12
	Health Insights	Diet	1
		Health Insights	7
		Real-Time Data Visualization	5

4.1.1 Diabetes Technology

In the T1D narrative, CGMs are explicitly positioned as technologies for diabetes management. This is reflected by four unique themes across both kairotic moments (see ta-

ble 4.2). The pre-OTC moment focuses on technology use and integration and diabetes management, while the post-OTC moment focuses on diabetes technology and health insights. Below, I identify and define three narrative elements that emerged from patterns across code-specific site language.

4.1.1.1 CGMs as Networked Technologies

As diabetes technologies, CGMs are positioned as networked technologies. Across both kairotic moments, Dexcom presents CGM as part of a network of technologies and interfaces. In the pre-OTC moment, CGMs are in networks with insulin pumps via pump integration. In advertising their newest CGM, Dexcom (n.d.-a) highlights that their system integrates with the "Tandem t:slim X2 insulin pump and Beta Bionics iLet Bionic Pancreas." In the post-OTC moment, CGM networks shift to focus on commercial technology integration and connectivity. Dexcom (n.d.-b) highlights their "Direct to Apple Watch" feature, so users can "leave their iPhone behind." Similarly, Abbott (n.d.-b) highlights smartphone integration, claiming that users can get "real-time glucose readings with a glance at [their] smartphone." When examining the technology and connectivity codes in the post-OTC moment, insulin pump integration is only mentioned once by Dexcom (n.d.-b), claiming they partner "with the most insulin delivery devices and health apps." Thus, CGM narratives around diabetes technologies as networks shifted from primarily engaging with explicitly T1D-focused technologies in the pre-OTC moment to primarily engaging with smart device integration in the post-OTC moment.

4.1.1.2 CGMs as Assistive Technologies

Improved diabetes management functions as the core argument for adopting CGMs in the T1D group, with notable frequent codes including diabetes management, accuracy, and data visualization. This positions CGMs as an assistive technology for diabetes management that provides users with more data to actively make better decisions to support their health. For example, Dexcom n.d.-a argues that T1Ds can "make better decisions in the moment with the most accurate CGM." This better decision making is a direct re-

sult of the accuracy and availability of BG data through the real-time data visualization that CGMs provide. In this context, CGMs are positioned as a means of supporting both improved diabetes management and a healthy lifestyle for T1Ds. As established by Funtanilla et. al 2019, CGMs often lead to increased time in range and lowered A1C, which have been proven to increase quality of life and decrease the risk of developing comorbidities. Thus, CGMs are positioned as a tool for self-management.

4.1.1.3 CGMs as Real-Time Data Visualizations

As assistive technologies for diabetes management, CGM is a type of real-time data visualization that provides T1Ds with increased access to individual BG data. In the pre-OTC moment, data visualization is featured in codes around diabetes management. In particular, Abbott (n.d.-a) notes that CGMs help T1Ds "see the full picture of where [their] glucose levels were and where they're headed." While Dexcom (n.d.-a) does not explicitly point to data visualization in their pre-OTC narrative, they highlight system accuracy and increased "time in range" as key features, which further situates CGMs as real-time data visualizations. This works alongside Dexcom's (n.d.-a) claim that their system "helps to simplify diabetes management." In the post-OTC moment, CGM narratives around data visualizations shift from a focus on diabetes management to a focus on greater health insights. Both sites emphasize CGMs as real-time data visualizations that provide what Abbott n.d.-b calls "powerful insights." This expands uses for BG data beyond diabetes management. Abbott (n.d.-b) specifically references "food and exercise" as factors that impact BG levels, while Dexcom (n.d.-b) discusses the "link between sleep and glucose levels." In both cases, data visualization is positioned as a means for users to gain greater health insights, which in turn, positively impacts diabetes management.

4.1.2 Embodied Experiences

In centering an explicitly T1D-focused narrative, embodied experiences emerge as a way of attending to T1Ds' unique experiences using CGMs. This theme is made up of two distinct experience types that work together to create what I call embodied experiences:

1. traditional user experiences that center users' unique interactions with the physical and digital interfaces that make up a user journey; and
2. user embodiment that considers how users move through the world in a way that centers marginalized bodyminds, particularly disabled bodyminds (Price, 2015; Schalk, 2018; 2022).

Below, I identify and define three narrative elements that emerged from patterns across code-specific site language.

Table 4.3 Embodied Experiences Codes, Themes, and Frequency

Moment	**Theme**	**Code**	**Frequency**
Pre-OTC	Embodied Experience	Comfortable	2
		Confidence	2
		Discreet	1
		Ease of Use	6
		Freedom	1
		Healthy Living	1
Post-OTC	Embodied Experience	Convenience	8
		Embodiment	4
		Painless	2
	Agency	Control	1
		Decision Making	1
		Diabetes Management	6
		Empowerment	1
		Improvement	9
		Journey	1
		Personalization	2
		Self-Management	2
		Support	1

4.1.2.1 CGMs Acknowledge T1D Embodiment

By drawing from established cultural narratives of T1D communities, CGM narratives center T1D-focused embodied experiences. For T1Ds, wearing a CGM alters their

physical state in order to make health data visible for self-management. Thus, CGM narratives engage with the unique physical and mental experiences of attending to wearable health technologies. In both kairotic moments, these narratives prioritize T1D confidence and comfort. Across both sites, CGM adoption is directly connected to increased user confidence. Dexcom (n.d.-a) positions this alongside healthy living when they claim that CGMs allow users to "live a healthier, more confident life." In contrast, Abbott (n.d.-a) pairs confidence with diabetes management. In both cases, CGMs acknowledge and mediate the mental hurdles of living with T1D. Beyond increased confidence, CGM narratives around comfort center the physical experiences of CGM use. As wearable technologies, CGMs require regular application. While this requires labor, Abbott (n.d.-a; n.d.-b) positions their CGMs as "painless to apply" across both kairotic moments, which creates a narrative of comfort that acknowledges the unique embodied experiences surrounding T1D self-management. Abbott (n.d.-a) further emphasizes that CGMs are "discreet, comfortable, and worn on the back of [the] upper arm." Here, discretion positions CGMs as unobtrusive technologies, both for T1D users and any bystanders. The acknowledgment of T1D embodiment in CGM narratives ultimately reflects how CGMs create and enable positive embodied experiences.

4.1.2.2 CGMs Reduce Disabled Labor

In acknowledging T1D embodiment, CGMs are positioned as technologies that actively reduce disabled labor. In both kairotic moments, T1D CGM narratives center on ease of use and overall convenience, which directly responds to T1D cultural narratives surrounding disabled labor. Dexcom (n.d.-a) situates CGMs as a way to eliminate the need for fingersticks to obtain BG data. Beyond eliminating the physical labor of testing BG via fingersticks, both Dexcom and Abbott center on the convenience of using CGM to access BG data. Dexcom (n.d.-a; n.d.-b) repeats that their CGMs are "easy to use" and "make management more customizable and convenient than ever." In contrast, Abbott (n.d.-a) illustrates this convenience through targeted user testimonials in the pre-OTC

moment. In both cases, highlighting convenience in the narrative reflects how CGMs reduce the disabled labor that diabetes management requires.

4.1.2.3 CGMs Increase T1D Agency

In centering T1D embodiment, T1D CGMs promote increased T1D agency. In this narrative, increased agency ultimately improves diabetes management. Across both kairotic moments, T1Ds reclaim control over their bodies via CGMs in order to effectively manage their diabetes. Both Dexcom (n.d.-a; n.d.-b) and Abbott (n.d.-a; n.d.-b) situate T1Ds as agents that actively "manage [their] diabetes" (Abbott, n.d.-b) in CGM narratives. The idea of active management is further reflected in language around decision making, control, and health improvement across both sites. For example, Dexcom (n.d.-b) claims that CGMs allow T1Ds to "make confident diabetes decisions" and "improve [their] long-term health." Thus, both sites situate T1D users as agents that actively manage their diabetes, which results in positive health outcomes.

Table 4.4 T1D Cost and Coverage Codes, Themes, and Frequency

Moment	**Theme**	**Code**	**Frequency**
Pre-OTC	Cost and Coverage	Affordability	3
		Insurance Coverage	2
		Medicare Coverage	2
Post-OTC	Cost and Coverage	Cost and Coverage	10

4.1.3 Cost and Coverage

While less prevalent than other T1D group themes in terms of frequency, T1D CGMs intentionally center consumer cost and insurance coverage (see table 4.4). In this context, cost and coverage can be defined as out-of-pocket costs of adopting CGM systems, which includes insurance coverage, post-insurance monthly costs, and un- or underinsured monthly costs. As a part of the T1D group's overall narrative, affordability, low monthly costs, and insurance coverage play a key role in centering CGMs as an afford-

able and accessible technology (see table 4.4). Below, I identify and define two narrative elements that emerged from patterns across code-specific site language.

4.1.3.1 CGMs as Affordable Technologies

The T1D group establishes CGMs as affordable and financially accessible. In both pre- and post-OTC kairotic moments, Dexcom (n.d.-a; n.d.-b) and Abbott (n.d.-a; n.d.-b) invoke affordability when referencing their specific CGMs. In the pre-OTC moment, Abbott (n.d.-a) CGMs are situated as the "most affordable CGM systems," while Dexcom (n.d.-a) claims that "no other CGM systems is more affordable than Dexcom G7." This sentiment of affordability is echoed in the post-OTC moment across both sites. In this moment, Dexcom's n.d.-b CGMs are "the most accurate, affordable, and innovative," while Abbott (n.d.-b) boasts that their "systems are more affordable than other CGMs." In the post-OTC moment, affordability is extended even further with the removal of system startup costs. In particular, Abbott (n.d.-b) emphasizes that users "may qualify for a free sensor," while Dexcom (n.d.-b) encourages users to "try Dexcom G7 for free." Thus, the narrative situates CGMs as affordable and accessible technologies without significant access barriers.

4.1.3.2 CGMs as Covered by Insurance

High costs and lack of insurance coverage are significant barriers to care for T1Ds, which often prevents the most vulnerable populations from accessing technologies proven to increase time in range, lower A1C, and increase quality of life (Funtanilla et al., 2019). As a result, addressing cost and coverage is necessary when crafting an effective and successful marketing narrative. In the pre-OTC moment, both sites discuss Medicare coverage. Dexcom (n.d.-a) highlights "expanded Medicare coverage" and monthly payments of "$20 or less per month" for "most covered patients" as a means of centering affordability in through insurance coverage. Similarly, Abbott (n.d.-a) positions their system as the "#1 CGM prescribed for Medicare patients." However, discussion around Medicare coverage does not extend into the post-OTC moment. Dexcom (n.d.-b) does not discuss

insurance coverage in the post-OTC moment in favor of centering general affordability and startup costs. In contrast, Abbott (n.d.-b) links to "coverage details" on the homepage, indicating that insurance coverage is important, while not central, to the narrative. Overall, CGM narratives around insurance coverage decreased from the pre-OTC moment to the post-OTC moment in favor of affordability-focused narratives.

4.2 Non-T1D Themes

Non-T1D CGM narratives center surveillance, control, and cost and coverage as integral parts of wellness optimization. This situates users as empowered agents with control over their health and wellness. Thus, the narrative argues that CGM adoption gives users unique insights into their body's reactions to external stimuli to achieve targeted health outcomes. To explore this phenomenon, I have broken down each theme into narrative components that orient CGMs around non-T1D users (see table 4.5). These narrative elements provide a framework to examine the codes and themes that have emerged from my preliminary research (Brady, 2024) and this study.

Table 4.5 Non-T1D Narrative Elements

Theme	Narratives	Frequency
Surveillance	CGMs are Surveillance Technologies CGMs Track the Body CGMs Provide Health Insights	222
Control	CGMs Personalize Health CGMs Increase Agency CGMs Facilitate Wellness Optimization	210
Cost and Coverage	CGMs as Luxury Wellness Technologies CGMs as Health Investments CGMs are Covered by Insurance	17

4.2.1 Surveillance

Surveillance engages with the ways in which users track their bodies and increase health insights via technology. Thus, surveillance includes four unique themes across

both kairotic moments (see table 4.6). The pre-OTC theme includes health insights, while the post-OTC themes include expertise, surveillance, and wellness technology. Below, I identify and define three narrative elements that emerged from patterns across code-specific site language.

Table 4.6 Surveillance Codes, Themes, and Frequency

Moment	**Theme**	**Code**	**Frequency**
Pre-OTC	Health Insights	Health Insights	2
		Lab Testing	1
		Lifestyle Impacts	10
		Metabolic Health	3
		Professional Guidance	6
		Real-Time Data Visualization	7
Post-OTC	Expertise	Expertise	40
		Guidance	18
	Surveillance	Health Data	8
		Health Insights	36
		Real-Time Data Visualization	18
		Self-Management	2
		Tracking	32
	Wellness Technology	Accuracy	1
		AI	8
		Connectivity	2
		Convenience	11
		Innovation	2
		Revolutionary	1
		Technology	10

4.2.1.1 CGMs are Surveillance Technologies

In the non-T1D group, CGMs are positioned as surveillance technologies that provide health insights via "revolutionary" (Stelo, n.d.) and "innovative" (Nutrisense, n.d.) wearable technology systems. In both pre- and post-OTC moments, CGM narratives use real-time data visualization as a tool for surveillance. Thus, BG is situated as marker of health,

which is further emphasized as a "powerful signal" (Lingo, n.d.). Levels (n.d.) echoes this idea of BG as a health indicator by situating CGMs as technologies that measure health in real time. Across both kairotic moments, all four sites emphasize CGMs as real-time data delivery machines. The emphasis on real-time "insights" (Nutrisense, n.d.) or "glucose tracking" (Levels, n.d.) that delivers "continuous, convenient data" (Levels, n.d.) situates CGMs as technologies for individual bodily surveillance that optimize health and wellness.

4.2.1.2 CGMs Track the Body

As surveillance technologies, CGMs explicitly track the body in real-time. While CGMs only track BG data, they "unlock deeper health insights" (Levels, n.d.) that help users understand how "food, exercise, and lifestyle impact [users'] blood sugar" (Levels, n.d.). Thus, tracking encompasses both BG tracking and lifestyle surveillance, including tracking diet, exercise, and sleep. Across both kairotic moments, food is an especially important factor when tracking the body. Nutrisense (n.d.) positions CGMs as a way to understand users' "response to food," and Levels (n.d.) claims that "glucose responses to the same food vary by person." Thus, food surveillance and BG tracking allow users to personalize their diet for desired outcomes.

4.2.1.3 CGMs Provide Health Insights

To understand how external stimuli impact the body, health insights offer users' a clearer understanding of how lifestyle impacts overall health and wellness. In the pre-OTC moment, Levels (n.d.) promotes these insights as "health measured in real time" that helps users "tailor [their] nutrition, sleep, and exercise to hit [their] health goals." Nutrisense (n.d.) echoes this sentiment when they position their services as "tools to understand what makes [users' bodies] tick and help [users] make changes that work for [them]." In both cases, this centers the idea that more data is always better, especially as it pertains to health data. In the post-OTC moment, CGM narratives further expand the pre-OTC moment by situating the body as a data source for health insights. Lingo (n.d.)

especially engages with idea by claiming users' bodies "have the answers." Across all four sites, BG data is positioned as a means to understand the body, including how "food, exercise, and even sleep can affect [users'] glucose" (Stelo, n.d.). Thus, CGMs offer users insight into their own health data to make better decisions about their health. Beyond this, guidance and expertise are positioned alongside health insights as a means through which health insights are achieved. Notably, all four sites situate CGMs as "rooted in science" (Nutrisense, n.d.) or "science-backed" (Lingo, n.d.). This positions CGMs as scientifically established and credible technologies. Thus, the health insights provided by CGMs are situated as accurate and credible in the narrative.

4.2.2 Control

Control encompasses two repeated themes from each kairotic moment: health agency and health outcomes (see table 4.7). Thus, control includes the control users have over technology, their bodies, and their desired health outcomes. Below, I identify and define three narrative elements that emerged from patterns across code-specific site language.

4.2.2.1 CGMs Personalize Health

As a foundational part of CGM narratives, CGMs allow users to personalize their approach to health and wellness. This operates from the idea that no two bodies function in the exact same way, and therefore, optimized health must be approached on an individual level. Across both kairotic moments, all four sites focus on the user's "unique body" (Levels, n.d.; Nutrisense, n.d.) and unique health needs. In both groups, this is frequently positioned alongside optimizing users' overall diet. In centering a personalized approach to health, Lingo (n.d.) claims "what, when, and how [users] eat has a big impact on [their] body." This narrative argues that CGMs offer insight into users' heath data, which allows users to make better decisions regarding their diet, exercise, and sleep schedule. Thus, personalized approaches to health ultimately gives users a sense of control over their health through informed decision making.

Table 4.7 Control Codes, Themes, and Frequency

Moment	Theme	Code	Frequency
Pre-OTC	Health Agency	Accountability	1
		Control	1
		Goal Tracking	1
		Health Agency	1
		Informed Choices	1
		Personalization	9
	Health Outcomes	Health Journey	1
		Improvement	7
		Life-Changing	2
		Longevity	1
		Sustained Results	1
		Weight Loss	1
		Weight Loss Journey	1
		Wellness Optimization	12
Post-OTC	Health Agency	Control	9
		Empowerment	4
		Habit Building	12
		Health Agency	1
		Journey	1
		Personalization	41
		Power	1
	Health Outcomes	Diet	37
		Health Goals	13
		Health Impact	1
		Improvement	35
		Learning	3
		Sustainability	8
		Weight Loss	4

4.2.2.2 CGMs Increase Agency

As part of a larger movement to actively control one's health, health agency centers a personalized approach to health and wellness to maximize tangible results. In this

narrative, users control their bodies using CGMs to build healthy habits and optimize wellness. Across both kairotic moments, CGMs give users control over their bodies. For example, both Nutrisense (n.d.) and Lingo (n.d.) situate the user in a position of power over their body by making the "body work for [the user]" (Nutrisense, n.d.) and allowing the user to "take control of [their] health" (Lingo, n.d.). In both examples, the user is given power over their body via CGMs. This ultimately increases user agency in non-T1D narratives.

4.2.2.3 CGMs Facilitate Wellness Optimization

Wellness optimization and health improvement play key roles in promoting the health outcomes of CGM use. In this context, health outcomes encompass the short- and long-term effects CGMs use on users' overall health and wellness. These outcomes invite the user to imagine how their life might drastically change if they adopt the advertised system. In the pre-OTC moment, this theme promises improvements, sustained results, longevity, and weight loss, all working toward an elusive sense of wellness optimization. The post-OTC moment expands these outcomes and provides significant attention to diet optimization. All four sites discuss the connection between food intake and BG, which situates diet as a key point of wellness optimization. For example, Lingo (n.d.) claims that CGMs help users "learn new eating habits" and "adjust [their] nutrition." Similarly, Nutrisense (n.d.) and Levels (n.d.) promote CGM as a way to make "effective dietary changes that work for you" (Nutrisense, n.d.) in order to "find your healthiest diet" (Levels, n.d.). Thus, food is deeply intertwined with controlling health and optimizing wellness.

4.2.3 Cost and Coverage

Notably, cost and coverage only appear in the post-OTC moment. Despite only appearing 17 times across all four sites (see table 4.8), cost and coverage remains an important theme for understanding how non-T1D CGM narratives have shifted from the pre-OTC moment to the post-OTC moment. Below, I identify and define three narrative elements that emerged from patterns across code-specific site language.

Table 4.8 Non-T1D Cost and Coverage Codes, Themes, and Frequency

Moment	Theme	Code	Frequency
Post-OTC	Cost and Coverage	Cost and Coverage	17

4.2.3.1 CGMs are Covered by Insurance

CGMs are Covered by Insurance. As part of the overall narrative, insurance coverage, and lack thereof, complicates non-T1D CGM narratives. The pre-OTC moment offers two distinct experiences around insurance coverage, which separates CGM subscription services from OTC CGMs. While Levels (n.d.) and Nutrisense (n.d.) promote insurance coverage, it is limited to their secondary wellness services, including nutritionist support. In contrast, Stelo (n.d.) emphasizes insurance coverage when promoting FSA/HSA eligibility. This complicates insurance coverage around non-T1D CGMs and situates them as both luxuries and investments.

4.2.3.2 CGMs as Luxury Wellness Technologies

In the post-OTC moment, non-T1D CGMs prioritize cost and coverage as a key narrative theme. This directly opposes the pre-OTC moment, which noticeably did not engage with cost nor insurance coverage. The notable absence of cost positions CGMs as luxury wellness technologies that give select users insight into their health by "opting in" to the trend of wellness optimization despite the possible cost. In the post-OTC moment, CGM subscription services maintain the narrative of CGMs as luxuries. In particular, Levels (n.d.) and Nutrisense (n.d.) prominently provide prices for their systems, which includes CGM sensors, app access, and secondary wellness services, such as lab testing and nutritionist support. Both sites situate each service as an upgrade, which further situates CGMs as luxury wellness technologies.

4.2.3.3 CGMs as Health Investments

In the post-OTC moment, CGMs are positioned as health investments. By tracking BG via CGMs or testing "key markers" (Levels, n.d.) via labs, users financially invest in

their health. Thus, high monthly costs become long-term health investments that provide users with the means to optimize their health and wellness.

CHAPTER 5

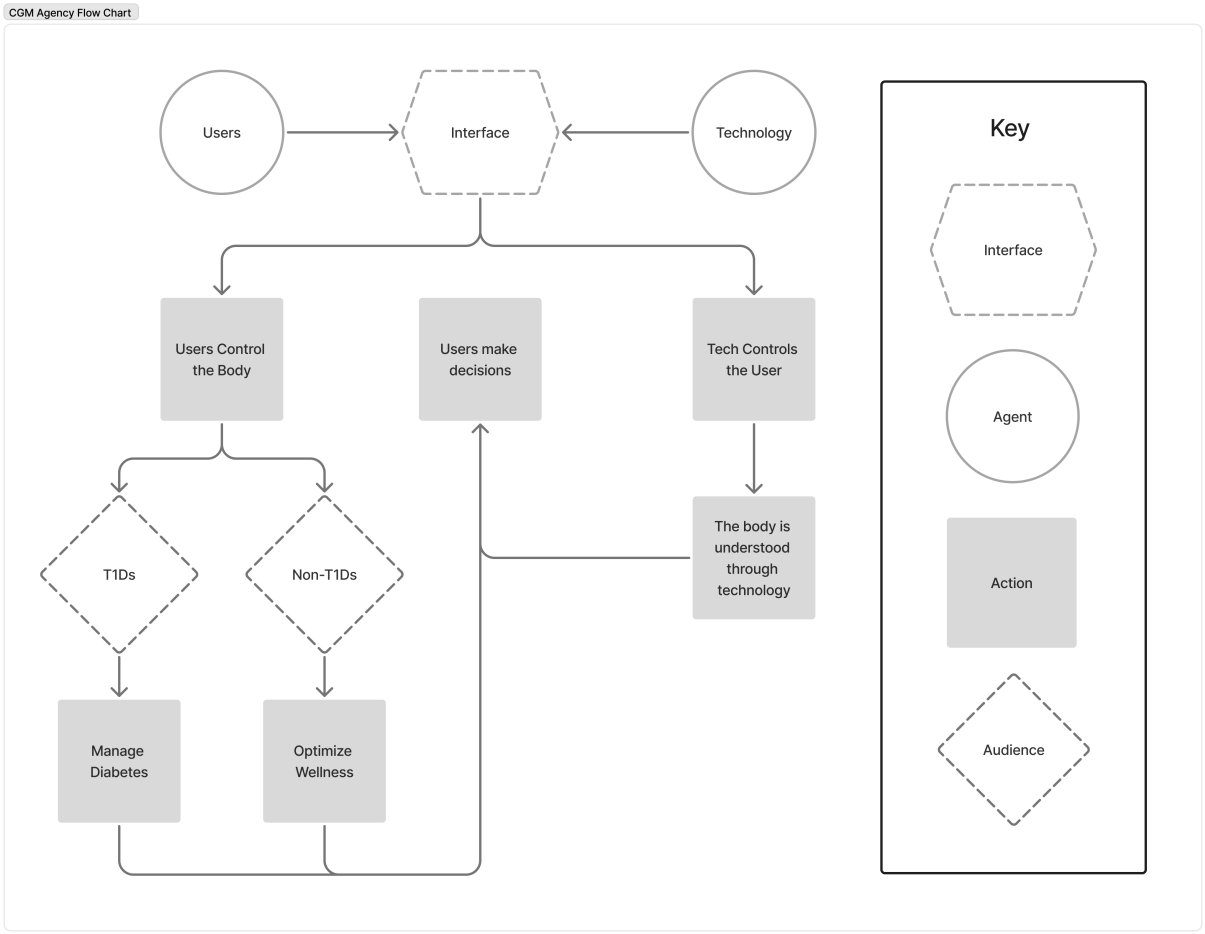
DISCUSSION

Overall, CGM narratives have shifted toward wellness as a primary factor for CGM adoption. Where pre-OTC T1D themes primarily focus on the experience of diabetes self-management, the post OTC moment has oriented toward generalized wellness within T1D experiences. Thus, we see a convergence of T1D and non-T1D narratives around CGMs, particularly with the emergence of OTC CGMs, which create an invisible bridge between both groups. As a result, I identify four discursive pillars of CGM narratives: interface, agency, experience, and outcomes. While each audience group may engage with each pillar in unique ways, these four pillars offer a lens through which to examine the narratives of wearable technologies. Each pillar works alongside the others to shape technological narratives (see figure 5.1). I present these pillars in a linear fashion to establish how they build from one another to create a filly realized narrative. However, these pillars provide a framework to understand the complex nature of technological narratives that resist a single, linear narrative structure. Instead, these pillars work with and against each other to build complex narratives. I begin with a discussion of interface to frame how technologies are broken down in the narrative. I then move onto agency as it is mediated through interface by both users and technologies before discussing users' experiences with technologies. Finally, I end my discussion by outlining outcomes as they are presented by the narrative. Below, I define these pillars and apply this framework to my research around CGM narratives to understand how audience mediates both narrative and the networked relationships between each pillar.

5.1 Interface

As a key pillar of technology narratives, interface refers to language around the technology itself. This includes both hardware and software, which might include apps, data visualizations, and physical devices. Here, I discuss technology in a way that is divorced from the user. While this pillar is foundational in understanding how users operate and

Figure 5.1 Narrative Pillar Flowchart



experience technologies, it is important to first understand how technological narratives frame interface before discussing how each pillar depends on the others to establish the narrative.

As established by both audience groups, CGMs operate as real-time data visualizations, converting signals from the body into understandable data via specific hardware and software. Sensors continually "read" the body, identifying BG data in real time. This data is then converted into understandable data, which is accessed via individual app interfaces. In CGM narratives, this seamless connection between user and interface, evidenced by continual references to technologies' convenience and connectivity, showcases CGMs as explicitly technological in nature. This narrative component mimics technical

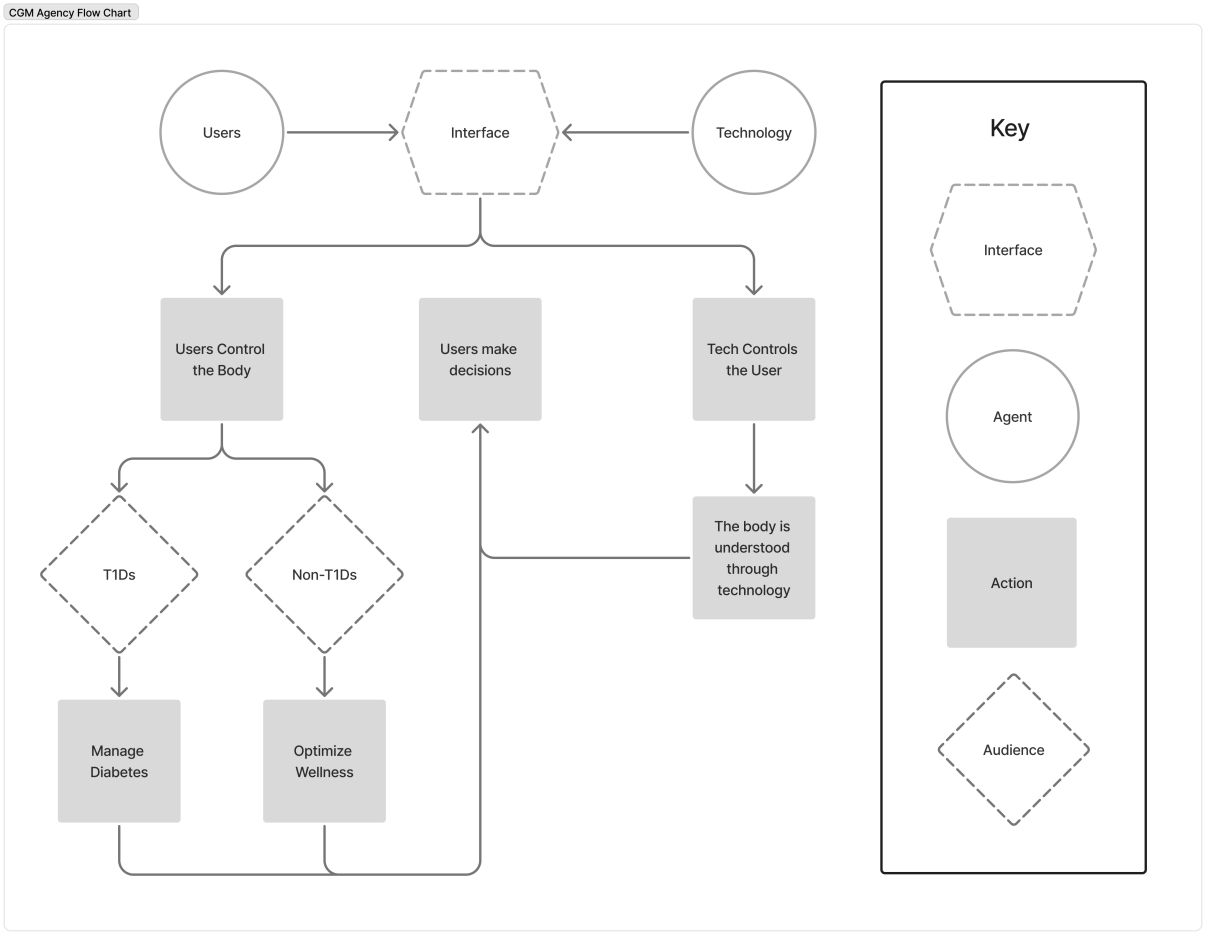
specifications present in narratives around commercial technologies. Showcasing technological innovations and features emphasizes the usefulness of a particular technology for its presumed users. For example, presenting T1D CGMs as networked technologies focuses CGMs as technologies specifically designed for diabetes self-management. Thus, interface narratives must situate CGMs as technologies within a network of established diabetes technologies to delineate T1D CGMs as T1D-focused technologies. T1D interface narratives do this by highlighting CGMs as compatible technologies with insulin pumps, smartphones, and Apple Watches, which further situates CGMs as networked technologies.

5.2 Agency

In this pillar, agency is defined as agential control mediated through interface. Here, I situate agency between users and technologies, which are mediated, through, around, and within the interface. While interface is defined in the narrative as technology broken down into technological parts, I have chosen to refer to interface and technology as separate but connected entities for the purposes of my discussion around agency. Thus, *technology* can be understood as the action of a given technology, while *interface* refers to the technological parts and specifications that make up a given technology. When situated alongside users, technology is an extension of the body, and the body is an extension of technology. As agents, users control their bodies via technological intervention, and technologies control the user via interface. However, this decouples the body from the mind, particularly when identifying both users and technologies as individual agents of power and control. Below, I explore how agency is mediated across T1D and non-T1D audience groups in CGM narratives by identifying and situating two major claims within agency narratives.

Technological narratives dually situate both users and technologies as agents. This creates a complex network that puts users, technologies, and interfaces in continual conversation with one other (see figure 5.2). T1D is a chronic condition that requires constant

Figure 5.2 Continuous Glucose Monitor Agency Flowchart



management to maintain an appropriate level of homeostasis. As agents, T1Ds use BG data from CGMs to make informed decisions for diabetes management. In non-T1D bodies, homeostasis is maintained automatically via complex and interconnected normative bodily systems. However, when those systems break down, and the body no longer responds in the way it "should," CGMs operate as agents that "read" the body to produce real-time data visualizations. Thus, CGMs regain partial control over the body as agents themselves. As agents, CGMs are a lens through which the body is understood, directly impacting user decision making. For both T1D and non-T1D users, CGMs dictate decision making for audience-specific outcomes, which further situates technology in a position of power.

While agency operates in similar ways across T1D and non-T1D audiences, the exigence of each group's interactions with CGMs shapes both user and CGM agency. For T1Ds, CGMs often reduce the amount of disabled labor required to maintain an appropriately sized dataset of BG values by nearly eliminating the need for fingersticks. However, this labor does not disappear. Instead, intensive glucose monitoring via CGMs may cause T1D users to increase self-surveillance, particularly around diet and exercise. This increases the number of decisions required to appropriately react to the available data in real time for self-management. Thus, "incorrect" decision making, or noncompliance, might carry moral judgment in this context (Arduser, 2017; Arduser and Bennett, 2022). As Arduser (2017) notes, noncompliance is a deeply rooted narrative in diabetes care, especially regarding user agency. Diabetes management requires a certain level of perfection to maintain homeostasis. Thus, any incorrect decision or degree of noncompliance results in users' perceived moral failure, adding additional labor to this chronic decision-making process. For non-T1Ds, CGMs are positioned as a luxury wellness technology that provides users with agency to gain insight into their own health, which ultimately results in positive health outcomes. In this, the non-diabetic group borrows the T1D claim that CGMs are a tool for healthy living, where users are given more data to make better decisions. However, users' context completely changes the narrative.

In CGM narratives, user agency is positioned as control over the body to achieve specific health outcomes. Thus, CGMs are a tool for self-management. This requires users to actively make decisions based on their BG data to improve their overall health and wellness, adding to the often ableist empowered user narrative (J. Jones et al., 2017). These decisions create a distinction between "good" and "bad" users, creating a hierarchy of those deserving of care and access to assistive technologies. This ultimately perpetuates ableist tropes and stereotypes, labeling disabled people as "moochers and fakers" (Shew, 2023), which positions them as lazy and undeserving of care and accommodation, or "inspirational overcomers" (Shew, 2020), which creates a narrative that positions technology

as a means through which disabled people overcome their circumstances and assimilate into normative ideals.

5.3 Experience

As part of technological narratives, experience directly engages with user experiences. Particularly, experience encompasses how and why users interact with a given technology. This extends narratives around agency, while focusing on the action of user experiences rather than the agent. When examining CGM experience narratives, audience directly impacts user actions. However, how that action is framed remains the same across audiences. Ultimately, audience shapes narrative details while operating within a common framework that understands user experience as directly connected to interface and agency.

CGM narratives frame user experiences in one of two ways:

1. Tracking the body for diabetes management; and
2. Self-surveillance for wellness optimization

In both cases, the action presented through experience narratives has to do with monitoring the body for a specific health outcome. I intentionally use tracking for T1D audiences and surveillance for non-T1D audiences to communicate the role CGMs play in achieving users' desired health outcomes. This directly shapes how experience is communicated in each audience group.

When examining these narratives as part of a larger wearable ecosystem, CGMs are positioned as a means of diabetes management and wellness optimization. Each audience group adjusts the details of the narrative to their specific set of users with a goal in mind. For T1Ds, tracking BG over time is an integral part of diabetes self-management, which is an active practice that requires users to constantly make medical decisions using available BG data. Thus, CGMs offer T1D users a more complete view of their health through real-time BG tracking. This empowers users to make better decisions because of increased data

and decreased disabled labor. Thus, the narrative positions better diabetes management, positive health outcomes, and increased quality of life as the result of BG tracking.

In contrast, the non-diabetic narrative centers experience narratives around self-surveillance, in which users are encouraged to make better decisions regarding their diet, exercise, and sleep routines using BG data. This positions CGMs as a tool for wellness optimization that connects to our systemic ideals of wellness, health, and beauty. Wellness culture typically privileges certain bodies (i.e. white, cis, straight, able-bodied, middle- or upper-class) and often reflects biases in medical systems (Catherine et al., 2021; Hill-Briggs et al., 2020, November 2). This system encourages user empowerment and wellness optimization, which can often perpetuate ableist ideals surrounding who deserves access to care and who can profit from selling users wellness technologies (Derkatch, 2022; J. Jones et al., 2017). Thus, the non-diabetic group positions CGMs as a way for users to buy wellness to achieve individual health goals, such as losing weight, living longer, or understanding metabolic health. Ultimately, this narrative raises questions surrounding who can and should have access to these technologies and how the current system fails to reach marginalized and multiply marginalized communities.

5.4 Outcomes

Building from agency and experience narratives, outcomes explicitly engage with what users gain from adopting a given technology. This includes short- and long-term effects and material changes to the body or environment. Therefore, outcome narratives are often the most powerful in how they situate the user. In these narratives, the user is presented with the most optimized version of their hypothetical future self. This situates technologies as a means to fully realize the mind's potential while optimizing and automating the body via targeted outcomes.

Across outcome narratives, audience explicitly shapes the optimized future self. Thus, the outcome narratives presented in this study diverge along audience lines. For T1Ds, CGMs facilitate diabetes management, which is an active and continual process. As part

of this practice, CGMs produce tangible results, including lowered A1C, increased time in range, and improved sleep. These outcomes push T1D users toward normative ideals of health and wellness through the adoption of CGMs as assistive technologies. However, this practice of situating CGMs as a cure or solution to the ongoing "problem" of T1D perpetuates technoableism (Shew, 2020; 2022; 2023). While better diabetes management often reduces disabled labor, technology does not "fix" nor "cure" T1Ds. Similarly, positive outcomes might increase T1D health and wellness, but they do not create a normative body. Instead, as Shew (2022) emphasizes, technologies are tools that are sometimes helpful and sometimes not. This especially applies when situating CGMs as assistive technologies. When we consider outcomes in conversation with embodied experiences, the narrative becomes more complex. Therefore, CGMs might facilitate a unique combination of positive, negative, or neutral outcomes for the user. By intentionally divorcing outcomes from a singular, technoableist perspective, technological narratives become more nuanced and complex, reflecting the lived experiences of disabled people.

While non-T1D outcome narratives exist outside of explicitly medicalized systems, they situate CGMs as wellness technologies for improving and optimizing overall health and wellness. In this narrative, CGMs facilitate personalization to produce optimized outcomes on an individual basis. Thus, users are encouraged to use BG data to personalize their diet, exercise, and sleep to optimize health and wellness in a way that aligns with science and perceived expertise. As a result, personalization builds a narrative that "your body knows better than you do, so listen to it using technological intervention, and it'll provide you with optimized outcomes." This further decouples the body from the mind and perpetuates harmful narratives around both medical and non-medical technological intervention.

CHAPTER 6

CONCLUSION

Narratives shape how we understand technologies and expect them to work in real-life contexts. The framework presented in this study represents an idealized technological narrative that often breaks down when real, rather than imagined, users engage with a technology. Despite this, technology is understood through the lens of an imagined user who interacts with and experiences the technology in a predetermined way to produce an audience-specific outcome. When examining CGMs through this framework, BG is positioned as an emergent health indicator for both T1D and non-T1D audiences. However, this health indicator requires users to consistently use CGMs to maintain access to BG data. This privileges a certain type of user that dutifully tracks their medical data (J. Jones et al., 2017), optimizes all aspects of their health (Derkatch, 2022), and has access to sufficient funds to pay for a CGM subscription. This separates possible participants in this wellness trend into two groups: those who can afford these technologies to understand and optimize their metabolic health and those who cannot afford these technologies but would benefit from them for a multitude of reasons, including preventatively monitoring for T2D, insulin resistance, or hypoglycemia (Hannah et al., 2024; Ni et al., 2024). While this framework is useful in examining CGM narratives, the pillars presented in this study outline key markers of technological narratives that might be applied beyond CGMs to understand the moves of other technological narratives.

I conclude by offering an antenarrative that complicates how we understand CGM narratives. Situated in an idealized technological narrative, experiences and outcomes are positioned within the grand narrative of technological innovation (Hutter and Lawrence, 2021). However, lived experiences of disabled people, including T1Ds, like myself, present an antenarrative to the established grand narrative (Hutter and Lawrence, 2021). As a T1D CGM user and "bad" diabetic, CGM has positively influenced my overall health and self-management, but it has not "cured" nor "fixed" me. I remain a T1D who of-

ten struggles with self-management and non-compliance despite the positive outcomes CGMs might facilitate. While my A1C has drastically improved as a result of CGM adoption, my BG remains a roller coaster of highs and lows. As an agent, I often do not have the resources nor energy to effectively manage my T1D. My life is a cycle of effective self-management followed by burnout, over and over again with no reprieve. A CGM cannot and does not eliminate that cycle despite mitigating some of my disabled labor.

6.1 Limitations

While the findings presented here are promising and prompt further research, this study has several clear limitations. The first limitation is the size of the data set. This may have impacted what themes were identified in the grouping process. Because non-T1D CGM subscription services do not manufacture their own CGMs and instead act as a third-party distributor for existing CGMs on the market, they do not adhere to the same regulations as CGM manufactures. As a result, the current market for CGM subscription services is much larger than the current market for CGM manufacturers. In addition, the non-T1D group included two additional sites with the introduction of OTC CGMs to the market. This led to an imbalance when conducting comparative analysis since the non-T1D sample gained two additional sites in the post-OTC moment, while the T1D group did not.

The second major limitation was overall scope of the study. Due to time constraints, this study only focused on the homepage of each site. While this allowed me to begin to identify emerging themes and narrative patterns in each audience group, it provided a limited narrative that removed any further nuance additional site pages might provide. As Hsieh and Shannon (2005) note, qualitative content analysis is a "subjective interpretation of the content of text data through the systemic classification process of coding and identifying themes or patterns." Thus, this "subjective interpretation" leaves room for error in both organizing and coding textual data despite its systemic nature (Hsieh and Shannon, 2005).

6.2 Paths for Future Research

Building from this research, I plan to conduct a larger case study that deductively codes CGM websites according to the technological narrative framework presented in this study. This would allow me to further develop my narrative framework and identify key markers of each pillar across specific technological narratives. In addition, this research might also expand to include other wearable technologies, which might prove or disprove my hypothesis that the technological narrative framework I have identified could be applied to technologies beyond CGMs, including prescription health wearables and commercial health wearables.

Ultimately, more work is needed to further examine CGM narratives, OTC CGMs, BG as a health indicator, CGMs as a means of self-surveillance, and the ethical concerns of adopting prescription health wearables as luxury wellness technologies. If we are to answer recent calls in disability studies, TPC, and user experience for anti-racist and anti-ableist practices, then we must pay particular attention to who does and does not have access to these technologies and why (Oswal et al., 2019; Schalk, 2022). In this, we must question and push against grand narratives that perpetuate technoableism (Hutter and Lawrence, 2021; Shew, 2020; 2022; 2023). Ultimately, these narratives communicate the current culture's values and concerns surrounding health and wellness and drive consumers toward wellness technologies as a solution to their problems.

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APPENDIX A

PRE-OTC CODES AND THEMES

Table A.1 Pre-OTC T1D Themes, Codes, and Frequency

Theme	Code	Freq.	Site
Cost and Coverage	Affordability	1	Abbott
	Affordability	2	Dexcom
	Insurance Coverage	2	Dexcom
	Medicare Coverage	1	Abbott
	Medicare Coverage	1	Dexcom
Diabetes Management	Accuracy	1	Abbott
	Accuracy	3	Dexcom
	Better Decision Making	1	Dexcom
	Big Picture Data Visualization	1	Abbott
	Data Visualization	2	Abbott
	Diabetes Management	7	Abbott
	Diabetes Management	5	Dexcom
	Monitoring	1	Abbott
	Time in Range	1	Abbott
Embodied Experience	Comfortable	2	Abbott
	Confidence	2	Abbott
	Discreet	1	Abbott
	Ease of Use	1	Abbott
	Ease of Use	5	Dexcom
	Freedom	1	Abbott
	Healthy Living	1	Dexcom
Provider Endorsement	Provider Recommendation	1	Dexcom
Technology Use & Integration	Pump Integration	2	Dexcom
	Upgrading	1	Dexcom

Table A.2 Pre-OTC Non-T1D Themes, Codes, and Frequency

Theme	**Code**	**Freq.**	**Site**
Health Agency	Accountability	1	Levels
	Control	1	Nutrisense
	Goal Tracking	1	Nutrisense
	Health Agency	1	Nutrisense
	Informed Choices	1	Levels
	Personalization	5	Nutrisense
	Personalization	4	Levels
Health Insights	Health Insights	2	Levels
	Lab Testing	1	Levels
	Lifestyle Impacts	5	Nutrisense
	Lifestyle Impacts	5	Levels
	Metabolic Health	3	Levels
	Professional Guidance	4	Nutrisense
	Professional Guidance	2	Levels
	Real-Time Data Visualization	3	Nutrisense
	Real-Time Data Visualization	4	Levels
Health Outcomes	Health Journey	1	Nutrisense
	Improvement	7	Nutrisense
	Life-Changing	2	Nutrisense
	Longevity	1	Levels
	Sustained Results	1	Levels
	Weight Loss	1	Nutrisense
	Weight Loss Journey	1	Nutrisense
	Wellness Optimization	6	Nutrisense
	Wellness Optimization	6	bLevels
System Advantage & Worth	Accuracy	2	Levels
	Comfortable	1	Levels
	Innovation	1	Nutrisense
	Value (cost)	1	Nutrisense

APPENDIX B

POST-OTC CODES AND THEMES

Table B.1 Post-OTC T1D Themes, Codes, and Frequency

Theme	Code	Freq.	Site
Agency	Control	1	Dexcom
	Decision Making	1	Dexcom
	Diabetes Management	1	Abbott
	Diabetes Management	5	Dexcom
	Empowerment	1	Dexcom
	Improvement	4	Abbott
	Improvement	5	Dexcom
	Journey	1	Abbott
	Personalization	2	Dexcom
	Self-Management	2	Dexcom
	Support	1	Abbott
Cost and Coverage	Cost and Coverage	7	Abbott
	Cost and Coverage	3	Dexcom
Diabetes Technology	Accuracy	1	Abbott
	Accuracy	1	Dexcom
	Connectivity	4	Dexcom
	Expertise	1	Dexcom
	Innovation	1	Dexcom
	Tech Support	4	Dexcom
	Technology	8	Abbott
	Technology	4	Dexcom
Embodied Experience	Convenience	2	Abbott
	Convenience	6	Dexcom
	Embodiment	4	Abbott
	Painless	2	Abbott
Health Insights	Diet	1	Abbott
	Health Insights	3	Abbott
	Health Insights	4	Dexcom
	Real-Time Data Visualization	3	Abbott
	Real-Time Data Visualization	2	Dexcom
Non-T1D	Health Goals	1	Dexcom
	Prevention	1	Dexcom
	Wellness Optimization	1	Dexcom

Table B.2 Post-OTC Non-T1D Themes, Codes, and Frequency

Theme	Code	Freq.	Site
Cost & Coverage	Cost and Coverage	3	Stelo
	Cost and Coverage	2	Lingo
	Cost and Coverage	6	Nutrisense
	Cost and Coverage	6	Levels
Expertise	Expertise	7	Stelo
	Expertise	4	Lingo
	Expertise	13	Nutrisense
	Expertise	16	Levels
	Guidance	8	Nutrisense
	Guidance	10	Levels
Health Agency	Control	1	Lingo
	Control	6	Nutrisense
	Control	2	Levels
	Empowerment	2	Stelo
	Empowerment	2	Nutrisense
	Habit Building	1	Stelo
	Habit Building	2	Lingo
	Habit Building	3	Nutrisense
	Habit Building	6	Levels
	Health Agency	1	Nutrisense
	Journey	1	Nutrisense
	Personalization	3	Stelo
	Personalization	5	Lingo
	Personalization	15	Nutrisense
	Personalization	18	Levels
	Power	1	Lingo
Health Deficiency	Health Deficiency	5	Levels
Health Outcomes	Diet	1	Stelo
	Diet	8	Lingo
	Diet	4	Nutrisense
	Diet	24	Levels
	Health Goals	4	Nutrisense
	Health Goals	9	Levels
	Health Impact	1	Lingo
	Improvement	6	Stelo
	Improvement	5	Lingo
	Improvement	15	Nutrisense
	Improvement	9	Levels
	Learning	3	Nutrisense
	Sustainability	6	Nutrisense

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Table B.2 (cont'd)

Theme	Code	Freq.	Site
	Sustainability	2	Levels
	Weight Loss	4	Nutrisense
Surveillance	Health Data	2	Nutrisense
	Health Data	6	Levels
	Health Insights	3	Stelo
	Health Insights	6	Lingo
	Health Insights	6	Nutrisense
	Health Insights	21	Levels
	Real-Time Data Visualization	2	Stelo
	Real-Time Data Visualization	3	Lingo
	Real-Time Data Visualization	4	Nutrisense
	Real-Time Data Visualization	9	Levels
	Self-Management	1	Nutrisense
	Self-Management	1	Levels
	Tracking	3	Stelo
	Tracking	2	Lingo
	Tracking	3	Nutrisense
	Tracking	24	Levels
Wellness Technology	Accuracy	1	Levels
	AI	8	Levels
	Connectivity	2	Levels
	Convenience	2	Stelo
	Convenience	3	Nutrisense
	Convenience	6	Levels
	Innovation	2	Stelo
	Revolutionary	4	Stelo
	Technology	1	Lingo
	Technology	10	Levels