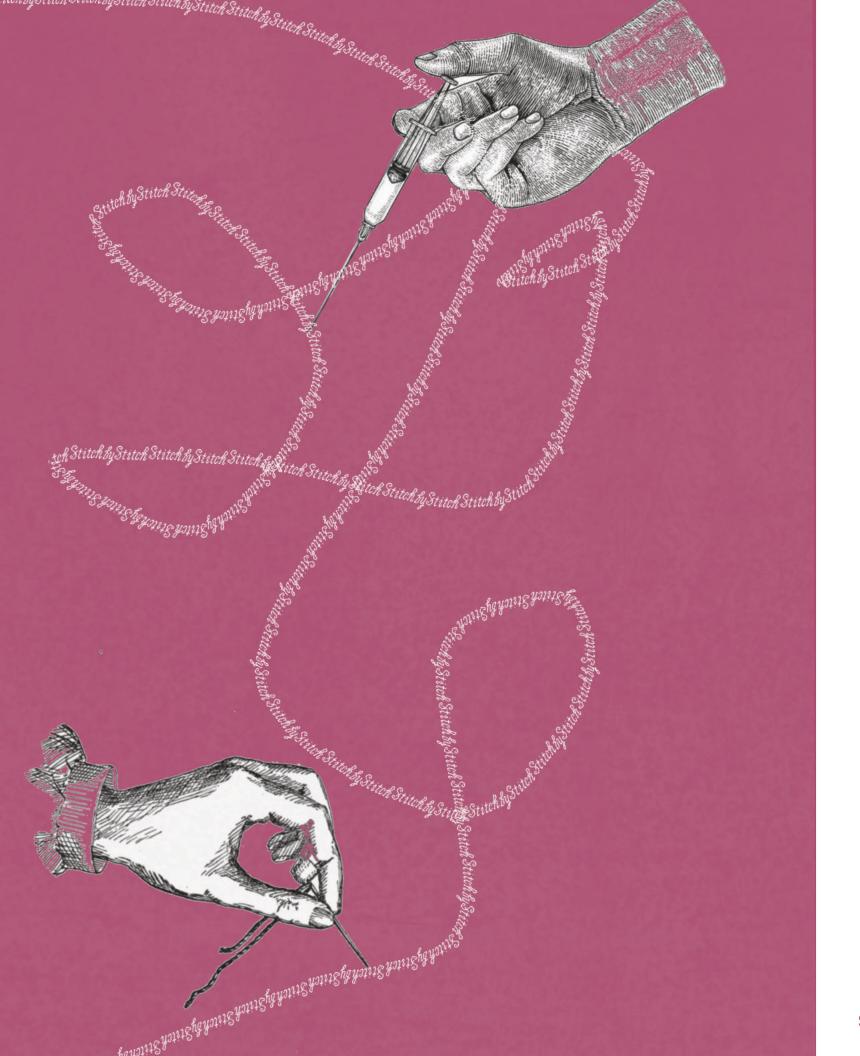
The tools we carry, the labor we inherit, and the systems we resist.

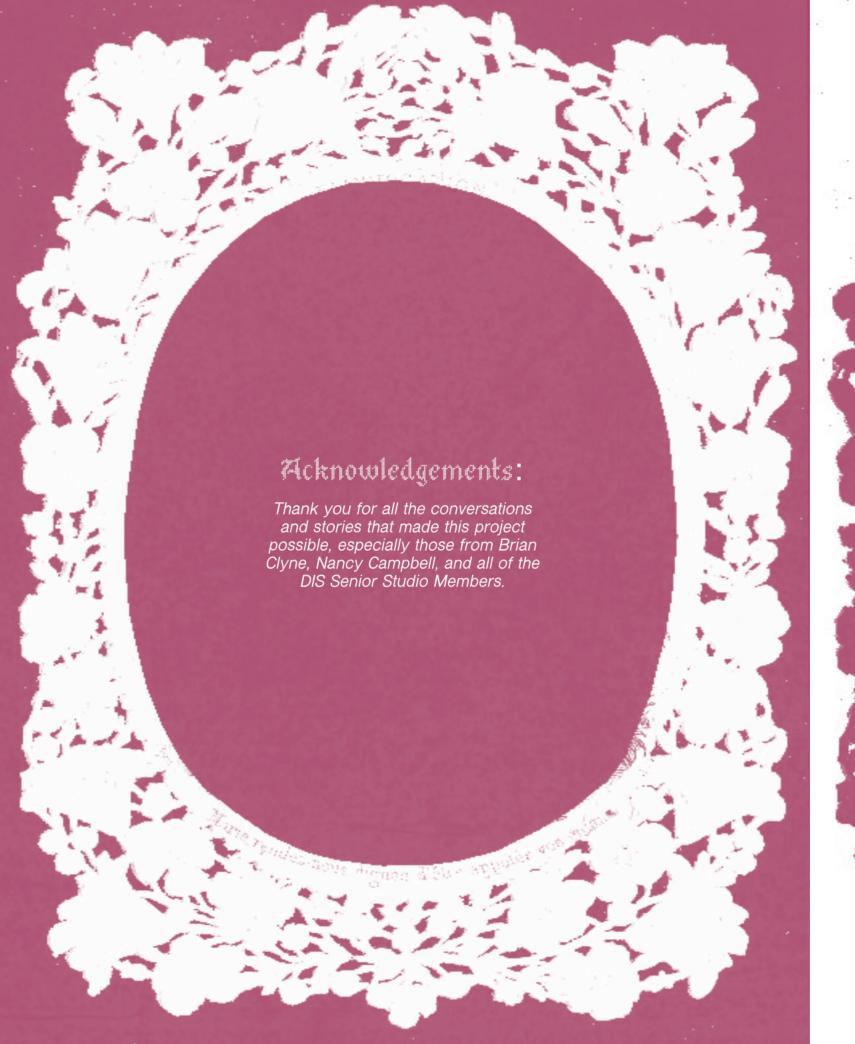
Peter De Smidt

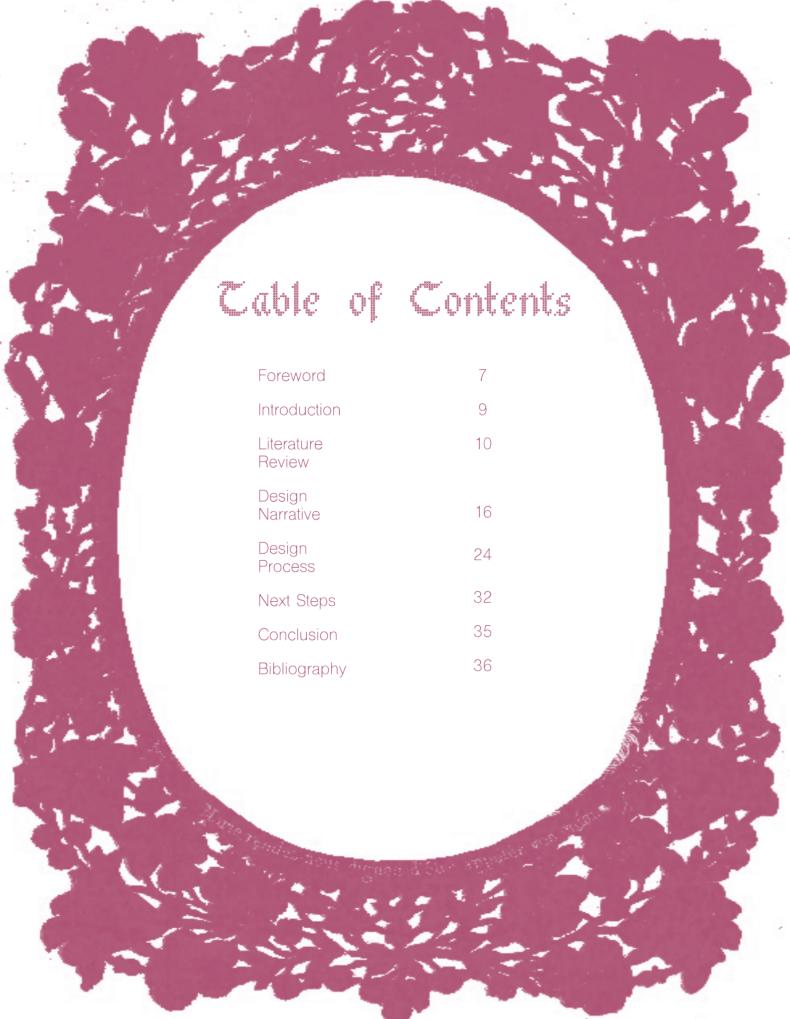


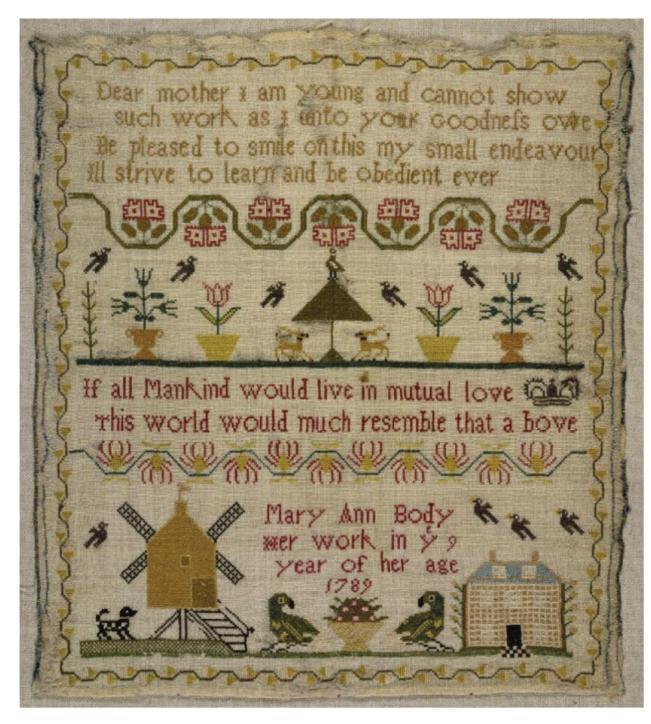
"Repetition is a method, a rhythm of meaning that must be maintained, a beat to my message."

-Aurora Levins Morales, Medical Stories: Essays for Radicals

Stitch by Stitch







Sampler, Mary Ann Body, 1789. Wool, embroidered with silk in cross stitch. Given by Frances M. Beach, Victoria and Albert Museum. T.292-1916.

If all Mankind would live in mutual love this world would much resemble that a bove

Throughout this project, I often found myself distraught by the absence of a "perfect" solution. It wasn't until I returned to Shira Hassan's "Saving Our Own Lives" that I was reminded that in life, in practice, in harm reduction, and in care, there is no perfect solution. When working in a space as layered and complex as this one, the designer's role is not to fix, but to invite, to think, to learn, and to care.

As you meet this project, I invite you to carry the same words that grounded me throughout this process with you.

This project is generous and generative.

This project honors mistakes. There is no perfection here.

This project gives is space to transform shame.

This project space know that curiosity and judgement cannot coexist.

We know and believe that multiple truths can coexist. We answer judgement with curiosity, with a question.

This project space holds our pace, our questions, our grief, our joy, and our self-care and our collective care.

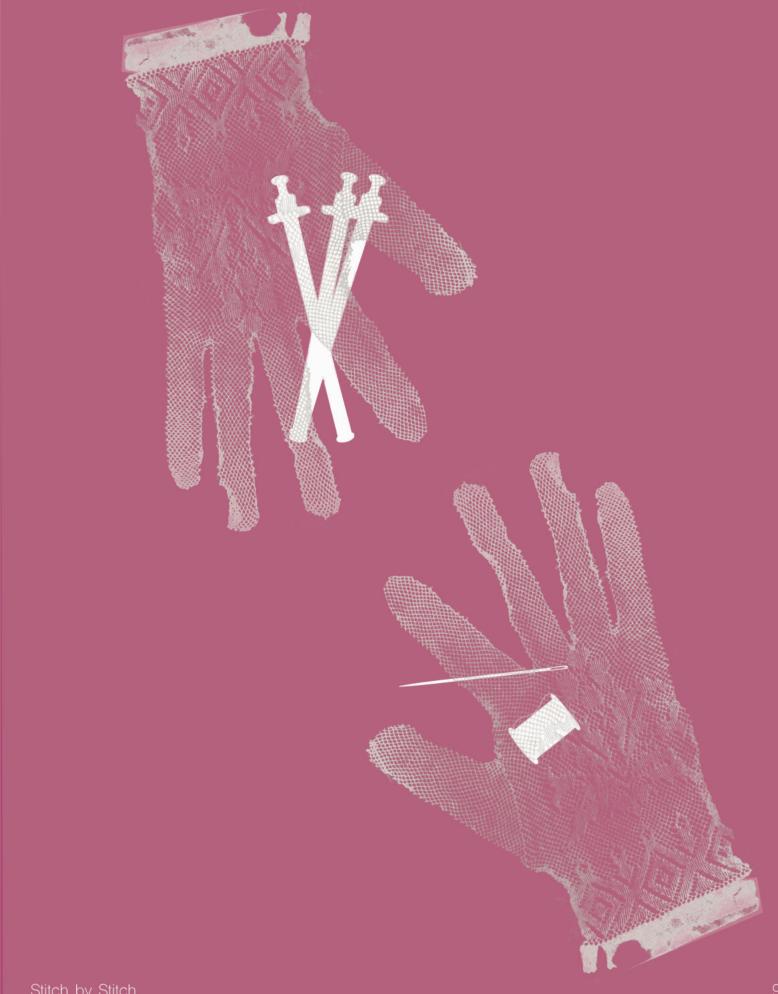
- Adapted from "Saving Our Own Lives"

Record. Presence. Care. Survival.

These are the principles that shape the following work, not as distant values, but as embodied practices. This thesis exists at the intersection of feminist labor, harm reduction, and material design. It is about the tools we carry, the labor we inherit, and the systems we resist. Stitch by stitch, object by object, and person by person, I explore how design shapes the quiet infrastructures of care, the everyday, often invisible experiences through which we sustain one another.

Through this thesis, I attempt to honor the invisible histories of both harm reduction and historical needlework, stitching their practices into a tool and artifact of care, presence, and quiet poetry. What can the histories of harm reduction and needlework teach us about how care becomes resistance and craft and medium can become tools for survival.





Needle work and Harm Reduction

The grassroots and often invisible labor of the Harm Reduction movement, and the deep care infused by those within it, parallel the historically erased and undervalued labor of women. Harm reduction work; frequently unpaid(Olding et al., 2021), community-driven, and feminized, mirrors the care work and mutual aid networks that women have organized throughout history, often without institutional recognition. These forms of labor, though essential, remain overlooked in mainstream narratives, reinforcing the need to critically examine their role in both past and present systems of care, salvation, economy and power.

Examining how women, both historically and in the present, have used needlework and craft to create a physical record of their labor and presence also reveals the ways in which these practices foster peer-to-peer networks of care, community, and resilience. Through textiles, stitching, and communal making, women have embedded messages of solidarity, survival, and resistance offering a material language of care that mirrors the invisible yet vital work of harm reduction today. Through this project I

ask how historical needle work and women's invisible labor acts as a metaphor for the "Needle Work" of Harm Reductionists today.

Needle Work as Resistance

protest, and record. In times where women were afforded little to no agency, embroidery, quilting, sewing and darning became tools and mediums for coded resistance, documenting feminist rage, abolitionist messages, and protest within the bounds of the materials and crafts afforded to them. This use of materiality and medium allowed for coded resistance and freedom. From the American flag stitched by Betsy Ross to Freedom Quilts used by enslaved people to travel north to freedom, textiles and the women that created them have embedded significant meaning into both their construction and aesthetics. Even within the 1970s Feminist movement, the craft of needlework operated as a tool of resilience, just as harm reductionists today use their own forms of care work to resist institutional neglect and sustain their communities.

"It was this tension, between patriarchal domination and women's resistance to it, that made needlework an appropriate material to feminist artists seeking new ways to represent the politics of secondwave feminism, with particular reference to women's relationship to the domestic. Needlework, with its historical associations with women's passivity under patriarchy, was laden with reference to the lived experiences of women in the domestic." (Emery, 2019)

The use of needlework as resistance is embedded both in its materiality and its theory. Each link in a stitch is interdependent, requiring the others for structure, support, and stability—much like the harm reduction movement, which relies on interconnected communities for decentralized survival. These two seemingly unrelated practices needlework and harm reduction become deeply intertwined when examined through their shared histories of political scrutiny, erasure, and denigration.

Harm reduction, like needlework, is an act of resistance itself. It challenges traditional ideas of addiction, abstinence, and restriction, instead centering itself around care, autonomy, and survival(Single, 1995). Since its

inception, harm reductionists have used resistance not just as a philosophy, but as a medium for activism. The ACT UP! movement perfectly exemplifies this, demonstrating how an oppressive medium can be reclaimed as a tool for liberation. As Gamson explains, "ACT UP's general strategy is to take a symbol or phrase used to oppress and invert it." (Gamson, 1989)

This same approach is embedded into and shared by other harm reduction efforts as well as women who have practiced needlework throughout history. As Jeffries describes this paradigm, "The potentially radical yet problematic promotion of women's 'traditional' arts in textiles and other craft related processes enabled not only a distancing from an aesthetics of the 'purely' visual, but also provided a strategy for mobilizing textiles as a weapon of resistance against an inculcated 'feminine' ideal." (McCracken, 2019)

This shared ability to shift an oppressive medium into a "weapon of resistance" reclaims this oppression as a tool for liberation and coded protest within the bounds of the medium and method afforded to each group.

The Inherited Labor of Needlework

Harm reduction and needlework both rely heavily on the often invisible and unpaid labor inherited by their practitioners. Frequently dismissed as frivolous or unnecessary, this unseen labor masks the profound, lifesaving, and liberating practices inherent in each. Despite being erased or overlooked, the significance of this labor extends far beyond its tangible outcomes, deeply impacting the communities and individuals who actively participate in and benefit from these processes.

The labor of both historical women's needlework and harm reduction is often one of inheritance; passed down, expected, and quietly emerged under force. The expectation of care and presence

An intriguing physical repetition connects the labor inherent in both forms of needlework. In embroidery and sewing, the needle methodically constructs a series of stitches, weaving together textile, message, and a personal record of the creator's intent and presence. Similarly, harm reductionists engage in repetitive physical labor through the ongoing distribution of supplies, support, and education, creating a steady rhythm of care that stitches together community resilience, survival, and empowerment. The profound impact of this deliberate, hand-built labor is captured powerfully by Betsy Greer in her book Craftivism:

"The creation of things by hand leads to a better understanding of our democracy because it reminds us that we have power."(Greer, 2014) This idea of handmade power is illustrated through both the subversive stitches of needleworkers and through the hands of harm reduction workers. Stitch by stitch needle by needle these two groups converge through their hand built power, liberation, and survival. This is also illustrated and reinforced through Harm Reductionists visual vocabulary of Hands. Hands are seen as icons of the harm reduction movement illustrating the healing and care labor of the harm reductionist, showing the physicality of their movement, craft, care, and solidarity.

Peer to Peer

Harm reduction and needlework also converge in their shared reliance on peer-to-peer methods of community building and informal education. Just as needlework traditions such as textiles and embroidery have historically depended on informal instruction among mothers, sisters, friends, and community members, contemporary harm reduction practices similarly depend on trustbased, peer-to-peer knowledge sharing. This informal educational framework fosters deep bonds of trust, embedding its significance within everyday acts of care, creation, learning, and collective survival.

Peer-to-peer methods of education, instruction, care, and support enable the

informal exchange of expertise, values, and lived experience among community members. In both harm reduction and needlework, these informal systems foster deeper bonds of trust and produce more successful outcomes than top-down approaches. As Piatkowski notes, "some of the most successful harm reduction strategies, such as needle and syringe programs (Crofts & Herkt, 1995; Harris, 2021), peer-delivered naloxone (Bennett et al., 2018), and community-based drug checking (Barratt & Measham, 2022), originated from the initiatives of peers well before gaining widespread support from the broader public health community."(Piatkowski et al., 2024) Similarly, women's sewing circles offer a parallel model of success. Downe writes, "sharing knowledge with another person not only expands the skill set of the learner but also reinforces the skill of the teacher and gives them a sense of competence, self-efficacy, and accomplishment."(Dravland, n.d.) Even when born from marginalization and stigma, peer-to-peer infrastructures create resilient systems of mutual aid, enabling communities to transcend institutional neglect and create meaningful, autonomous forms of care.

Similar to their reliance on peer-to-peer methods of community building both harm reduction and needlework rely on an interconnected community across both place and time. Harm reduction efforts count on localized approached tied together though common mission of

reducing risk. These interconnected acts of support and care create the stitches of the harm reduction movement and strengthen the effect of one another. This same effort exists through the needlework traditions as well. A signified language and code ties together women across location, time, and language. Solidarity through community, repetition, stitch and needle, these two movements intersect through their shared reliance on mutuality and dependance.

Preparation and Expectation

Just as education through needlework and harm reduction is shared informally, so too is the responsibility of preparation; a responsibility shaped by systems of gender, risk, and care. Preparation and expectation stitch themselves into the very essence of care, binding harm reduction, needlework, labor, and society in quiet, often invisible threads, stitching together the way we survive, protect, and negotiate our place in the world. Harm reduction, at its core, is about preparation in the face of risk an acknowledgment that danger is not hypothetical but expected. It is a practice grounded in the assumption that harm may occur, and that preparing for that harm is a liberatory act of care, love, rebellion, and survival.

But how we prepare, and who is expected to be prepared, is a complex and layered question. Even outside of moments of crisis, the burden of preparedness falls disproportionately on

Stitch by Stitch Stitch by Stitch Stitch by Stitch

women. From purses to tampons, makeup to medication, and women's everyday carry items, this expectation becomes materialized and codified in the infrastructures of our daily life. The contents of a bag become not only a toolkit for survival, but a symbol of how society delegates care, assigns responsibility, and codifies preparedness as a gendered obligation and expectation.

When exploring the intersection of needlework, harm reduction, and care, it becomes clear how the gendered expectations historically embedded in needlework reappear in the expectations of preparation and care within harm reduction today. The burden of this labor, often invisible and unreciprocated, is powerfully illustrated in Austin's research:

"What is noteworthy about Esme's experience is the level of labour she invested into ensuring her partner received the necessary care he required. Furthermore, Esme did this while cognizant of the fact that she would soon succumb to an overdose as well. Her actions exemplify the ways in which many participants practiced overdose assistance in intimate partnerships, while simultaneously managing the risks this posed to their own health and safety." (Austin et al., 2023)

The complexity of Esme's actions reflects the way women continue to navigate care, resilience, trauma, and survival—even when the cost is their own well-being. Her story mirrors a long lineage of feminized, invisible labor: a thread that runs through the history of needlework. As Dedeoğlu argues, "Women's labor-while often unrecognized or rendered invisible—is crucial to the survival of families engaged in the labor-intensive garment industry."(Dedeoglu, 2004) The mending, stitching, and creation of garments and bedding by women have, for centuries, codified care and survival into domestic life—quiet acts of labor that held families together.

This idea of preparation and expectation emerges through the historical burden placed on women to clothe their families, protect them from the elements, meet societal standards, and advance their family's social standing. These parallels reveal the persistent truth: women have long been expected to be prepared.

The act of stitching the historical with the present is embodied in the labor, love, and care of individuals practicing both forms of needlework. Today, this connection is visible in contemporary harm reduction initiatives such as Stitching Away Stigma(Benson, 2023) in Indiana, where hand-knit hats are filled with harm reduction supplies.

The relationship between needlework and harm reduction also appears in works like Maggie Mayhem's Freshpoints("Maggie Mayhem," n.d.) embroidery series, which stitches harm reduction tips for intravenous drug use into fabric. In these examples, the intersection of craft and care converges into a powerful medium of repetition, record, resistance, and love—stitching together a legacy of survival carried forward by the hands of those who had no other choice.



"Freshpoints" Maggie Mayhem

Stitch by Stitch Stitch by Stitch Stitch by Stitch

Design Introduction

When approaching this problem space, I thought a lot about the items we carry and our experience and connections with them. How do the items we buy, use, and love shape the experiences and world we encounter and meet. How would this item fit into the fabric of our day-to-day life without negotiation with the routines and experiences we cherish. With aesthetics, symbolism, and systems level thinking I began to think about the process of everyday carry and journey of a user for this product, and what it would mean to use metaphor as both a symbol and method.

How might we recognize and honor the erased, inherited systems of labor, love, and pain, while actively negotiating our own roles within them both as contributors and subjects? This space created the design constraints for this project and grounded me in a deeply reflective space.

Thinking about the user of this product led me to stand off between my own understanding of who I was designing this product for. When designing for healthcare and harm reduction, the designer must face a critical question; "Who is the user you are centering the product around?"

For this product, there are multiple users associated with the product:

- 1. The person carrying the case
- 2. The person who is administering the naloxone
- 3. The person receiving the Naloxone.

When thinking about the design of the naloxone case; the human the design is centered around changes the way we both carry a naloxone case and use the actual naloxone.(Russell et al., 2024) When choosing which human to center the design around one choice should not take away from the autonomy or comfort of another.



16 Stitch by Stitch

Design Narrative

Bringing the theoretical research on the parallels and intersections of harm reduction and needlework into a physical object required the same intentionality that both practices evoke. Honoring these systems of care, love, and survival while embedding their symbols, rituals, and materiality into a functional, everyday object became the guiding constraint for my design process.

The form of the carrying case was designed to fit comfortably in a pocket, with smooth edges and a snap-fit closure to inspire confidence and approachability. The silhouette draws inspiration from pocket sewing kits, referencing the historical expectation of preparedness placed on women and continuing the narrative of needlework as an act of survival and resilience.

Across the top of the case, an embroidered relief spells out the phrase "Stitch by Stitch We Carry On." This phrase carries multiple layers of poetic and symbolic meaning. "Stitch by Stitch" refers to the repetitive, accumulative practices central to both needlework and harm reduction. Needlework consists of interdependent stitches that form a complete textile or embroidery, signaling the idea that, across generations, women bound to the needle have been liberated through community and collective care. "Stitch by Stitch" also references the binding nature of both practices—building community one act at a time. Additionally, it alludes to the interconnection that the needle or syringe brings to the harm reduction community: whether one uses needles or loves someone who does, the syringe becomes a thread connecting

individuals across experiences of life, death, release, survival, love, and grief.

The latter part of the phrase, "We Carry On," is equally layered. It speaks to the perseverance of both women and harm reductionists. Historically, women had no choice but to "carry on," bound both physically and metaphorically by the expectations of labor, care, and survival, often with little to no recognition. Similarly, harm reductionists continue their life-saving practices amidst layers of stigma, oppression, and systemic neglect. This phrase also subtly references the "Keep Calm and Carry On" slogan from World War II London, evoking the necessity of perseverance in the face of existential threat; mirroring the everyday resilience of those navigating today's increasingly unsafe drug supply.

At the center of the relief is a visual motif that merges the aesthetics of needlework and harm reduction: two angels holding a flaming sacred heart pierced by a syringe. This design references the subversive imagery found in early harm reduction zines, such as "junkphood" ("Heather Edney," n.d.), and draws on the symbolism of divinity in drug use and harm reduction practices.

The use of angels also references an "angel in your pocket" a religious physical souvenir often given to protect the person throughout their daily life. This imagery depicts narcan and the case as an angel in the pocket of harm reductionists.

It envisions harm reductionists as protectors, offering aid without judgment or demand for abstinence. The imagery is intentionally layered; it uses sacred symbols historically tied to women's labor and flips their meaning, celebrating

survival, autonomy, and liberation rather than oppression. The decision to incorporate recognizable symbols to harm reduction communities, but less recognizable to outsiders, creates a codified, intimate language intended to foster pride of carry for Narcan users.

Using embroidery as the medium for the case's message draws direct reference to how women have historically used needlework as a method of resistance, record-keeping, and storytelling. Each stitch, created through the piercing of a needle, echoes the labor of harm reduction: a small, deliberate act of care that collectively forms a system of survival.

Inside the case, a precision-cut form holds two 4mg intranasal naloxone applicators, ensuring the user is equipped to respond to most standard opioid overdoses.

The second design intervention centers on reducing the labor embedded within overdose response itself. Continuing the narrative of needle, labor, preparation, and survival, I redesigned the Narcan plunger to integrate a plunger–activated timer. Upon administration, a needle embedded within the plunger pierces a dye bladder, releasing dye into a wicking membrane channel calibrated to two minutes. This creates a visual, timed



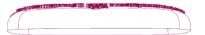
Тор



Length View



Width View





Exploded



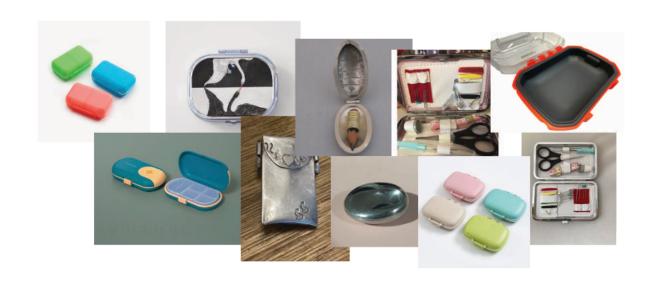
Bottom

Stitch by Stitch Stitch by Stitch Stitch by Stitch





Current Products



Pocket Shape





Constructing the prototypes for this project involved a blend of sketching, 3D modeling, iterative low-fidelity prototyping, 3D printing, resin printing, and digital embroidery design.

I began by sketching various forms to explore the ergonomic and symbolic shape of the object. I knew I wanted to prioritize comfort, approachability, and familiarity. Drawing inspiration from the organic forms of rock climbing grips and makeup packaging—objects already intuitively designed for the hand—I conducted a form study to better understand their adoption by users. I compiled these inspirations into mood boards and held a pin-up session to refine the initial concepts.

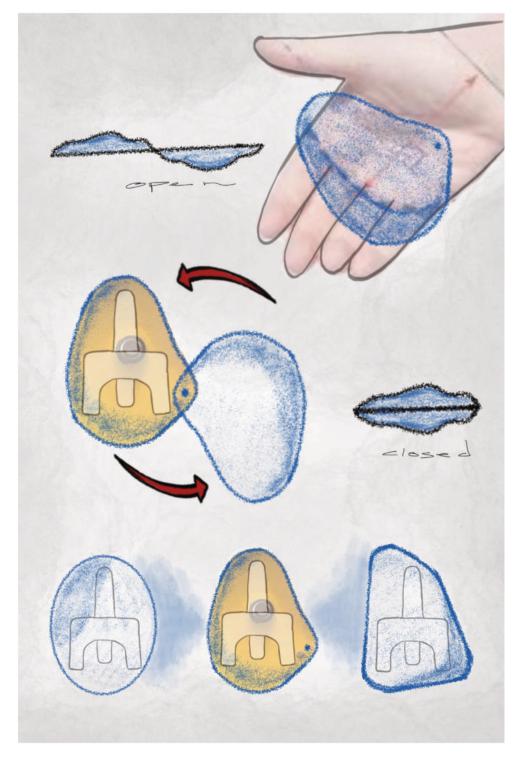
Following this, I created low-fidelity prototypes through hand carving and basic 3D models to study how the case would feel in the hand and how it would accommodate the dimensions of the naloxone applicators. While the original organic shape aligned with ergonomic comfort, feedback from early testers suggested it felt somewhat generic and uninspired.

In response to this feedback, I pivoted toward a more deliberate aesthetic: a form that mimicked traditional sewing kits. This shift aligned the design more closely with the project's narrative framework, evoking a sense of familiarity and symbolic layering. Users responded positively to this form, noting its intuitive and comforting qualities. Additionally, this design allowed ample space for the

embroidered relief and comfortably housed two doses of naloxone.

For the top relief, I knew I wanted to incorporate embroidery as both a material and a metaphor. Drawing from my literature review and research, I selected the phrase "Stitch by Stitch We Carry On," believing it captured both the spirit of harm reduction and the legacy of needlework. The design of the center image involved multiple iterations to achieve the right balance of symbolic meaning and aesthetic clarity.

The development of the integrated plunger timer revolved around usability and visibility. My goal was to introduce a new functionality without disrupting the familiarity or operational flow of the existing Narcan design. By embedding the timer within the plunger mechanism itself, the cognitive load placed on responders is reduced. Users interact with the product in a familiar way, but now receive a visual, intuitive signal guiding their actions during an overdose event. This design evolved through cycles of sketching, technical exploration, and 3D modeling.



Pin Up

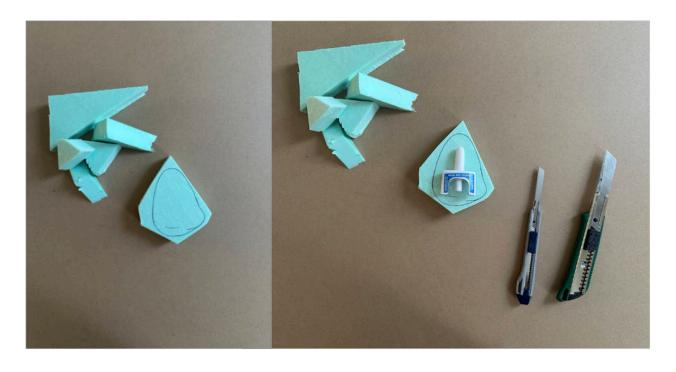




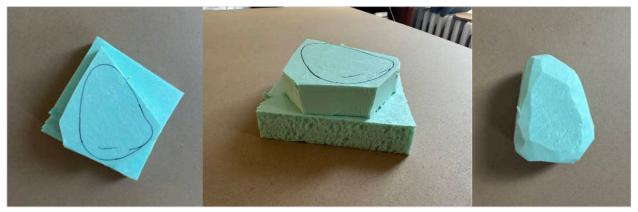




Looking at different configurations of 2 doses of narcan. Which ways are more comfortable, compact, and intuitive to use. The first option I found to be best, due to how flat and compact it packed together, I also liked how tit protected the plungers from accidental discharge.



Next step was to construct form models out of foam, I did this to get a 3d idea of what this could look and feel like. By drawing then carving out the shape in foam I could have a lot of control over the ergonomics and size.



I then began to carve and shape the holder for depth and size.



Next, I carved out places for each narcan dose to fit inside the case.



Physical Prototype



I completed this process again for another shape and feel.



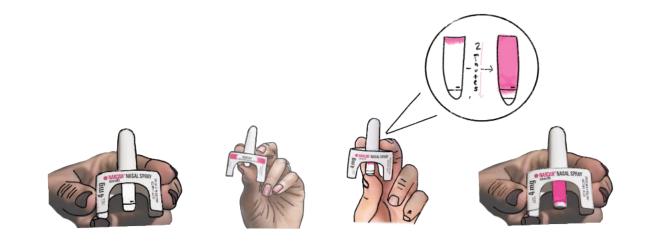
Final prototypes: Foam and Aluminum foil, Foam, 3d printed filament, and Resin

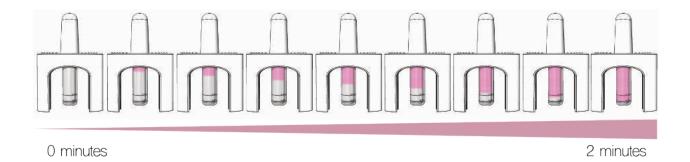


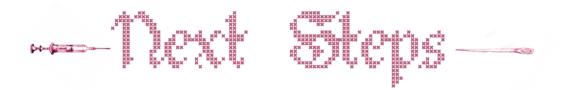
Final Renderings



This design intervention lives within the 2-3 minutes that overdose responders are asked to wait before administering the second naloxone dose. It is designed to lessen the labor for the responder and provide reassurance and support by automatically timing the 2-3 minute window.







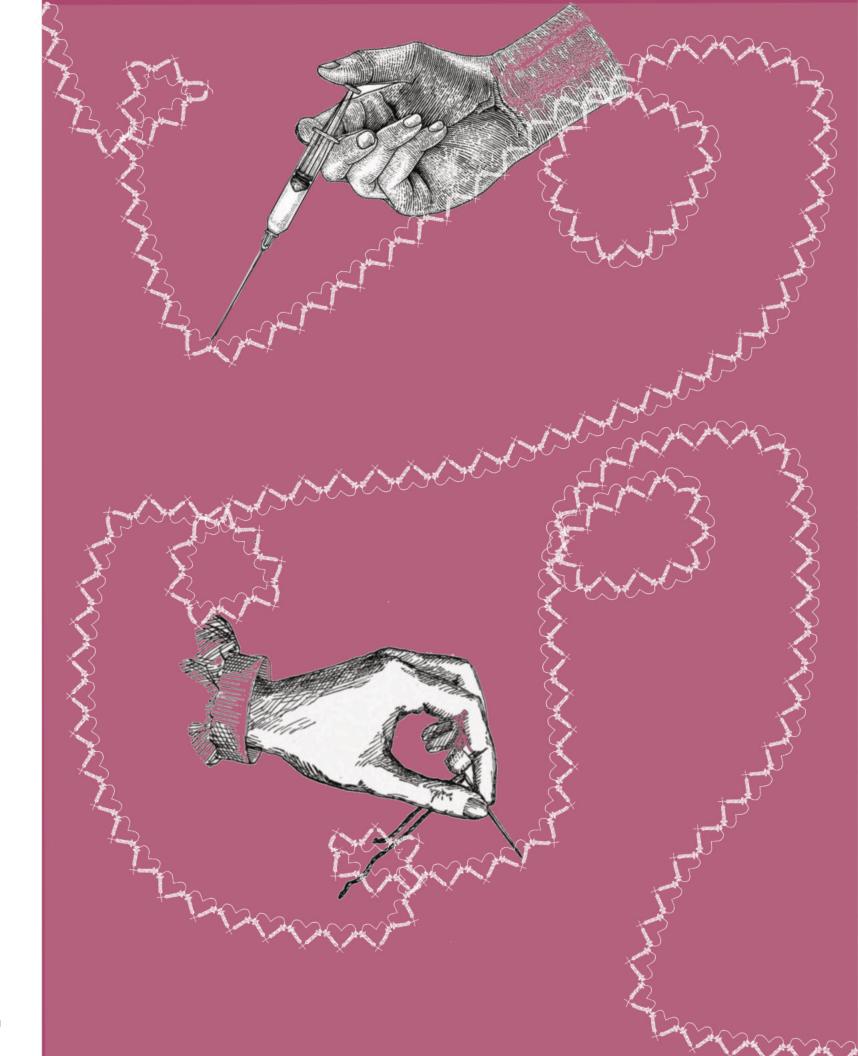
The next phase of this project involves creating high-fidelity prototypes for both the Narcan carrying case and the integrated plunger timer.

For the case, I would create a master model and partner with a plastic injection molding company to produce a mold that prioritizes high-fidelity detailing of the top embroidery relief. Injection molding is the ideal method for this product given its durability, low cost, accessibility, and potential for mass production. This would allow the case to be affordably sold or distributed, encouraging broad adoption.

For the plunger-activated timer, I would seek partnership with an intranasal medical device manufacturer to engineer the internal components. Following development, I would initiate regulatory pathways with agencies such as the FDA, CMS, and CDC to secure clearance and support potential subsidy or insurance coverage. Broader adoption of this innovation would meaningfully reduce barriers to effective overdose response, embedding harm reduction more deeply and accessibly into everyday life.







32 Stitch by Stitch



Тор



Length View



Width View





Explodea



Rottom

This project began with an inquiry into the invisible labor of care, survival, and resistance embedded within both harm reduction and needlework. Though these practices emerge from different historical and material contexts, they share common foundations: repetition, inherited responsibility, peer-to-peer resilience, and the construction of lifesaving systems beyond institutional recognition. Both acts center the hand, the needle, the body, and the sustained labor of stitching survival into everyday life, often unnoticed or devalued by dominant infrastructures and systems of power.

By stitching these two practices together, I explored the ways in which harm reduction and needlework weave shared histories into material form through a life-saving, everyday carry object. I also examined how the layers of labor and expectation surrounding care work can be reduced through thoughtful, care infused-technological intervention, offering a design response that supports both immediate survival and long-term systemic resilience.

Through the design of the Narcan carrying case and the integrated plunger timer, I sought to translate this

theoretical framework into tangible form. The carrying case draws aesthetic and symbolic reference from pocket sewing kits, embedding within it sacred imagery and an embroidered message: "Stitch by Stitch We Carry On." This phrase captures the interdependence, perseverance, and community inherent to both traditions. The plunger-activated timer supports this further, easing the cognitive and emotional burden experienced by overdose responders and embedding care and the needle into the very mechanics of survival.

Ultimately, this project argues that through design, we can have the power to materialize theory, history, and memory simultaneously and by infusing everyday harm reduction tools with the labor, aesthetics, and codes of historical resistance, we can create objects that do more than just function but to honor the systems, people, and lives that created them.



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Al Use

Chat GPT was used to fix grammatical errors and to correct for clarity and flow.

