# From Exit to Entry

# Designing Ethical Handoffs in Emergency Care

# Between Systems and People

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# Introduction

Emergency care is structured around immediacy—providing rapid medical interventions at critical moments. Yet, for vulnerable groups—individuals without health insurance, valid documentation, or stable housing (collectively the "3U" population)—emergency care frequently leads directly to an abrupt discharge onto the streets, devoid of structured aftercare or support. This transition highlights a structural failure: a fragmented handoff between emergency medical and social care sectors, leaving individuals in continuous cycles of crisis. This discharge process not only maintains individual suffering but also adds to systemic pressures on healthcare resources and community services.

Dokter & Opvang (D&O) is a targeted design intervention addressing this critical gap. Developed in close collaboration with healthcare providers at OLVG Hospital and Amsterdam-based social service providers, D&O consists of a user-friendly digital platform and a tangible referral card to facilitate seamless referrals for 3U patients. Our approach deliberately avoids adding unnecessary workload or complexity, focusing instead on clarity, usability, and ethical integrity.

Central to our project were ethical questions about patient privacy, dignity, and the constraints inherent within healthcare environments. Rather than introducing entirely new systems, our intervention leverages existing resources, highlighting our ethical commitment to respecting existing infrastructures and focusing on human-centred values such as relational care and dignity.

The 3U group is often caught in liminal spaces between legal and healthcare systems. They are eligible for emergency care but excluded from structured follow-ups due to policy, data infrastructure, or bureaucratic fragmentation.
In Amsterdam, this moment of discharge is where the system shows its cracks most clearly. Our goal was not to create a technological innovation in the traditional sense, but a compassionate, ethically grounded intervention that respects the realities of institutional constraints.

This report critically analyses our design process, explicitly reflecting on ethical and contextual considerations that guided our decisions—highlighting not only what was created but also the deliberate exclusions and constraints shaping our final solution. We outline our research methodology, contextual background, the resulting design outcome, and reflect on the ethical and practical implications, framed through Joan Tronto’s ethics of care model.

# Background

Homelessness remains a critical issue in the Netherlands, with approximately 32.000 individuals affected nationwide, reflecting a concerning upward trend (CBS, 2023). Specifically, Amsterdam hosts around 4.000 people experiencing unstable housing conditions annually (De Regenboog Groep, 2023), comprising undocumented migrants, tourists, transient labourers, and uninsured residents. Despite guaranteed access to emergency medical care, these individuals frequently experience significant barriers to subsequent social and medical support.

Emergency Departments (EDs), such as OLVG Amsterdam, face increasing operational stress due to rising patient volumes, budget constraints, and staffing shortages (Rijksoverheid, 2023). ED professionals lack structured referral protocols for discharged 3U patients. From our interviews, emergency physician Niels van der Naald indicated that referrals are ad hoc or entirely absent, reflecting system-level rather than individual professional shortcomings. Physicians express frustration that although they want to refer patients to the right next step, the lack of tools or a clear system renders this impossible within the constraints of their practice.

To understand the existing support ecosystem, we mapped over 180 relevant services in Amsterdam, ranging from Kruispost (walk-in clinic for uninsured patients), Regenboog Groep (which operates shelters and addiction services), MDHG (drug user advocacy), to GGD Valckenierstraat (municipal health services). These services operate with different eligibility requirements, locations, and operating hours, which remain largely invisible to hospital staff and unstructured in any accessible system.

Existing digital solutions, such as De Regenboog Groep’s Streetlife app, are primarily intended for direct use by 3U individuals and not integrated within healthcare workflows. While the app lists services, its interface and language are not tailored to the high-pressure decision-making context of an ED. Similarly, conventional platforms such as Google Maps or governmental listings lack the necessary ethical focus, usability, and credibility for use in care transitions. Our research emphasized the need for a design responsive to high-pressure clinical environments, aligning with ethical values of care, dignity, and relational responsibility (Tronto, 2013; Barnes et al., 2018).

*Figure 1. Emergency physician Niels van der Naald explaining the systemic challenges faced in referring 3U patients at OLVG Amsterdam.*

*"We save them from death. Not from life." — Niels van der Naald.*

Our research process aligns with Participatory Health Research (PHR), which involves stakeholders as co-researchers, not subjects. We worked alongside ED physicians and social workers in discussions and testing sessions, allowing their insights to directly shape design decisions. This positioned our role not as distant observers, but as embedded facilitators of a more humane care pathway.

We deliberately drew from frameworks that recognize the moral dimensions of design. Joan Tronto (2013) presents care as a moral and political concept with five interdependent phases: caring about, caring for, caregiving, care receiving, and caring with. Each phase carries its own set of responsibilities and vulnerabilities. Barnes et al. (2018) extend this model by highlighting how care is always embedded in systems of power. Our work also follows infrastructural perspectives like those from Shannon Mattern (2018), advocating for low-tech, high-impact design that works within and around existing systems. Further ethical grounding was provided by digital ethics guidelines (Gofore, 2022) and Thackara (2023), calling for transparency, restraint, and social sustainability.

By resisting over-designed platforms or top-down digital solutions, we aimed to make an honest intervention: pragmatic, respectful, and incrementally transformative.

Next, we go over how this philosophy materialized in the D&O concept.

# Final Concept

Dokter & Opvang (D&O) consists of two simple tools: a digital platform and a physical referral card. They function independently but complement each other. One supports clinical decision-making; the other supports the patient in finding the next step.

### Digital Platform

The platform is a web-based interface accessible on desktop or phone (see Figure 2). It shows a simplified city map, services plotted by category (shelter, medical aid, food, hygiene), and filters for criteria like walk-in access, women-safe, or undocumented welcome. It requires no login and collects no data, protecting both patient privacy and staff efficiency. Doctors can find a suitable match in under 30 seconds.

Unlike health tech interfaces that aim to track, measure, or optimise user flows, D&O's platform does none of these. It is a tool for judgement, not control. This ethical framing shapes its user interface: service cards are plain, actions are simple, and no system "decides" what is best. Doctors retain autonomy.

### Maintenance Protocol

Live data updates were ruled out early. Shelters do not have APIs. Phones do not always work. Instead, we proposed a wiki-style backend and a human coordinator who checks in quarterly. This could be a municipal employee or someone from GGD. Services can also flag outdated listings. It is not elegant, but it is feasible.

### Referral Card

The A5 card is pre-printed in small batches. One side shows a city map with colour-coded services, the other is blank as in Figure 3. The doctor writes down a time, name, or direction—whatever is relevant. This makes the act of giving help tangible. In feedback, doctors called the card "quick," "helpful," and "something they would actually use." Patients leave with a point of orientation, not a vague verbal sentence to remember.

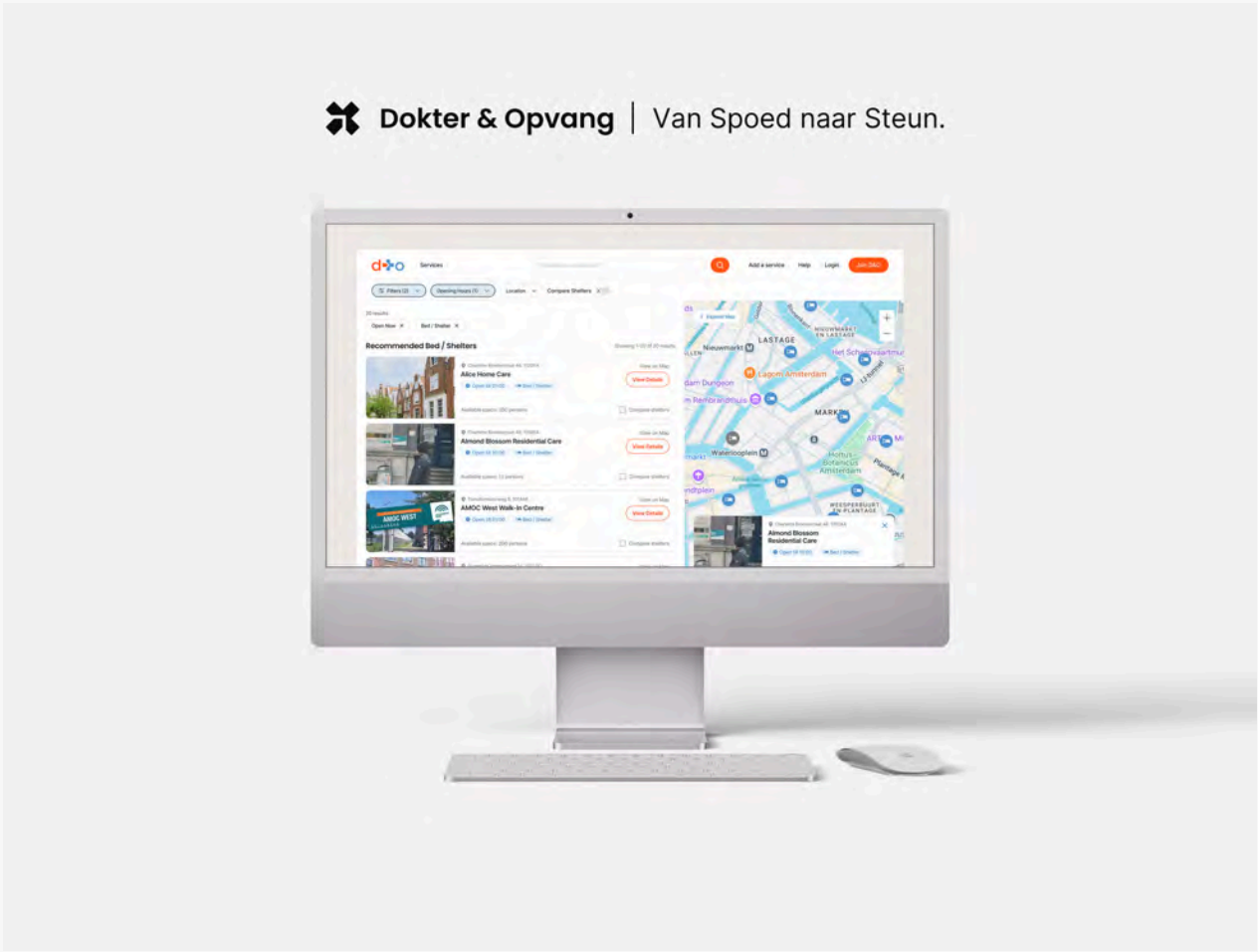


*Figure 2.*
*Dokter & Opvang Digital Platform interface displaying categorized services, filter options, and intuitive usability designed specifically for emergency department contexts.*

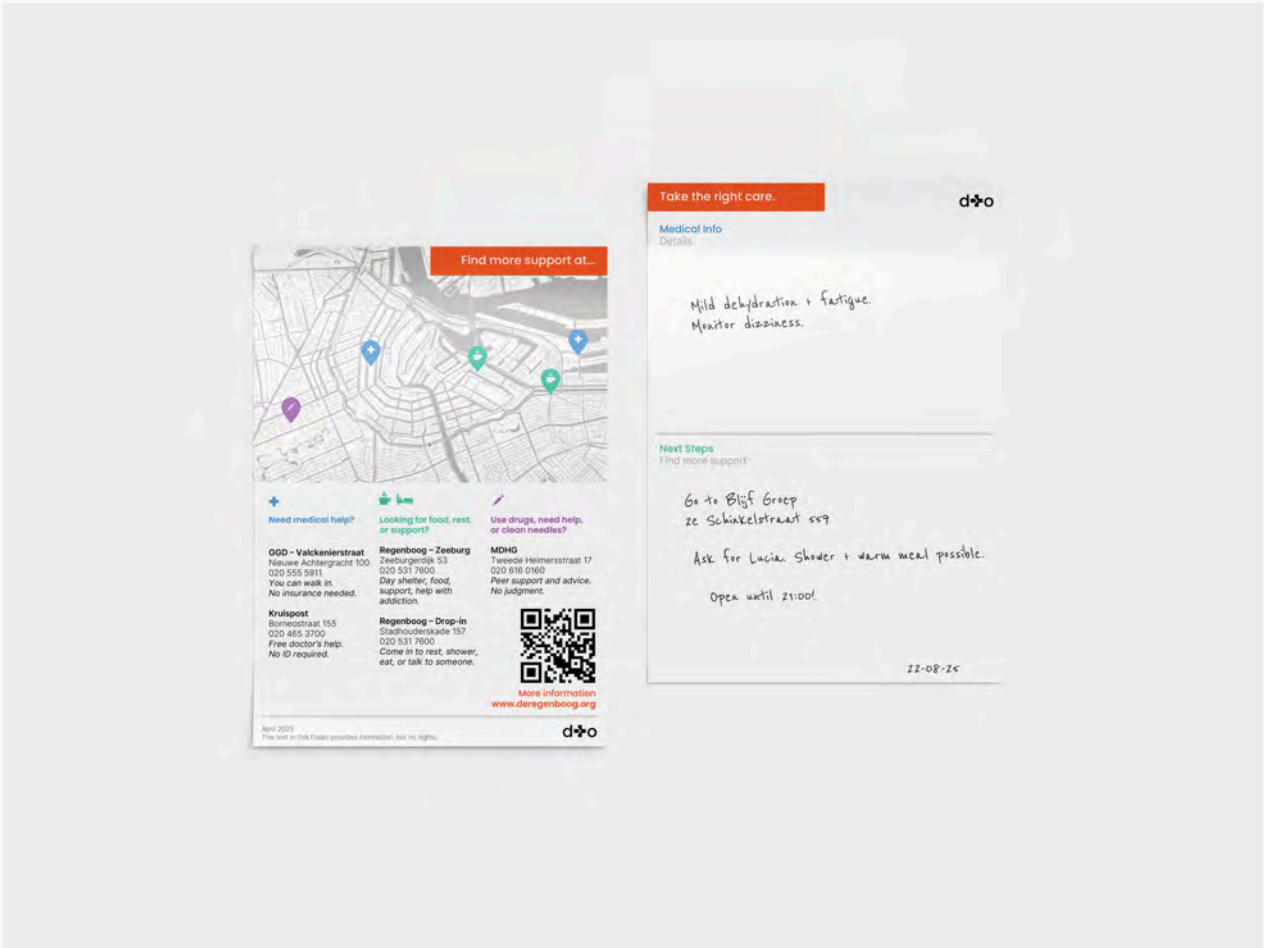


*Figure 3.*
*Dokter & Opvang Referral Card showcasing a simplified local service map on one side, with personalized space for handwritten notes from clinicians on the reverse, supporting dignified and tangible care referrals.*


*Figure 4.*
*Dokter & Opvang design concept mapped onto Joan Tronto's Five Stages of Care, demonstrating the cyclical nature of ethical care embedded within our design.*

## Tronto's Five Stages of Care

Our design maps to each phase in Tronto's care model as illustrated in Figure 4: *Caring about* is recognising recurring patients. *Caring for* is D&O being initiated. *Care giving* happens when the card is handed over. *Care receiving* is the patient showing up. *Caring with* is the systemic reflection that should follow. We designed for all five stages, but especially tried to make the first four visible and actionable.

## Design Approach

Methods included ecosystem mapping, usability testing, stakeholder interviews, and co-creation workshops. We used sketches, figma flows, mock handovers, and rapid iterations. Feedback shaped everything from the visual clarity of service tags to the size of the card. We tested both map-based and list-based interfaces. When given the option, the user tended to choose the map over the list-view. It seemed more familiar and their interactions more intuitive.

During development, we considered adding QR codes, patient categories, or even auto-printed directions. But we deliberately opted out. Categorising 3U patients into personas (e.g. "the addict," "the refugee") felt ethically risky and contextually useless. The 3U group is fluid and diverse. Our one-card-fits-all approach avoids stereotype traps and scales better.

# Reflection

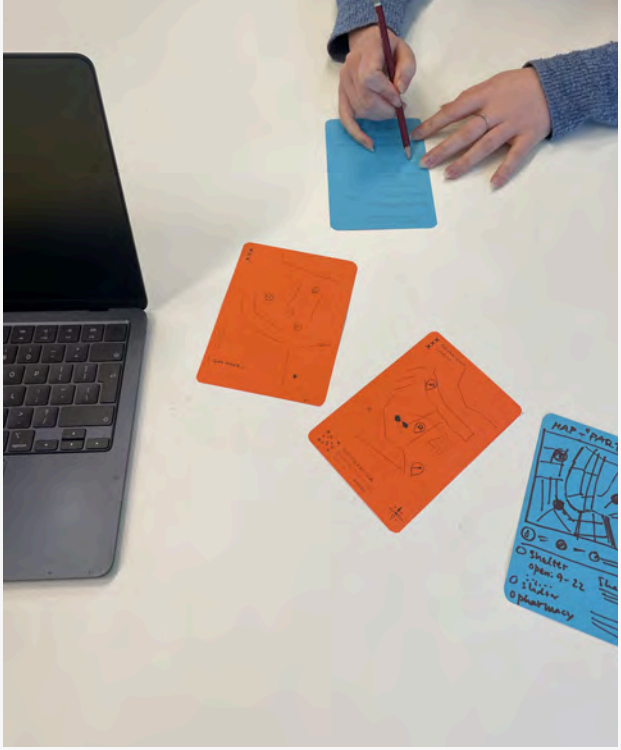

*Figure 5.*
*Early team prototyping session testing handoff flows, used to shape the tangible referral card and platform interface.*

We set out to create a humble intervention, not a perfect solution. What we made instead is a tool that fits within the contours of care already being given. This section evaluates our work across practical, contextual, and ethical lines.

**Strengths**

+ Simple is Scalable
Our choice to keep things low-tech was not a compromise—it was strategic. Complexity adds friction. The simplicity of the card and platform is precisely why they were embraced.

+ Ethics by Design
By designing with ethical values from the start, we avoided a common trap: retrofitting ethics after a system is built. We did not build a feedback tool and then realise it broke privacy rules. We never built it. That is design by omission.

+ Contextual Embeddedness
Our work fits Amsterdam. It names actual services. It reflects the streets that patients walk. It is not a speculative platform; it is a real one. This local embeddedness is also a design strength.

While deeply rooted in Amsterdam's context, the underlying ethical framework and operational simplicity of D&O suggest it could be effectively adapted and piloted in similar urban settings facing parallel healthcare challenges.

**Limitations**

+ Limited Patient Input
We tested with doctors, but not yet with 3U patients themselves. This limits what we can say about actual usage.

+ Service Landscape Changes
Services open, close, or shift focus. Without a strong update protocol, our platform could go stale. Future work should test the wiki-backend in practice.

+ Scalability
Can this work in other cities? Possibly. But its strength—being local—may also hinder scaling. One idea is to allow local health teams to print their own cards, using our system as backend.

+ No Outcome Data
We do not know if people follow the card's directions. To learn this, we would need to trace patient journeys—an ethically sensitive process.

## Ethical and Contextual Lessons

Designing for care means accepting limits. We do not control who shows up at the ED. We do not control who runs the shelters. We only design for the moment of handoff. That is where care is either extended—or ends. As Tronto's model reminds us, care is not a service. It is a practice.

As seen in Figure 4, the D&O cycle maps onto this care model. It shows how design can participate in systemic ethics—not by solving everything, but by making one point of care stronger.

# Conclusion

Dokter & Opvang is not a disruptive innovation. It is an ethical handoff tool. It helps hospital staff help others. And it does so without demanding more time, more logins, or more infrastructure. Its platform informs; its card connects. Together, they create a micro-intervention that could ripple into systemic change.

We believe this design matters not because it is perfect, but because it is possible. It lives within the constraints of healthcare, and still makes room for more humane outcomes. It is a bridge—not from nothing to everything—but from crisis to care.

We now look to the future: to more patient input, to municipal support, to data maintenance and sustainable handoffs. But even in its current form, D&O makes one thing clear: better systems do not always require bigger systems. Sometimes, they require listening better—and making what is already there just a little more visible.

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# Declaration of Tech

AI tools supported writing clarity, structure, and editing. Ethical framing, reflections, and original insights are derived from own project experience.

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