

Sep 24th, 9:00 AM

Essential medications: A co-created learning and design opportunity

KM Sellen
OCAD University, Canada

N Persaud
Unity Health Toronto, Canada

S Werle
Unity Health Toronto, Canada

M Al Bess
Unity Health Toronto, Canada

N Goso
Unity Health Toronto, Canada

See next page for additional authors

Follow this and additional works at: <https://dl.designresearchsociety.org/learnxdesign>



Part of the [Art and Design Commons](#)

Citation

Sellen, K., Persaud, N., Werle, S., Al Bess, M., Goso, N., Hetu, R., Soliman, H., Bernado, A., and Umali, N. (2021) Essential medications: A co-created learning and design opportunity, in Bohemia, E., Nielsen, L.M., Pan, L., Börekçi, N.A.G.Z., Zhang, Y. (eds.), *Learn X Design 2021: Engaging with challenges in design education*, 24-26 September, Shandong University of Art & Design, Jinan, China. https://doi.org/10.21606/drs_lxd2021.10.261

This Research Paper is brought to you for free and open access by the DRS Conference Proceedings at DRS Digital Library. It has been accepted for inclusion in Learn X Design Conference Series by an authorized administrator of DRS Digital Library. For more information, please contact dl@designresearchsociety.org.

Authors

KM Sellen, N Persaud, S Werle, M Al Bess, N Goso, R Hetu, H Soliman, A Bernado, and N Umali

Essential Medications

A Co-Created Learning and Design Opportunity

Kate Sellen, Nav Persaud, Stuart Werle, Mariam Al Bess, Nick Goso, Ruslan Hetu, Habiba Soliman, Alyssa Bernado and Norm Umali

https://doi.org/10.21606/drs_lxd2021.10.261

The purpose of the Essential Medications project was to design the packaging and branding for CLEAN Meds (Carefully Selected and Easily Accessible at No Charge Medicines), together with a team of doctors, pharmacists, and patients. The project was realized as a co-created experiential learning opportunity through an undergraduate advertising and packaging studio class, and project-based learning opportunity. The Essential Medication project is a collaboration between the Community Guidance Panel of the CLEAN Meds project and team, at MAP Centre for Urban Solutions, at Unity Health and the Health Design Studio at OCAD University with undergraduate programs in graphic design and advertising. Students worked closely with all stakeholders to design a look and tone for the project together with a packaging design, that appealed aesthetically, and paid close attention to issues of implementation, accessibility, stigma, and trust. This case study discusses the structuring of the project and the insights gained from structuring and supporting this co-created learning opportunity as well as insights on adjustments for COVID 19

Keywords: health design; co-design; medication; experiential learning

Introduction

Ontario College of Art & Design University has a strength in design education related to medical and health contexts with both an undergraduate emphasis and a full graduate program devoted to health design. In Fall of 2019, the Health Design Studio, a research hub in health design research, was approached with a packaging project for a research initiative providing essential medicines – the CLEAN Meds project. With issues of stigma, community involvement, public health and health system values as factors, the project is an ideal learning opportunity for students in health design.

In conversation with program chairs and family medicine researchers it was decided to run the project through two undergraduate programs as a first step. The programs chosen were advertising and a packaging course in the graphic design program. Both running in Winter of 2020, the advertising students' would be able work on branding and positioning and then hand-off to the packaging students around the mid-term, each class with access the CGP, pharmacist, and family physician as subject matter experts. At the end of the term, several concepts would be chosen from each class to take forward for further development and eventually production over the summer term.

Essential Medications

Nearly 2.4 million people in Canada cannot afford to pay for the medications that they have been prescribed. This includes life-saving medication and those essential for managing chronic illness (Morgan et al, 2017). Canada is the only high-income country without universal access to essential medicines despite having a publicly funded health service. This impacts how often and how much medication some patients take, leading to adherence problems and disease management issues (Gupta, et. al, 2018). Adherence issues affect a wide range of people from those with lower incomes, to seniors on multiple medications, to individuals who struggle to afford expensive medicines. Struggling to afford prescriptions and



This work is licensed under a
[Creative Commons Attribution-NonCommercial-Share Alike 4.0 International License](https://creativecommons.org/licenses/by-nc-sa/4.0/).
<https://creativecommons.org/licenses/by-nc-sa/4.0/>

the consequences of not being able to take prescribed medicines impacts many areas of life including the ability to work, social and family life, long-term wellbeing, and causes significant emotional stress (Yaphe, et al, 2019).

Designing for Free Health Services

Prior to the development of the collaboration with the Health Design Studio, the CLEAN meds trial found that delivering free medication to patients had significant benefits to their health, medicinal adherence, and quality of life (Persaud, et al, 2020). However, even when providing the service for free there was still a layer of stigma that affected the adoption of the service (Goffman, 1963). Some patients viewed the service as cheap, low quality, and charitable. In experiencing stigma that stems from patients’ interactions with a provider or the healthcare system, patients can feel singled out for not being able to afford care, as if they didn't belong in the healthcare setting. Services that offer free of charge medications and other free services can be associated with stigmatising concepts of poverty and lack of agency, requiring patients to meet specific criteria to access free services. This can be a stigmatising experience (Vaes, 2014). For our students, the challenge was to design within the context of a free medication service while alleviating or at least not contributing to the potential additional stigma of receiving CLEAN Meds. Part of this challenge was packaging the medications, that come in a range of packets, bottles, and blister packs in a way that would secure them in transit, thus avoiding medications arriving slightly damaged or in disarray. Thinking about the future expansion of the service, there was the need to encourage awareness and access to the service - a connected need we refer to as approachability.

Co-Creating Learning

To structure the two undergraduate courses, we did not prescribe any specific techniques or process that would be a departure from the regular curriculum for those courses. Instead, we agreed to provide resources to support the specialised content of the project. This would be undertaken in the form of

- access to subject matter expertise for in class presentation, question and answer, and feedback,
- collated resources document with medication packaging design examples, example analogous free medical products, design brief and links to additional resources
- access to CGP feedback twice during the term
- a dedicated research assistant from the master’s program to support coordination, resources, and student questions

The CGP consisted of 12 representatives from across the communities involved in the longer CLEAN Meds trial. The subject matter experts included the CLEAN Meds project lead, Dr Nav Persaud, family physician and MAP researcher, and Norm Umali the lead pharmacist for the project who reviews and fills all prescriptions ready for shipping, and Dr Kate Sellen, director of the Health Design Studio. The outcomes of the two undergraduate design classes would be combined and co-designed over the summer together with the CGP. The table below (Table 1) illustrates the sequence events given the impact of COVID 19 pandemic.

Table 1. Sequence of project activities

	Advertising Class	Packaging Class
Activity 01	Resource’s deck Including project overview, design benchmarks, reference brands	-
Activity 02	Introduction to Advertising Students Family physician lead, master’s student	-
Activity 03	Written Q and A Pharmacist /Family physician	-
Activity 04	CGP Feedback Materials were shared plus specific Q and As	Introduction to Packaging Students Resource’s deck
Activity 05	COVID – interrupted advertising handover to packaging	<i>Handover of branding and positioning concepts – delayed significantly</i>

Activity 06	Advertising students complete	Presentation on medication information design and packaging by project lead plus Q and A
Activity 07		Pharmacist Q and A - 1
Activity 08		Pharmacist Q and A - 2
Combined Student Team		
Activity 09	Subject Matter Expert Panel Concept Selection	Alternative to CGP Selection due to access issues and COVID
Activity 10	Design Development, packaging development	Student team worked together with faculty over the summer to develop final prototypes, revisiting research, feedback, and creating physical prototypes for packaging
Activity 11	Feedback from CGP 1	Significantly delayed, students began to drop-off as Fall term started, subject matter experts were consumed by clinical work
Activity 12	Design Development, packaging final	With additional input from faculty final packaging design was developed together with commercial production company
Activity 11	Feedback from CGP 2	Final designs were integrated and reviewed with CGP and subject matter experts

Reflection – Conceptual Tensions

The students involved at the undergraduate level were highly motivated and engaged with the both the overall objective of the CLEAN MEds project and the design project. For the advertising students, since this is a public health initiative, applying commercial techniques for a non-commercial outcome was particularly motivating. This provided an opportunity to build on learnings about values in design (Le Dantec, et al, 2009) through the undergraduate classes and into the combined team that chose to stay with the project beyond the class structure as an additional learning opportunity. Values then became central to the development of the concepts as they moved from separate brand, graphic, advertising concepts into combined solutions. This opened a discussion on values in design approaches (Winklet & Spiekermann, 2018). The result is the brand Kanoe (Figure 1). The brand is driven by its five values: equity, accessibility, community, humanity, and quality. Every design choice was tailored with clarity in mind, hoping to make every aspect of the brand as effortless and intuitive as possible. This was well received by the CGP who found the brand visually appealing, easy to understand, and professional.



Figure 1. Final packaging prototype combining branding, stabilization, and information slot.

The brand colours were ultimately inspired by the colours of water and the medical industry, resulting in a colour palette consisting of deepening shades of teal. The colour palette was a controversial choice for the core team, who felt that they did not want to perpetuate “healthcare aesthetic” and were disappointed that more activating palettes with orange and light green were not preferred. The members of the CGP found comfort in the colours choosing them as they evoked a sense of health, healing, and cleanliness. Additionally, the CGP responded well to the use of gradients from light to dark teals, evoking a sense of healing and gaining strength.

The name Kanoe, was the result of CGP suggestions and the work of the advertising students involved. The name CLEAN Meds although acceptable to the CGP, was viewed as potentially stigmatising by the design faculty. Given the conceptual link between “clean” and stigmatised drug use (Ashford, Borwn, & Curtis, 2019). The use the of “K” then too became the subject of debate. The idea of a misspelling being uncomfortable with the family physician and pharmacist. Again, the CGP’s preference indicated the direction, and this reflects the indigenous spelling of the word canoe.

While the students pursued a design informed closely by the CGP, following co-design principles (Sanders & Stappers, 2008), this created difficult tensions for the students. Working within a co-design framework necessitated abandoning new ideas and commercially orientated branding concepts and moving forward with a some-what constrained more traditional aesthetic. In moving from a larger number of concepts from classwork to the smaller team and then finally to a single design, the students grappled with a loss of creative agency as well as an unstructured a fractured timeline due to [COVHTTTPS://DOI.ORG/10.21606/DRS_LXD2021](https://doi.org/10.21606/DRS_LXD2021). The students also recognised that there are big questions that remain due to the low level of wider feedback available and the highly constrained number of patient representatives that they had access to through the constrained co-design process (Tritter & McCallum, 2006), experiencing first hand some of the potential constraints of a co-design approach. How will the wider community react to the newly designed packages and branding? Will the new design have any unforeseen psychological or social impacts especially in addressing stigma? What other factors or future innovations can contribute to making this service as tailored as possible to a wider community?

Reflection – COVID 19 Tensions

The COVID-19 pandemic revealed a few tensions resulting from the context of the project and the every-day realities of the CGP. The initial wave interrupted the student’s work at the undergraduate level, made it initially unfeasible to connect with the CGP or our healthcare collaborators. Like many things, the entire project slowed down. Students were adapting their life situations and faculty were pivoting their teaching approach. This included the adoption of online collaboration tools which became essential working spaces for the project and have enabled more effective collaboration and project tracking.

Due to COVID-19 restrictions, the team had to adapt the testing and feedback session format. Only a small number of the CGP were reachable, and the healthcare collaborators were not available due to catching up on case-loads due to restricted health services. The changes to the format were largely informed by digital access and equity considerations, where the focus was to ensure that every member of CGP can participate. This was an unexpected and valuable learning opportunity. The experience of testing a physical package using teleconferencing required students to consider in detail how to speak about their design work, how to engage their audience in detailed questions, create tools to allow for more engagement, sending a physical co-design package to CGP members, and manage the session time effectively to ensure all participants were heard.

Reflection – Regulatory Tensions

In working on healthcare projects there is sometimes a tension that arises between protocol and bureaucratic regulations, design practice and creativity. This manifests in situations where something that is possible but creative bumps up against the perception of regulatory restrictions. This can happen often with medication related work. For instance, the students spent quite a bit of project time figuring out what was possible to change and what was not – the sustainability of the yellow plastic pill bottle being one area of design inquiry that did not lead anywhere. While this was a great learning opportunity around material choice, it was a frustrating experience to realise that while there were other safe sustainable options for pill bottles the team would not be able to realise a project that used these solutions due to the perception that the yellow pill bottle was embedded in regulatory and system constraints. This can potentially discourage students from seeking out creative solutions and possibly also discourage students from considering design in the health sector as a viable and fulfilling career choice.

Insights

Several insights on co-created learning resulted from the CLEAN Meds project:

- the use of online whiteboard as a central working space and information /resource hub as an adaptation to COVID 19 restrictions could start as early as first engagement and would be of benefit without COVID restrictions
- co-design with community members should anticipate digital access and equity issues early as a learning opportunity for students
- plan for lack of availability as health collaborators workloads shift
- consider conceptual factors early with students on broader issues facing the health system– such as access and equity
- recognise and discuss dominant paradigms in design in healthcare with students – the aesthetic use of teal and blue hues being one of these
- use tensions in design preferences among stakeholders as a learning opportunity for students

References

- Ashford, R. D., Brown, A., & Curtis, B. (2019). Expanding language choices to reduce stigma. *Health Education*.
- Gupta, S., McColl, M. A., Guilcher, S. J., & Smith, K. (2018). Cost-related nonadherence to prescription medications in Canada: a scoping review. *Patient preference and adherence*, 12, 1699.
- Le Dantec, C. A., Poole, E. S., & Wyche, S. P. (2009, April). Values as lived experience: evolving value sensitive design in support of value discovery. In *Proceedings of the SIGCHI conference on human factors in computing systems* (pp. 1141-1150).
- Morgan, S. G., Li, W., Yau, B., & Persaud, N. (2017). Estimated effects of adding universal public coverage of an essential medicines list to existing public drug plans in Canada. *CMAJ*, 189(8), E295-E302.
- Persaud, N., Bedard, M., Boozary, A. S., Glazier, R. H., Gomes, T., Hwang, S. W., ... & Martin, D. (2020). Effect on treatment adherence of distributing essential medicines at no charge: the CLEAN Meds randomized clinical trial. *JAMA internal medicine*, 180(1), 27-34
- Persaud, N., Davidson, M., & Charter, D. (2018). Community members co-designing a trial of medication access. *CMAJ*, 190(Suppl), S44-S45.
- Sanders, E. and P. J. Stappers. 2008. 'Co-Creation and the New Landscapes of Design.' *CoDesign* 4(1):5–18.
- Tritter, J. Q., & McCallum, A. (2006). The snakes and ladders of user involvement: moving beyond Arnstein. *Health policy*, 76(2), 156-168.
- Vaes K (2014) *Product stigmaticity-understanding, measuring and managing product-related stigma*. Delft Academic Press, Delft University of Technology – University of Antwerp, ISBN 978-90-6562-351-5
- Winkler, T., & Spiekermann, S. (2018). Twenty years of value sensitive design: a review of methodological practices in VSD projects. *Ethics and Information Technology*, 1-5.
- Yaphe, H., Adekoya, I., Steiner, L., Maraj, D., O'Campo, P., & Persaud, N. (2019). Exploring the experiences of people in Ontario, Canada who have trouble affording medicines: a qualitative concept mapping study. *BMJ open*, 9(12), e033933.

Kate Sellen

OCAD University, Canada
ksellen@faculty.ocadu.ca
Associate Professor of Design and Canada Research Chair in Health Design

Nav Persaud

MAP Centre for Urban Health Solutions, Canada
nav.persaud@utoronto.ca
Canada Research Chair in Health Justice

Stuart Werle

OCAD University, Canada
swerle@faculty.ocadu.ca
Associate Professor of Design

Mariam Al Bess

OCAD University, Canada
mariam.al-bess@student.ocadu.ca
Graduate student in Health Design

Nick Goso

OCAD University, Canada
ngoso@faculty.ocadu.ca
Associate Professor of Design

Ruslan Hetu

OCAD University, Canada
ruslan.hetu@student.ocadu.ca
Graduate student in Health Design

Habiba Soliman

OCAD University, Canada
habiba.soliman@student.ocadu.ca
Graduate student in Health Design

Alyssa Bernardo

OCAD University, Canada
alyssa.bernardo@student.ocadu.ca
Undergraduate student in Advertising

Norm Umali

MAP Centre for Urban Health Solutions, Canada
umali@rogers.com
Staff Pharmacist