

# Evaluating of a pen-pal curriculum innovation: a novel tool to teach medical students empathy for homelessness

Jackie Tsang[1], Ivona Berger[1], Abirami Kirubakaran[1], Seiwon Park[1], Roxanne Wright[1], Fok-Han Leung[1]

**Corresponding author:** Ms. Jackie Tsang jacki.tsang@mail.utoronto.ca

**Institution:** 1. University of Toronto

**Categories:** Educational Strategies, Research in Health Professions Education

Received: 23/03/2021

Published: 07/04/2021

## Abstract

**Purpose:** Homelessness is one of the most significant social determinants of health, yet it remains difficult to integrate within educational material for pre-clerkship medical students. Current homelessness health curricula are limited and may perpetuate negative stigmas of homelessness. This qualitative study evaluated a Pen-Pal Project curriculum innovation that aimed to facilitate empathy and teaching through letter exchanges, where medical students were paired with community members with a lived experience of homelessness.

**Method:** The researchers explored 10 pre-clerkship medical students' experience in this four-week letter exchange. Semi-structured interviews with medical student participants were conducted in July 2020. Interviews were recorded, transcribed, and coded by two independent coders. Codes were analyzed within code groups for themes, supported by group discussion, and analytic memos.

**Results:** Medical students' impressions of the Pen-Pal Project were overwhelmingly positive and were frequently attributed to developing a genuine and mutually beneficial relationship with a community member. From learning about their pen-pals' emotional experiences with healthcare and homelessness, students partaking in the Pen-pal Project endorsed improved communication, advocacy, and empathy skills. Lastly, although homelessness education was unanimously perceived as important, all students believed that current medical curricula are lacking in this area.

**Conclusions:** These findings contributed to the sparse medical educational efforts on homelessness health and provide a deeper understanding of students' perceptions on an inexpensive and simple tool to facilitate empathy development and community involvement.

**Keywords:** Homeless; Homelessness; Empathy; Medical Education

## Introduction

---

Homelessness is one of the most significant social determinants of health. Compared to the housed population, individuals who experience homelessness face poorer health outcomes that can be attributed to poverty, barriers to accessing healthcare, problems with treatment adherence due to precarious housing security, and increased delays in seeking care (Hwang, 2001). An important consideration contributing to this disparity is the adversity of homelessness, which can subject patients to harsh weather conditions, infectious diseases in shelters (e.g. tuberculosis, scabies), and violence (Khan *et al.*, 2011). Moreover, it is well documented that homelessness is correlated to increased incidence of substance use, mental illness, and premature mortality (Fazel, Geddes and Kushel, 2014). Despite this, patients who have a history of housing insecurity, particularly those who also have a diagnosis of mental illness, often do not seek out medical care due to perceived stigma and barriers to empathy (Zlotnick, Zerger and Wolfe, 2013).

Compassion from physicians has been consistently ranked among the most important needs by patients (Cherlin *et al.*, 2004; Heyland *et al.*, 2006). In addition, a significant determinant of receiving healthcare is whether or not the patient feels comfortable with the physician. Patients who have experienced homelessness often sense stigma during the clinical encounter as well as barriers to empathy.

Despite homelessness being directly correlated with adverse health outcomes, it remains difficult for medical faculty to effectively teach empathy regarding this topic to medical students (Wear and Zarconi, 2008; Sharma, Pinto and Kumagai, 2018). Current medical curricula involve didactic lecture, service-learning placements, and advocacy initiatives with community partners. However, medical students were found to adopt a more negative view of people experiencing homelessness after their undergraduate training, compared to before they began medical school (Masson and Lester, 2003). In order to produce trainees that provide equitable and compassionate healthcare through an anti-oppressive lens, undergraduate medical education has a dire need for reformed homeless health curricula.

To improve students' limited academic exposure to individuals who have experienced homelessness, the researchers developed the "Pen-pal Project". During this four-week project, pre-clerkship medical students exchanged letters with community members with lived experiences of homelessness to fortify their empathy and interactively learn about the social determinants of health.

This study evaluated the Pen-pal Project curriculum innovation that aimed to facilitate empathy through letter exchanges. In addition, we aimed to learn about pre-clerkship medical students' experience during the letter exchange and their views on current homelessness health education at an urban Canadian academic health center.

## Methods

---

**Study design:** This is a qualitative study that conducted and analyzed semi-structured interviews using a grounded theory approach to better understand pre-clerkship medical students' experience of participating in this four-week project, where they exchanged written correspondences with a community member (Watling and Lingard, 2012). The University of Toronto Institutional Research Board approved this study.

**Setting and participants:** Eleven University of Toronto pre-clerkship medical students were recruited to participate in this four-week Pen-pal Project via social media postings. On a biweekly basis for two months, students exchanged anonymous, written correspondences with a community member from a Toronto-based non-profit organization that provides housing and services for disadvantaged individuals and those with mental illness.

Following the letter exchanges, 10 of the initial 11 participants in the Pen-pal Project consented to enroll in this study. All participants were recruited via email in June 2020.

**Interview procedure:** Semi-structured one-on-one telephone interviews with participants were used to evaluate the Pen-pal Project that paired pre-clerkship medical students with community members with lived experience of homelessness and mental illness. The preliminary interview guide was created in collaboration by medical student researchers using iterative review. Then, this draft was shared with the Director of the Health in Community Curriculum (FHL) and the MD Program Experiential Learning Lead (RW), and their expert opinions were used to finalize the interview guide (Appendix 1). Two researchers (JT and IB) conducted the 20-30 min telephone interviews, which were audio recorded, de-identified, and then transcribed verbatim by the same individuals. Each transcript was denoted with a number in chronological order of the interviews.

**Data analysis:** By using a grounded theory methodology, we explored common themes among the interview transcripts. Dedoose (Version 8.0.35, SocioCultural Research Consultants, LLC, Los Angeles, California) was used for coding and analysis. Two authors (JT and IB) independently coded the first two transcripts and organized excerpts into focused codes using constant comparison. Next, the research team reconciled preliminary codes, identified relationships between codes, and categorized codes into groups over several meetings. Consensus was reached and the codebook was finalized with 9 codes. Using the codebook, all ten interview transcripts were coded independently by two coders each. Analysis of the transcripts through group discussions further identified emerging ideas that were grouped into broader themes. To ensure trustworthiness of the data analysis, the team used memoing, reflexivity, and triangulation of data between researchers, including pre-clerkship medical education faculty and staff (FHL, RW).

## Results/Analysis

We interviewed 10 pre-clerkship medical students representing various training years (Table 1). All participants took part in the 4-week Pen-pal Project. They described their experience partaking in the project, as well as their views on current homelessness health curricula and the utility of the Pen-pal Project. Within these narratives, we identified the four overarching themes: (1) evaluation of experience, (2) personal connection with a community member, (3) skill development, and (4) implementation into medical education curriculum.

**Table 1:** Demographic Characteristics of 10 Pre-Clerkship Medical Students Interviewed About Their Experience in the Pen-Pal Project, 2020

Participant Type	No. of Students (%)
Training Level	
MS1	3 (30)
MS2	6 (60)
MD/PhD	1 (10)
Gender	
Female	10 (100)
Male	0 (0)

Abbreviations: MS1, medical student year 1; MS2, medical student year 2

## Evaluation of experience

Medical student participants provided a general appraisal of their experience being part of the Pen-pal Project. While sentiments were overwhelmingly positive, students shared constructive feedback for areas of improvement.

The premise of an anonymous hand-written letter exchange was rated as enjoyable and facilitated a "comfortable form of communication that is also veiled with anonymity" (9). Students also seemed to appreciate the timing flexibility of the anonymous letter exchange. Specifically, students felt that participating was "not time-consuming" (5) and "very easy to fit into my schedule" (10).

This project provided students with the ability to gain deeper insights into the life of a community member. One student felt "blown away with how in-depth my pen-pal was willing to go for this letter. It was really moving reading her story and... it was really emotionally engaging" (4). A student discussed the value of exposure to this specific population:

... I loved that I was able to get connected with someone who either was struggling with mental illness and/or experienced homelessness. [...] I just wanted to know more about their story, we don't necessarily get to interact with people from vulnerable populations outside of the clinical setting. (5)

However, students acknowledged the complex challenges of the anonymous, written communication. One student found that the "written medium was hard, just given the nature of the conversation ...I also felt a little bad not knowing their name" (1). In addition, while participants appreciated the facilitated communication with a specific marginalized population, one student felt "weariness of claiming that perspectives have shifted drastically given such a brief encounter... I think to understand another population would take a lot more work and time on the ground" (9). Finally, eight (80%) students discussed that an opportunity to exchange more letters longitudinally in future iterations of the Pen-pal Project would be beneficial to developing an ongoing meaningful relationship.

## Personal connection with community member

This theme highlights the personal bonds and meaningful relationships between medical students and their pen-pal, wherein both parties reciprocated support, shared insight on lived experiences, and in some cases, developed an ongoing relationship.

Students recognized the uncommonness of connecting with someone that has experienced homelessness on an informal yet deeply personal level. One student shared the letter exchange provided "insight into somebody's life that I would have otherwise not met" (3). One student described the valuable mutual benefit from the letter exchanges:

... We both put a lot of time and effort into this...we were both so invested... I think that was a huge, really impactful moment for me. To see that somebody I never even met, really cares and is invested in my well-being and it was the same on my end as well. (7)

All ten (100%) medical students shared that they gained new perspectives from learning about their pen-pals' sobering realities and lived experiences. One student elaborates: "My pen-pal specifically said that they had felt like they were being ignored, like unheard, by the physicians that they had interacted with in the past" (1). Another student described how "being able to connect to someone that has experienced homelessness on a more personal level made me more cognizant of some of the really real problems this population might be facing" (4). In addition, students learned about the multifaceted nature of homelessness and its intersection with socioeconomic status and

mental health. A student explains:

...A lot of times we'll learn about addictions, we'll learn about mental health, we'll learn about issues with homelessness, but when you see all of it come together and you see one person face all these issues at once... it's so eye-opening... (10)

While the intended timeframe for this project was 4 weeks, five of the ten medical student participants (50%) continued or expressed a desire to continue communicating with their pen-pal beyond the project. One student shares: "I love that I am still keeping in touch with my pen-pal" (5).

### **Skill development**

This theme encompasses medical students' development of their capacity to empathize, communicate, and advocate in the setting of homelessness and mental health.

Students often grappled with their pen-pal's emotional narratives, rendering a student to feel "sadness and a little bit of helplessness" (9) and another student sharing they "couldn't believe the things that [their pen-pal] had gone through... and the way certain medical professionals had made them feel" (2). Nonetheless, reading these raw, personal accounts "brought you a lot closer to the gravity of these situations" (1) and "having a personal connection with someone definitely improved empathy" (6). A student explains:

... The biggest thing that I learned was just a greater sense of empathy because I could tell this person just wanted to be heard and wanted to be validated and that they had been lacking that in so many of their medical experiences... they seemed to be very happy that somebody... going to be a doctor was getting the experience to talk to them. (2)

Students described learning from their pen-pals' letters as "powerful" (8), "really humanizing" (3), and overall contributing to one's understanding and appreciation of their pen-pal's unique lived experience. Important learning outcomes for one student was "not making assumptions and taking the time to listen to people's stories and being empathetic" (7). In reference to a particularly impactful moment in the project, one learner shared:

My pen-pal had really lived through some really challenging things. Both from the perspective of mental health and [...] their life experiences and circumstances. And so, it definitely gave me a lot to reflect on in terms of my privileges as a human being, but also the ways I'm going to interact with people who have different lived experiences... (1)

By being reflexive when encountering communication barriers, five students (50%) endorsed development of their communication skills during this initiative. Some students encountered obstacles such as different literacy levels, language barriers, and sensitive discussion topics. However, students tailored their vocabulary and communication by "using clear, concise, and simple language" (2) and "not say anything that would come off as hurtful or offensive" (10). Furthermore, students affirmed the importance of active listening in their future clinical practice by being "cognizant that your patients might have a lot to say...you should put the effort into listening and hearing about it" (9). Another student described their perspective:

I think that [the Pen-pal Project] reinforced the idea that there is so much more to a person's story than you can just pack into like a 10- or 15-minute appointment... [and] the importance of listening and not making assumptions (7)

Following the letter exchanges, six (60%) students demonstrated an awareness about their professional obligation to

advocate on behalf of marginalized communities. One student acknowledges this revelation, "I can use my roles, and duties, and privileges as a physician to make sure that people are like not only getting the best quality medical care that they can but also being supported in other ways" (1). In response to their pen-pal's experience with discrimination from healthcare providers, one student shared: "I want to do everything to make sure that I never make one of my patients feel that way, and that I could also educate my colleagues and my friends and make sure they weren't making these mistakes as well" (2). Another student sought recommendations from their pen-pal on patient advocacy:

I asked what [my pen-pal] would like to see in the future physicians, what kind of things worked and didn't work when they were dealing with their healthcare professionals, and I think getting to hear what they think really helped me with advocacy because you can use their perspectives and use your own voice, that has [...] perhaps more impact than themselves to raise issues to be heard. (6)

### **Implementation into medical education curriculum**

This theme explores participants' opinions regarding incorporating the Pen-pal Project into the medical education curriculum. Specifically, this theme includes discussions regarding the importance of homelessness health education, current gaps in pre-clerkship medical education, and the educational value and barriers of implementing the initiative into the curriculum.

Students felt that teaching about homelessness health in medical school is important, especially in the context of learning and living in a large urban city, "in a place like Toronto, where we have a significant homeless population" (2). Despite the perceived importance of homelessness health education, all students (100%) that were interviewed felt that their institution's pre-clerkship curriculum is lacking in this aspect. For example, two learners elaborate:

I think [the Pen-pal Project] definitely opened my eyes to where efforts in education need to go... We just kind of glazed over it in medical school... What is that showing to our professional identity when we do become doctors and serve many diverse patients? (8)

Do I think [homelessness health] is adequately taught?... No. Not at all... I think that's part of the reason I was drawn to this project. I think I felt that kind of gap... (9)

In addition, participants shared their sentiments about the medical program's limited educational materials on homelessness health. A common perspective was the lack of human connection and its hindrance to empathy-building in the current homelessness health curriculum. Specifically, one student shares teaching on homelessness is "very quantitative... it lacks the empathy component and it lacks that personal connection." (5). Another student shares a similar sentiment:

I think a lot of times especially in medical school we talk about marginalized populations, it's always from a population lens, never really from, like, a person-to-person sort of lens. (4)

Finally, some students also discussed potential obstacles they foresee with implementing the Pen-pal Project in pre-clerkship medical education. Some considerations include the ethical implications of scaling up this project. One student recommends, "it's important for us to never approach the line of exploiting certain populations in our attempts to learn about them and learn from them" (1). In addition, students speculate that the projects' successful implementation may be contingent on medical students' and community members' interest and dedication in participating.



Nonetheless, the all students interviewed (100%) endorsed the Pen-pal Project as an impactful supplement for the current homelessness curriculum. Moreover, students' ideas for reforming medical education on homelessness often revolved around implementing immersive experiential learning because it "is so much more meaningful than just having a lecture about it, or watching a video telling you the issues on homelessness" (10).

## Discussion

---

This study sought to evaluate a novel pen-pal curriculum innovation as a tool to teach pre-clerkship medical students compassion for homelessness. Pre-clerkship medical students in our study described participating in the Pen-pal Project to be enjoyable, valuable, and flexible in its timelines. The unique letter-writing component contrasted everyday electronic exchanges and afforded students a deeper look into their pen-pal's lived experience with homelessness. This innovation proved to be inexpensive and time-effective, with the potential to be implemented on a larger scale. Moreover, the Pen-pal Project is sustainable amidst the widespread impetus to adopt more remote learning during the COVID-19 pandemic.

To foster stronger bonds between pen-pals, participants suggested for future iterations of the Pen-pal Project to be more than two letter exchanges and to include the option for face-to-face or virtual meetings. Despite the four-week timeline, many students formed meaningful and reciprocal relationships with their pen-pals through sharing and learning from lived experiences, and dedicating time and effort to their letter writing. For some, this resulted in genuine connections that lasted beyond the formal timeline of the Pen-pal Project.

Students that participated in this project developed aptitudes pertaining to the care of vulnerable patients and their professional development. Namely, our results show that competencies in communication, empathy, and advocacy were gained. Communication skills were refined by overcoming literacy and language barriers, and by being attentive towards someone else's narrative. Forming meaningful partnerships and learning about their pen-pal's lived experiences also helped students develop a better sense of empathy for their pen-pals. Accordingly, existing literature states that the role of reflective writing in medical education and professional development facilitates empathy and listening skills through mindfulness, which is the act of being fully present and engaged in the current moment (Shapiro, Kasman and Shafer, 2006). Upon further reflection on their pen-pal's distressing experiences with healthcare, students recognized their professional obligations to advocate for equal treatment on behalf of marginalized individuals. Although this analysis focused on the collective experiences of students, rather than individual relationships, our results highlight how personal interactions between medical students and community members can serve to mold professional identity formation in medical learners.

Students' description of their experience in the Pen-pal Project is in line with sociocultural learning theories, which view learning in the context of deliberate participation in the community and relationships with others (Mann, 2011). Medical students' resoundingly positive appraisals of their experience were frequently attributed to developing a genuine and mutually beneficial relationship with a community member, and the ability to couple their knowledge about social determinants of health to a real story. While our study did not examine the perspectives of the community partners, the bidirectional effort invested into the letter writing suggest these individuals found value in having a medium to share their narratives with future physicians. Community members may further benefit from the Pen-pal Project by gaining social connections in order to attenuate feelings of social exclusion that are often experienced by homeless individuals (Watson, Crawley and Kane, 2016).

Reformation of pre-clerkship medical education curriculum was unanimously supported by students in this study, with 100% of participants acknowledging the gap in education on homelessness health. This includes a lack of formal education, subpar educational materials, and the overlooked humanistic component of homeless health

education. Students' opinions are in line with a recent review which highlighted the lack of patient input in compassion research (Sinclair *et al.*, 2016). Moreover, case-based learning (CBL) in some medical curricula were reported to portray negative connotations of homelessness, which may propagate negative stigmas surrounding this population. For example, some cases implied that homelessness was a product of an individual's self-neglect and other personal factors, without examining societal or extrinsic influences on health and homelessness. In addition, the thoughts and opinions of homeless patients in these cases are rarely included (To, MacLeod and Hwang, 2016).

Furthermore, the students in this study suggested that current lectures and educational materials on homelessness feel inconsequential and focus on statistics rather than individuals' stories. This argument coincides with a systematic review on compassion and empathy education among medical trainees which deemed didactic and/or small group sessions to be ineffective (Patel *et al.*, 2019). It is clear that in order to develop a tool to teach medical students' empathy for the vulnerably-housed, the voices and opinions of individuals who are currently experiencing (or have previously experienced) homelessness should be leveraged, and a novel approach outside of traditional classroom learning should be adopted. Thus, through the exchange of letters, community members and patients can share their experience with medical trainees, which have been underacknowledged in education innovation for too long. Lastly, it has been reported that undergraduate medical education on social determinants of health is rarely in the form of integrated, longitudinal curricula (Doobay-Persaud *et al.*, 2019). Thus, this tool has can be implemented in other undergraduate medical programs and/or adjusted to supplement students' learning about various populations subjected to systemic discrimination.

It is important to note that the study participants reflected the views of a sample of medical students from one Canadian institution that volunteered to participate in the Pen-pal Project. It is possible that the participants were inherently interested in homelessness health or narrative medicine. In addition, all of the participants identified as female. Thus, there are limitations in generalizing our findings to pre-clerkship medical students at large, and those at different institutions. While we relied on self-reported feelings of empathy, measuring empathy in healthcare remains difficult due the lack of consensus on a validated tool or questionnaire (Sinclair *et al.*, 2017). Nonetheless, from the perspective of these students, the most impactful and fundamental aspect of teaching compassion is focusing on human connections. Another critical consideration is that the community members were recruited from a local non-profit organization that provides housing services. However, individuals that experience "hidden homelessness" rely on temporary housing solutions such as living with friends, family, squatting, or otherwise insecure accommodations. This crucial subset of the homeless population was likely not captured in participant recruitment.

We propose that future studies and renditions of the Pen-pal Project should aim for larger sample sizes and more gender-diverse cohorts. In addition, the affordable and flexible nature of this innovation easily allows for longitudinal implementation into medical curricula. Following on-going implementation of this pen-pal educational tool, further quantitative and qualitative measures from not only medical learners, but also community member partners, would be useful in unpacking the impact of this innovation over time.

## Conclusion

---

These findings contributed to the sparse medical educational efforts on homelessness health and provide a deeper understanding of students' perceptions on an inexpensive and simple tool to foster empathy development and community involvement. Translation of these findings includes formal, longitudinal implementation of the pen-pal innovation in undergraduate medical curricula, with a focus on forming meaningful relationships with community members from marginalized populations.



## Take Home Messages

---

- Medical students' impressions of the Pen-Pal Project were overwhelmingly positive and were frequently attributed to developing a genuine relationship with a community member.
- By learning about their pen-pals' emotional experiences with healthcare and homelessness, students endorsed improved communication, advocacy, and empathy skills.
- Although homelessness education was unanimously perceived as important, all students believed that current medical curricula are lacking in this area.
- Letter exchanges are an inexpensive learning tool that spurs empathy in medical learners for individuals of vulnerable populations.

## Notes On Contributors

---

**Jackie Tsang** is a third-year medical student at the Faculty of Medicine, University of Toronto, Ontario, Canada.

**Ivona Berger**, MSc, is a third-year medical student at the Faculty of Medicine, University of Toronto, Ontario, Canada.

**Abirami Kirubakaran**, MSc is a fourth-year medical student at the Faculty of Medicine, University of Toronto, Ontario, Canada.

**Seiwon Park**, PharmD, is a fourth-year medical student at the Faculty of Medicine, University of Toronto, Ontario, Canada.

**Roxanne Wright**, MEd, is the experiential learning lead at the Faculty of Medicine, University of Toronto, Ontario, Canada.

**Fok-Han Leung**, MD, MHSc, is an associate professor in the Department of Family and Community Medicine, University of Toronto, Ontario, Canada.

## Acknowledgements

---

The authors wish to thank Heather Dirckze for her administrative support in the Pen-pal Project.

## Bibliography/References

---

Cherlin, E., Schulman-Green, D., McCorkle, R., Johnson-Hurzel, R., *et al.* (2004) 'Family Perceptions of Clinicians' Outstanding Practices in End-of-Life Care', *Journal of Palliative Care*, 20(2), pp. 113–116.

<https://doi.org/10.1177/082585970402000208>.

Doobay-Persaud, A., Adler, M. D., Bartell, T. R., Sheneman, N. E., *et al.* (2019) 'Teaching the Social Determinants of Health in Undergraduate Medical Education: a Scoping Review', *Journal of General Internal Medicine*, 34(5), pp. 720–730. <https://doi.org/10.1007/s11606-019-04876-0>.

Fazel, S., Geddes, J. R. and Kushel, M. (2014) 'The health of homeless people in high-income countries: descriptive epidemiology, health consequences, and clinical and policy recommendations', *The Lancet*, 384(9953), pp. 1529–1540. [https://doi.org/10.1016/S0140-6736\(14\)61132-6](https://doi.org/10.1016/S0140-6736(14)61132-6).

Heyland, D. K., Dodek, P., Rocker, G., Groll, D., *et al.* (2006) 'What matters most in end-of-life care: perceptions of seriously ill patients and their family members', *CMAJ*, 174(5), pp. 627–633. <https://doi.org/10.1503/cmaj.050626>.

Hwang, S. W. (2001) 'Homelessness and health', *CMAJ: Canadian Medical Association journal = journal de*

*l'Association medicale canadienne*, 164(2), pp. 229–233.

Khan, K., Rea, E., McDermaid, C., Stuart, R., *et al.* (2011) 'Active Tuberculosis among Homeless Persons, Toronto, Ontario, Canada, 1998–2007', *Emerging Infectious Diseases*, 17(3), pp. 357–365.

<https://doi.org/10.3201/eid1703.100833>.

Mann, K. V. (2011) 'Theoretical perspectives in medical education: past experience and future possibilities', *Medical Education*, 45(1), pp. 60–68. <https://doi.org/10.1111/j.1365-2923.2010.03757.x>.

Masson, N. and Lester, H. (2003) 'The attitudes of medical students towards homeless people: does medical school make a difference?', *Medical Education*, 37(10), pp. 869–872. <https://doi.org/10.1046/j.1365-2923.2003.01625.x>.

Patel, S., Pelletier-Bui, A., Smith, S., Roberts, M. B., *et al.* (2019) 'Curricula for empathy and compassion training in medical education: A systematic review', *PLOS ONE*. Public Library of Science, 14(8), p. e0221412.

<https://doi.org/10.1371/journal.pone.0221412>.

Shapiro, J., Kasman, D. and Shafer, A. (2006) 'Words and wards: a model of reflective writing and its uses in medical education', *The Journal of Medical Humanities*, 27(4), pp. 231–244.

<https://doi.org/10.1007/s10912-006-9020-y>.

Sharma, M., Pinto, A. D. and Kumagai, A. K. (2018) 'Teaching the Social Determinants of Health: A Path to Equity or a Road to Nowhere?', *Academic Medicine*, 93(1), pp. 25–30. <https://doi.org/10.1097/ACM.0000000000001689>.

Sinclair, S., Norris, J. M., McConnell, S. J., Chochinov, H. M., *et al.* (2016) 'Compassion: a scoping review of the healthcare literature', *BMC Palliative Care*, 15(1), p. 6. <https://doi.org/10.1186/s12904-016-0080-0>.

Sinclair, S., Russell, L. B., Hack, T. F., Kondejewski, J., *et al.* (2017) 'Measuring Compassion in Healthcare: A Comprehensive and Critical Review', *The Patient - Patient-Centered Outcomes Research*, 10(4), pp. 389–405.

<https://doi.org/10.1007/s40271-016-0209-5>.

To, M. J., MacLeod, A. and Hwang, S. W. (2016) 'Homelessness in the Medical Curriculum: An Analysis of Case-Based Learning Content From One Canadian Medical School', *Teaching and Learning in Medicine*, 28(1), pp. 35–40.

<https://doi.org/10.1080/10401334.2015.1108198>.

Watling, C. J. and Lingard, L. (2012) 'Grounded theory in medical education research: AMEE Guide No. 70', *Medical Teacher*. Taylor & Francis, 34(10), pp. 850–861. <https://doi.org/10.3109/0142159X.2012.704439>.

Watson, J., Crawley, J. and Kane, D. (2016) 'Social exclusion, health and hidden homelessness', *Public Health*, 139, pp. 96–102. <https://doi.org/10.1016/j.puhe.2016.05.017>.

Wear, D. and Zarconi, J. (2008) 'Can Compassion be Taught? Let's Ask Our Students', *Journal of General Internal Medicine*, 23(7), pp. 948–953. <https://doi.org/10.1007/s11606-007-0501-0>.

Zlotnick, C., Zerger, S. and Wolfe, P. B. (2013) 'Health Care for the Homeless: What We Have Learned in the Past 30 Years and What's Next', *American Journal of Public Health*, 103(Suppl 2), pp. S199–S205.

<https://doi.org/10.2105/AJPH.2013.301586>.

## Appendices

---

### Appendix 1

#### Interview guide: Pen-pal Project

1. Can you tell me your age and your gender?
2. What year of medical school are you in?
3. Can you tell me a bit about why you decided to participate?
4. How do you think this experience has developed your professional identity as a future physician?
  - Probe: What specific skills have you gained from this experience, for example: communication skills, advocacy skills, etc.?
5. What has your experience been like emotionally with the pen-pal project?
  - Probe: Were there any powerful moments you can reflect on?
  - Probe: What do you feel you gained from this experience?
6. How has learning about the lived experience of a community member impacted your views about the homeless population?
  - Probe: How do you think the pen-pal project can contribute to students' empathy towards the homeless population, if at all?
7. What was your overall impression of the pen-pal project?
  - Probe: In your opinion, what was the best part of this intervention?
    - Probe: How is this valuable to medical students or medical education?
  - Probe: What did you like the least about the intervention?
    - Probe: How can this be improved for the future?
8. Do you think the topic of homelessness health, including mental health, is adequately taught in the curriculum?
  - Probe: Could you elaborate on why you think that?
9. How important do you think homelessness health is in medical education?
  - Probe: Do you think the pen-pal project would be impactful if implemented as a part of the pre-clerkship curriculum?
  - Probe: How could the University of Toronto make homelessness education the best it could be?
10. Is there anything else that you would like to say about the topics we have discussed today?
11. Is there anything else you feel is important for us to know about your experience?

## Declarations

---

*The author has declared that there are no conflicts of interest.*

*This has been published under Creative Commons "CC BY 4.0" (<https://creativecommons.org/licenses/by-sa/4.0/>)*

## Ethics Statement

---

The University of Toronto Institutional Research Board approved this study (#39486) on June 26, 2020.

## External Funding

---

This article has not had any External Funding

---

MedEdPublish: rapid, post-publication, peer-reviewed articles on healthcare professions' education. For more information please visit [www.mededpublish.org](http://www.mededpublish.org) or contact [mededpublish@dundee.ac.uk](mailto:mededpublish@dundee.ac.uk).