2013; 35: 938–943 MEDICAL TEACHER

Students' experience of prison health education during medical school

HEATHER FILEK, JAMES HARRIS, JOHN KOEHN, JOHN OLIFFE, JANE BUXTON & RUTH MARTIN
University of British Columbia, Canada

Abstract

Background: Social responsibility and accountability can be important core values in medical education. At the University of British Columbia, undergraduate medical students engage in prison health community service-learning opportunities in regional correctional facilities.

Methods: To describe the impact of prison health exposure on pre-clinical medical students, in-depth individual interviews were conducted with individuals who had participated in a prison health medical education program. All interviews were transcribed verbatim, and interpretive descriptive methods were used to inductively derive thematic findings to describe students' experiences.

Results: Major themes emerged as students reported how (1) exposure to incarcerated populations increases students' insight into issues that diverse marginalized sub-populations encounter; (2) positive interactions with the incarcerated individuals enhances relationship building; (3) collaboration reinforces teamwork skills and (4) community placements garner important learning opportunities within the medical school curriculum.

Conclusions: Our findings demonstrated that pre-clinical exposure to incarcerated individuals and prison health education provided a unique setting for medical students to develop an increased sense of social responsibility and accountability.

Background

Community-based service learning projects offer an opportunity for students to work in a community setting while "placing equal emphasis on student learning and the provision of meaningful community service" to diverse sub-populations (Cashman & Seifer 2008). Dharamsi et al. (2010a) reported that community service-learning (CSL) projects enable medical students to gain better insight into the social determinants of health through first-hand interactions with marginalized populations. Service learning aims to increase students' awareness of community programs or populations while fostering social responsibility among future health care providers (Hunt et al. 2011); as defined by Faulker and McCurdy (2000), a socially responsible individual is "a person who takes part in activities that can contribute to the happiness, health and prosperity of a community and its members." Social accountability focuses on responding to the diverse health care needs of the communities a physician serves, including delivering health care to its underserved populations (Association of Faculties of Medicine of Canada 2009). Unfortunately, some medical students experience a decline in empathy towards patients and underserved populations throughout medical school (Crandall et al. 2007). To address this, some medical school curriculums purposely integrate social awareness experiences as a means to increasing social responsibility and accountability of future physicians (Dharamsi et al. 2010a).

The Canadian Medical Education Direction for Specialists or "CanMEDS" is a competency framework that designates seven roles in which health care provider proficiency garners optimal health outcomes (Frank & Jabbour 2005). The service learning project incorporates several of these roles, including Communicator, Collaborator, Professional and Health Advocate: all of which are considered essential attributes for physicians (Frank & Jabbour 2005). Increased social responsibility assists medical students to "develop, or have reinforced, such qualities as reliability, trustworthiness, dependability, altruism and compassion" (Faulkner & McCurdy 2000).

Prison facilities are a unique setting for medical students to do both clinical electives and service learning projects. Incarcerated men and women have unique health care needs including psychiatric disorders, poorly managed chronic conditions and infectious disease such as HIV and hepatitis

Practice points

- Non-clinical service learning opportunities in correctional facilities create an unique avenue for development of social responsibility.
- Exposure to incarcerated populations increases students' insight into issues that diverse marginalized sub-populations encounter.
- CSL projects provide valuable reciprocal learning opportunities.
- The creation and presentation of population-specific health education modules demonstrates student competencies in both the Collaborator and Communicator roles.

Correspondence: Heather Filek, UBC Medicine, c/o Dr Ruth Elwood Martin, Rm 157 – 2206 East Mall, Vancouver, BC V6T 1Z3, Canada. Tel: 1 604 822 2496; fax: (attn Dr. Ruth Martin) 604 822 4994; email: heather.filek@alumni.ubc.ca

ISSN 0142–159X print/ISSN 1466–187X online/13/110938–6 © 2013 Informa UK Ltd.
DOI: 10.3109/0142159X.2013.827330

(Alemagno et al. 2004). Clinical electives for medical students in the prison health care system provide an avenue to increase students' awareness of the predominant pathologies most often impacting this marginalized sub-population (Wakeman & Rich 2010). However, limited research has been published regarding the value of non-clinical prison experiences for medical students. We suggest that placements within prison facilities provide a valuable *non-clinical* experience as students are exposed to many of the social issues experienced by incarcerated individuals. Kaufman et al. (1979) stated that exposure to the diverse populations within prison allows students to gain increased empathy for incarcerated men and women. In addition, Wakeman and Rich (2010) state that establishing early exposure to marginalized populations is an essential step for "fostering social accountability" in medical students or graduates. Learning from an underserved, marginalized population can promote a greater insight into the social determinants of health and the unique health challenges facing diverse sub-populations (Littlewood et al. 2005; Smith & Weaver 2006).

In 2007, at the University of British Columbia, second year medical students, under faculty mentorship, initiated and developed prison learning opportunities through a community service-learning option (CSLO) in the Doctor, Patient and Society (DPAS) course. This optional CSL component of DPAS has continued and involves presenting health education seminars to groups of 6–15 inmates in provincial correctional facilities around the Greater Vancouver regional district. Medical students provide preventive health messages through presentations on topics including basic hygiene, mental health, infectious disease, women's health and the health care system. In 2009/2010 alone, students provided 36 seminars to over 600 incarcerated individuals at three correctional centers.

This article describes medical student's experiences of working in prison health within a non-clinical setting and details their subjective increased sense of social responsibility through their interaction with the incarcerated individuals.

Methods

Study design, sample and recruitment

This qualitative study used interpretive descriptive methodology (Thorne 2008) to describe how medical students' experiences of working with a marginalized sector of society through prison health projects increases their awareness of social accountability and responsibility. University ethics approval was obtained and potential participants (medical students who participated in the CSLO Prison Health project between 2007 and 2012) were contacted with an emailed invitation letter. Participant inclusion criterion was restricted to medical students who, as undergraduate medical students, had worked in the prison system to collaboratively design and present health education modules for incarcerated men and women. Invitation emails were sent to 33 potential participants; a convenience sample comprising the initial participant respondents to the invitation email was used and each participant signed a consent form.

Data collection

Semi-structured, individual, in-depth telephone interviews were conducted and digitally recorded. The first author (HF) conducted the interviews. Participants were asked to describe their involvement in the prison health education project. An interview guide was used to prompt participants to explain previous exposure to, and perceptions of marginalized populations in highlighting what resonated most with them about working with individuals within the correctional facilities. Participants also shared their opinions about the benefits of having medical students work with incarcerated individuals amid discussing their personal experiences and predicted impact on their future practice as a physician. The interview questions were based on published literature reviews that focused on important aspects of experiential learning (Littlewood et al. 2005; Cashman & Seifer 2008; Dharamsi et al. 2010b). Interviews lasted 20–35 minutes, and were transcribed verbatim and reviewed for accuracy. Each transcript was assigned an ID number and all identifiers were removed from the transcript. Though minimal risk, counseling services were available for study participants should any distress have been experienced as a result of their participation in the interview. Additionally, participants completed a short survey via an online Canadian-based survey program, Fluidsurveys™ to provide individual demographic data; survey data was not linked to interview data.

Data analysis

All interview transcripts were open coded, line by line to identify emergent and convergent topics arising from the data. As interviews and analysis proceeded, thematic saturation was reached with 10 interviews. Codes containing similar content were clustered together to create categories, and as data analysis continued some categories were subsumed. Themes were inductively derived through consensus building processes among the co-authors. Specifically, the authors examined recurring categories and ideas across the interviews as a means to identifying and labeling "themes and patterns within subjective perceptions" (Thorne 2000). Co-authors reviewed the transcripts independently and then met to review themes and discuss any varying opinions or views that may have arisen. Thematic patterns were inductively derived through these analytic processes to describe how medical students' experiences of working with a vulnerable, marginalized sector of society through prison health projects created a subjective increase in social responsibility.

Results

Four main themes emerged through analysis of students' experiences: (1) exposure to incarcerated men and women increases students' insight into issues and challenges that marginalized sub-populations may encounter; (2) positive interactions with the incarcerated individuals enhances relationship building; (3) collaboration reinforces teamwork skills

and (4) community placements garner important learning opportunities within the medical school curriculum.

Exposure to incarcerated men and women increases students' insight into issues and challenges that marginalized sub-populations may encounter

The most prominent theme revealed participants' subjective perception of an increased insight into the issues and challenges of diverse populations that, previously, students had limited, if any direct experience with. Through the project, students indicated that each interaction with seminar participants allowed them to discover characteristics of the several distinct sub-groups within the prison population.

> The value of having prison health as part of medical school is that it exposes you to more or less every marginalized population you could imagine. It's the immigrants, it's women, it's homeslessness, it's aboriginal, it's drug addicted . . .

Participants described learning *from* the incarcerated individuals during the presentations despite their expectations that they would fulfill a teaching role. Through listening to the stories and questions from the audience, students reported that they gained insights into the various knowledge levels of inmates, and many study participants expressed a newfound appreciation for the "*diversity of [incarcerated individuals'] understanding of health*." Also, students noted an increased awareness of the numerous misconceptions present regarding personal health care. For example, many inmates had misinformation regarding how to make a doctors appointment or how HIV was transmitted whereas others were quite informed about health care systems and services. One participant suggested:

> It was kind of a two-way street because we were giving the presentation and we were also learning about what people knew and didn't know about the health care system

Furthermore, many students reported learning the importance of adapting presentations to the audience to facilitate communication and maximize learning. Students stated that the interactions with the incarcerated individuals during the presentations helped them learn how to appropriately disseminate information and "*adjust [their] communication*" to reach specific attendees – an important transferable skill for future practice as a health care provider.

Several students stated that exposure to the diverse issues and challenges faced by people who are incarcerated provided a greater level of insight into many social issues. One participant predicted his/her undergraduate experiences ensured "*that initial bit of judgment won't be there*" while another participant explained:

> There's a federal prison here, just down the street actually and so having experienced prison medicine in undergrad, it, it's no longer intimidating because we experienced it and learned more about it and came to respect it.

Positive interactions with the incarcerated individuals enhances relationship building

During the presentations in the correctional facilities, students perceived a warm welcome from the audience comprising of incarcerated individuals. Students expressed surprise at how eager and receptive the audience members were to learning from the students.

> We got really good feedback from the inmates themselves. They seemed really happy to have us there and that positive interaction was something we'd hoped to foster.

In many ways, the interaction with the men and women in the correctional facilities provided an opportunity to build a positive relationship between the incarcerated persons and "*a group of young people, about to enter the medical field*." Ideally, these interactions would improve future relationships between individuals with incarceration experience and health care providers. One participant emphasized that an important aspect of enhancing relationships includes addressing one's own stigma and preconceived ideas:

> So I think I developed a sense of compassion for a group of people that I didn't previously understand as well. Hopefully that makes me a better physician for that.

Collaboration reinforces teamwork skills

Throughout the project, students liaised with their medical student colleagues, faculty members, prison administration through correctional services and on-site prison guards. The opportunities to work with "*social workers, nurses [and] prison guards*" were seen by students as chances to work in a team and proved to be "*very collaborative*." The medical students also worked together as a team to fulfill their teaching role during the presentations. Students stressed the importance of "*knowing [their] role*" on the team and ensuring that their presentations were interactive and engaging. A few students also stated they gained an appreciation for what it is like to work in an unfamiliar system – specifically a forensics system and the challenges and barriers that affect teamwork in these settings. Additionally, some students described similarities between the stressful situations they encountered in the prisons and hospital wards. As one student stated:

> . . . hospitals can be very stressful working environments and things need to be respected in order for procedures to go smoothly and it's the same thing in prison. I think it prepares one for working in any other team environment.

Community placements garner important learning opportunities within the medical school curriculum

The impact of experiential learning was demonstrated to students as they interacted with incarcerated men and women and experienced first hand how the incarcerated persons

Table 1. Distribution of self-reported demographic factors of male and female interview participants ($N = 10$).

	Participants ($N = 10$)	
	Female ($N = 5$)	Male ($N = 5$)
Gender	5	5
Mean age at time of interview (years)	26	27
Mother has university education ($N = 9$)	4	2[a]
Father has university education ($N = 9$)	4	4[a]
Canadian citizen	5	5
Birth location was rural[b]	2	0
Raised in urban location	3	5
Previous experience working with marginalized populations	5	2

Note: [a]Data missing from one interview participant.
[b]Rural is a community with population less than 12,000.

"*broke the stereotypes*" that many students expected from watching shows on *"TV land."* As one student explained:

> It's not something you could learn in a textbook. We have presentations in <school course> about different marginalized populations but you can't really learn about it . . . its only through interacting with the people that you can break down the stereotypes that you have and start to feel more comfortable

In addition to building a positive rapport with the inmates, students found that, overall, they felt comfortable and safe in the prison environment which is something many students previously worried about due to many stereotypes regarding the safety of correctional facilities.

Students felt that their learning experience in the correctional facilities was a beneficial supplement to traditional lecture-based curriculums in the pre-clinical years of medical school. Students were self-motivated to research answers when unable to answer questions posed by audience members during the presentation.

> It gave me a concrete experience to go with what I have learned in class. Information became applicable when explaining sexually transmitted infection (STI) testing in a women's correctional facility, after learning about STIs in lecture and textbooks.

At time of interview, participants' level of medical education training ranged from second-year undergraduate to first-year post-graduate residency, with at least one interview participant in each level of training (Table 1).

Discussion

Service-learning projects can facilitate students' interactions with marginalized populations that allows students to gain a deeper insight into the social issues affecting incarceration persons (Borges & Hartung 2007). Medical education literature demonstrates the benefit of community service learning projects with many of these projects focused on clinical avenues for students to interact with underserved populations (Littlewood et al. 2005; Averill et al. 2007; Cashman & Seifer 2008). Many service-learning opportunities for medical students are offered through clinical electives in clinics or other facilities that focus on primary health care issues of marginalized populations (Littlewood et al. 2005; Borges & Hartung 2007). The findings of our study are unique in that they suggest that non-clinically based opportunities can also provide a beneficial environment for pre-clinical medical students to gain awareness of social determinants of health related to diverse sub-populations.

Many medical students experience a decrease in commitment towards working with underserved populations from the time of starting medical school to graduation (S. J. Crandall et al. 1993; S. J. S. Crandall et al. 2007). Recent years have seen a change in medical education as many medical schools now offer service-learning opportunities for students – in a large part, to limit the decline of empathy towards marginalized populations through early exposure (Littlewood et al. 2005). Through the DPAS CSLO projects in the UBC MD undergraduate program, students have been involved in a non-clinical service learning opportunity at regional correctional facilities. The findings derived from our participant interviews demonstrate that the prison health project highlighted increasing awareness of diverse populations, which is a fundamental component of social accountability, thus providing a beneficial educational environment for students. Students were able to interact with incarcerated men and women during the presentations, hear stories and consider questions; these interactions assisted students to better grasp both the incarcerated individuals' backgrounds and misconceptions regarding health care practices. A major theme emerging from the student interviews suggests that exposure to marginalized populations in a safe, interactive environment increases students' insight and empathy for the challenges faced by the prisons' diverse populations. Awareness of the concerns of different populations is intricately connected to the social accountability of the Health Advocate component of the CanMED competencies (Frank & Jabbour 2005). Students reported an increased awareness of their target population through the CSLO projects and described feeling better equipped to interact with marginalized individuals in the health care field in the future.

Students reported surprise at how their experience in the correctional facilities was truly a reciprocal learning process. Students entered the project with the expectation of "teaching" the health educational modules; however, many of the medical students learned more than they had expected from the incarcerated individuals. Through stories, questions and group discussion, students reported gaining insights into some of the social issues of the inmates' lives, issues which consequently affect health outcomes. The reciprocal learning process has been reported by Dharamsi et al. (2010b) as an outcome of CSLO projects – specifically community members and dental students, were able to learn from each other while collaborating on a community-based service learning project. The value of this reciprocal learning suggests medical schools might benefit from systematically incorporating such learning opportunities into curriculums.

Students also incorporated problem-based learning (PBL) pedagogies into the seminars in the correctional facilities. Many medical schools use a PBL approach in the pre-clinical years to challenge students to work through cases either in a lecture or tutorial setting (Dolmans et al. 2005). Barrows (1986) proposed taxonomy to classify PBL methods, including a method labeled "case method" where discussion is facilitated by the teacher but interactive for both the teacher and students. Through the prison health education projects, medical students themselves embodied PBL "case methods" as participant interviews suggested that much of the student learning came through the facilitation of conversations and discussions with incarcerated individuals.

Additionally, our results are consistent with the literature showing that correctional facilities offer a unique setting for medical students to interact with at-risk populations. Several opportunities around North America exist for health care students to gain experience working in correctional facilities (Alemagno et al. 2004; Provident & Joyce-Gaguzis 2005; McGarry et al. 2008). Almengo et al. (2004) reported a diverse range of pathologies that students encountered in the correctional facility clinical setting as well as diverse populations. Kaufman et al. (1979) described the unique educational experience in correctional facilities, as there were consistently a wide variety of medical problems and truly introduced the "complexities of primary health care problems" to medical students.

Kaufman et al. (1979) stated that exposure to the different populations within the prisons decreased stigma towards incarcerated individuals as well as increased interest in considering prison medicine as a future career option. Physicians' own stereotypes about their patients can have a significant impact on clinical care (Wear & Kuczewski 2008). A theme arising from our interviews showed that students felt able to break down the stereotypes from "TV land" that they had encountered and to acknowledge these stereotypes during medical school training. Hopefully this will be an impactful experience that will affect doctor-patient interactions in future practice.

The small convenience sample is a limitation to this study. While 33 medical students have participated in the prison health education project since it began, 10 students were interviewed. There were likely certain factors that prompted each medical student to self-select to participate in the prison health project and subsequent interviews; however, these factors were not directly solicited from participants. Ideally, the CSL project at UBC will expand to allow more medical students to participate in gaining similar exposure during medical school. Future work includes potential expansion to other Canadian medical schools to implement similar prison-based projects into their medical school curriculum.

Conclusion

This study supports non-clinical service-learning educational opportunities as an avenue for medical students to develop a sense of social responsibility and more. Students' interaction with incarcerated individuals can contribute to the development of social awareness among future health care providers.

Acknowledgements

We would like to thank the BC Corrections staff for their continued support of the CSL program. We appreciate the time and receptiveness of the incarcerated individuals who attended the sessions.

Declaration of interest: This project was funded by a Summer Student Research Program (SSRP) grant - from the UBC Faculty of Medicine. The authors report no conflict of interest. The authors alone are responsible for the content and writing of this article.

Glossary

Socially responsible individual: A person who takes part in activities that can contribute to the happiness, health and prosperity of a community and its members.
Faulkner, L.R. & McCurdy, R.L. 2000. Teaching medical students social responsibility: the right thing to do. Acad Med, 75(4), pp. 346–350.

Social accountability: Focuses on responding to the diverse health care needs of the communities a physician serves, including delivering health care to its underserved populations.
Association of Faculties of Medicine of Canada, 2009. The Future of Medical Education in Canada (FMEC): A Collective Vision for MD Education. Association of Faculties of Medicine of Canada.

Professionalism: Adherence to a set of values comprising both a formally agreed-upon code of conduct and the informal expectations of colleagues, clients and society. The key values include acting in a patient's interest, responsiveness to the health needs of society, maintaining the highest standards of excellence on the practice of medicine and in the generation and dissemination of knowledge. For full definition see: http://www.mededworld.org/Glossary.aspx

Notes on contributors

HEATHER FILEK and JAMES HARRIS are undergraduate medical students at the University of British Columbia.

JOHN KOEHN is a family medicine resident at the University of British Columbia involved in health advocacy research with the UBC Collaborating Centre for Prison Health and Education.

JOHN OLIFFE is an associate professor at the UBC School of Nursing.

JANE BUXTON is an associate professor at the UBC School of Population and Public Health and the second year Doctor, Patient and Society course director.

RUTH MARTIN is a clinical professor at the UBC Department of Family Practice, and associate faculty at the UBC School of Population and Public Health.

References

Alemagno SA, Wilkinson M, Levy L. 2004. Medical education goes to prison: Why? Acad Med 79:123–127. [Accessed 14 June 2012] Available from http://www.ncbi.nlm.nih.gov/pubmed/14744711.

Association of Faculties of Medicine of Canada. 2009. The future of medical education in Canada (FMEC): A collective vision for MD education. Association of Faculties of Medicine of Canada. [Accessed 4 June 2013] Available from http://scholar.google.com/scholar?hl=en&btnG=Search&q=intitle:The+Future+of+Medical+Education+in+Canada+(FMEC):+A+collective+vision+for+MD+Education#5

Averill NJ, Sallee JM, Robinson JT, McFarlin JM, Montgomery AA, Burkhardt GA, Schulz-Burton MD. 2007. A first-year community-based service learning elective: Design, implementation, and reflection. Teach Learn Med 19:47–54. [Accessed 10 September 2012] Available from http://www.ncbi.nlm.nih.gov/pubmed/17330999.

Barrows HS. 1986. A taxonomy of problem-based learning methods. Med Educ 20:481–486. [Accessed 17 January 2013] Available from http://www.ncbi.nlm.nih.gov/pubmed/3796328.

Borges NJ, Hartung PJ. 2007. Service learning in medical education: Project description and evaluation. iJTLHE 19:1–7.

Cashman SB, Seifer SD. 2008. Service-learning: An integral part of undergraduate public health. Am J Prev Med 35:273–278. [Accessed 20 July 2012] Available from http://www.ncbi.nlm.nih.gov/pubmed/18692742.

Crandall SJS, Reboussin BA, Michielutte R, Anthony JE, Naughton MJ. 2007. Medical students' attitudes toward underserved patients: A longitudinal comparison of problem-based and traditional medical curricula. Adv Health Sci Educ 12:71–86.

Crandall SJS, Volk RJ, Loemker V. 1993. Medical students' attitudes toward providing care for the underserved. Are we training socially responsible physicians? J Am Med Assoc 269:2519–2523. [Accessed 31 August 2012] Available from http://www.ncbi.nlm.nih.gov/pubmed/8487415.

Dharamsi S, Espinoza N, Cramer C, Amin M, Bainbridge L, Poole G. 2010a. Nurturing social responsibility through community service-learning: Lessons learned from a pilot project. Med Teach 32:905–11. [Accessed 20 July 2012] Available from http://www.ncbi.nlm.nih.gov/pubmed/21039101

Dharamsi S, Richards M, Louie D, Murray D, Berland A, Whitfield M, Scott I. 2010b. Enhancing medical students' conceptions of the CanMEDS Health Advocate Role through international service-learning and critical reflection: A phenomenological study. Med Teach 32:977–982. [Accessed 20 July 2012] Available from http://www.ncbi.nlm.nih.gov/pubmed/21090951

Dolmans DHJM, De Grave W, Wolfhagen IHAP, van der Vleuten CPM. 2005. Problem-based learning: Future challenges for educational practice and research. Med Educ 39:732–741. [Accessed 5 November 2012] Available from http://www.ncbi.nlm.nih.gov/pubmed/15960794

Faulkner LR, McCurdy RL. 2000. Teaching medical students social responsibility: The right thing to do. Acad Med 75:346–350. [Accessed 1 September 2012] Available from http://www.ncbi.nlm.nih.gov/pubmed/10893116.

Frank J, Jabbour M. 2005. CanMEDS 2005 framework. The Royal College of Physicians and Surgeons of Canada, pp 1–11.

Hunt JB, Bonham C, Jones L. 2011. Understanding the goals of service learning and community-based medical education: A systematic review. Acad Med 86:246–251. [Accessed 10 August 2012] Available from http://www.ncbi.nlm.nih.gov/pubmed/21169780

Kaufman A, Holbrook J, Collier I, Farabaugh L, Jackson R, Johnston T. 1979. Prison health and medical education. J Med Educ 54:925–931.

Littlewood S, Ypinazar V, Margolis SA, Scherpbier A, Spencer J, Dornan T. 2005. Early practical experience and the social responsiveness of clinical education: Systematic review. Br Med J 331:387–391.

McGarry K, Clarke JG, Landau C, Cyr MG. 2008. Caring for vulnerable populations: Curricula in U.S. internal medicine residencies. J Homosex 54:225–232. [Accessed 10 September 2013] Available from http://www.ncbi.nlm.nih.gov/pubmed/18825860.

Provident IM, Joyce-Gaguzis K. 2005. Creating an occupational therapy Level II fieldwork experience in a county jail setting. Am J Occup Ther 59:101–106. [Accessed 8 September 2012] Available from http://www.ncbi.nlm.nih.gov/pubmed/15707129.

Smith JK, Weaver DB. 2006. Capturing medical students' idealism. Ann Fam Med 4:32–37.

Thorne S. 2000. Data analysis in qualitative research. Evid Based Nurs 3:68–70.

Thorne S. 2008. Interpretive description. California: Left Coast Press.

Wakeman SE, Rich JD. 2010. Fulfilling the mission of academic medicine: training residents in the health needs of prisoners. J Gen Intern Med 25:S186–S188. [Accessed 31 July 2012] Available from http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=2847121&tool=pmcentrez&rendertype=abstract

Wear D, Kuczewski MG. 2008. Perspective: medical students' perceptions of the poor: what impact can medical education have? Acad Med 83:639–645. [Accessed 26 December 2012] Available from http://www.ncbi.nlm.nih.gov/pubmed/18580079.