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**Participatory community oriented learning: a way to introduce medical students to social accountability?**


## Abstract

**Background:** The Bar Ilan Faculty of Medicine values are framed within social accountability. Its new public health course introduces students to concepts of social accountability and community engagement through a participatory community learning experience.

**Aims:** To examine the impact and ascertain students' perceptions on participatory community methods.

**Methods:** 75 first year students completed the required public health course utilizing participatory community methods, including community projects, Team Based Learning, an ethnic forum, and lifestyle medicine. Evaluation comprised skills assessment through project work, qualitative methods to ascertain students' perceptions and comparison of assessment scores with students in the previous year that experienced a formal lecture-only based curriculum.

**Results:** Students acquired public health skills, including conducting a needs assessment, critical reading of research evidence and designing an evaluation framework. Reflective notes revealed in-depth understanding not only of course aims, but an appreciation for the community where they live. Test marks indicated public health knowledge reached a comparable standard ($83 \pm 7.3$) to the previous year ($85 \pm 9.3$; $p=0.431$).

**Conclusions:** Participatory community learning equips students with public health skills, knowledge, and enhanced understanding of communities. It offers a way to

effectively teach public health, while emphasizing the extended role and societal responsibilities of doctors.

Keywords: community oriented learning, social accountability, public health, medical education, curriculum development

**Practice Points**

- Exposure of medical students at an early stage of their training to community work within a required public health course is effective at imparting knowledge and public health skills.
- Community public health work in a non-medical setting was highly valued by medical students. It successfully engaged them in learning about health problems and needs in the local community and additionally enhanced a sense of belonging to the community.
- Teaching public health through requiring students to engage actively with local communities may be an effective way for medical schools to become more socially accountable.

## INTRODUCTION

During the past decade, there have been significant changes in medical education, with a shift towards community-oriented service learning activities (McMenamin et al., 2014; ASPIRE 2013; Boelen & Woollard, 2011; Christopher et al., 2002;). The community-oriented learning approach has been further strengthened by the World Health Organization (WHO) call for medical schools to be socially accountable (WHO, 1995). The WHO defines Social Accountability as the

"obligation to direct education, research, and service activities towards addressing the priority health concerns of the community, region, and the nation that they have a mandate to serve" (Boelen & Heck, 1995). The Global Consensus for Social Accountability of Medical Schools (2011) is working to integrate social accountability as a core standard in the accreditation of health care education. Social accountability in medical education demands community orientation and an emphasis on community outreach (Murray et al. 2012; Hennen 1997). Although community service learning is developing as an area within professional health training, a recent systematic review indicates a lack of evidence for its impact on student learning outcomes (McMenamin et al., 2014).

The Bar Ilan Faculty of Medicine in the Galilee is Israel's fifth and newest medical school. It was established in 2011 in the Galilee region to help improve health of the Northern periphery, home to a significant percentage of the country's most disadvantaged populations. This region is characterized by low income families, low education levels, and high unemployment. Over 37% of the region's population live in poverty and the majority of towns rate lower than 5 on the national socio-economic 10 step ladder (Brookdale Institute, 2012). The region is diverse comprised of citizens from various backgrounds (including ultraorthodox Jews, Ethiopian and Russian immigrants, Druze, Christian and Muslim Arabs), each group with unique cultural and religious beliefs that impact their health. Arabs form a majority of the Galilee population (52%) with 46% of all Israeli Arabs living in the region (CBS, 2013).

The Bar Ilan Medical Faculty's values are framed within the concepts of social accountability. In line with the WHO consensus (Boelen & Heck, 1995), a new public health course was designed to engage with community organizations and

provide students with an understanding of the local public health needs. The medical school strategically placed the course, which is a compulsory requirement for all students, as the first course on entry into medical training. This places emphasis on its relevance, provides a context for the students for where they have chosen to live and study, and exposes them to critical public health skills and capacities that they will need in their future medical careers. The course aims to introduce students to social determinants of health, and the role that doctors can play in promoting health equity. Understanding the true health needs of the local community is placed as a priority through a community-based project. This requires students to take on the "role" of public health experts, including active engagement with identified community organizations to conduct a health needs assessment, and ultimately by the end of the project provide recommendations to the organization regarding the health of the vulnerable populations they serve.

Exploration of the literature suggests that community visits and placements are common in the undergraduate curriculum. However, most are over an extended period of time, and predominantly involve placements in medical clinics and facilities rather than community organisations working with the vulnerable in a broader sense. The few studies that have been implemented with non-clinical placements show strong positive outcomes. Evaluation of the Community Based Practice Program in Australia's Monash University concluded that non-clinical placements developed student's communication skills, their appreciation of non-medical community health support, and understanding of local community health (Goodall, 2012). Similarly, the Urban and Community Health Pathway program at the Medical College of Wisconsin in the U.S. found that students favored community sessions over classroom lectures and ranked the program highly valuable to their preparation as physicians (Meurer et

al., 2011). Placements were typically at least six weeks in duration with some lasting up to 3 years.

To our knowledge, our form of a brief community engagement within the context of public health teaching is new, and certainly at such an early stage of students' training. However, as a significant proportion of the students' time during this public heath course was spent on project work, time available for formal teaching through didactic lectures was reduced. We were interested to evaluate what benefits resulted from this approach, including the early introduction to community based project work, whether they had gained the intended competences and understanding in public health, and whether, as a result of the time-consuming project components and consequential reduction in didactic delivered teaching, their knowledge base for public health was jeopardized.

## METHODS

### The public health course – teaching methods and content

Community projects with local organizations:

Twelve community organisations (Table 1) were recruited, with the help of the local branch of the Safed Center for Young Adults, to participate in the project. A group of six students posing as a team of public health experts visited the organization on two occasions: first to understand their work and the population they serve, and second to present the results and recommendations. Between the two visits, students were instructed through lectures and tutor-facilitated small groups how to seek socio-demographic data to help them understand the health needs of the community, how to search the literature to clarify evidence based information relevant to the organization, and how to design an evaluation framework for future use.

At the end of the 3 week course, students presented their work in report format as well as by oral presentation to their peers, faculty members, and community organisation's staff.

**(insert Table 1)**

Supporting components in the Public Health course

To facilitate students' understanding of the region, sessions focusing on health inequalities, social determinants of health and the diverse cultures and religious beliefs in the area were included. Given the centrality of lifestyle and behavior to health, especially for the vulnerable, lifestyle medicine was also given a particular focus.

- **Ethnic forum**: A forum of religious leaders/medical professionals from each of the predominant religious groups in the region (Judaism (Haredi), Christianity, Islam, and Druze) engaged in dialogue and debate introducing students to the influence of religion on different health issues, including abortion, euthanasia, women's health, and pregnancy.
- **Health inequalities:** Students were introduced to the concepts of health inequalities through a Team Based Learning (TBL) exercise (Belsher and Epstein, 2008). Students were required to read the document Inequalities in Health in Israel produced by the Israeli Medical Association, which highlights the problem of health inequity and the doctor's role in attempting to 'close the gap'. The exercise involved a multiple choice test completed first by the individual student and then in groups. This was followed by facilitated small group discussion on the responsibility of doctors and professional bodies in tackling health inequalities.

- **Lifestyle medicine**: A day long activity (6 academic hours) was arranged incorporating lectures on stress, physical activity, and nutrition. To encourage students to become role models from the start of their training, formal sessions were followed by practical exercises: a healthy cooking demonstration by a physician chef, aerobic and anaerobic physical activity and a yoga class.

The course also included set of lectures, covering key aspects of public health including epidemiology and screening, health promotion, preventative health, health inequalities, and health of the Galilee population.

## Evaluation of the course and its impact

*Students' rating of* the course

At the end of the course, students completed an online feedback questionnaire evaluating different components of the course using a Likert Scale of 1-5, anchored with descriptors. This covered the community-oriented activities, traditional lectures, and rating of lecturers. Additionally, an oral feedback session was held following completion of the course to gain further insight and feedback from students about their views and perceptions of the course components.

*Students' views and the value th*ey placed on the community work

Qualitative methods were utilized to evaluate the students' perceptions of the community oriented learning experience. In addition to their group report, students were asked to write reflective notes on their experience in the community and reflect on what they thought was successful and what was challenging. They were informed that the reflective notes would not be assessed.

Reflective notes were analyzed independently by two researchers. The analysis involved careful reading of the reflective notes, making detailed notes

identifying key initial themes. The notes were then re-read, and text was analyzed by recording quotes and key concepts. Main themes expressed were analyzed for each reflective note. Finally, discussion and comparison of the main themes between the researchers was made, with clarification and reanalysis to achieve agreement and categorization into the five prominent themes that emerged.

Skill and knowledge gains by the students

Students undertook weekly knowledge based multiple choice question tests to assess acquisition and progress of knowledge. These were similar to those administered in the previous year (without questions on occupational and environmental health) and thus were able to be compared with the previous cohort to ascertain if reduction in conventional lecture hours had reduced students' knowledge of public health.

Additionally for this cohort, the reports and PowerPoint presentations from the community projects were assessed by 5 examiners using an explicit criterion based marking schema looking for evidence of skills gained in conducting a needs analysis, searching the literature and applying the evidence and designing an evaluation framework.

## **RESULTS:**

Seventy five students were enrolled in the public health course in 2012 and 70 in 2011. Comparison between learning and teaching components of the two years showed that the new course from 2012 involved 35 hours of community work, 12 hours of additional small group work, and 40 lecture hours (87 hours in total) whereas the course in 2011 involved 90 lecture hours and no other activities. As a result of the community-oriented focus, traditional lectures hours in the new course were less than

half of the previous year, with less focus on environmental and occupational health (see Table 2).

**(insert Table 2)**

Student feedback on the course:

Figure 1a presents the student's ranking of the different components of the public health course. The course was rated highly with 'satisfaction from teachers' gaining especially high ratings (4.4 on a five point scale). Figure 1b presents the students' perceptions of the community project. Students' views on the value of the project was 3.96 +/- 0.83; the project as a positive experience 3.76 +/- 1.02 and the project's contribution to the development of their skills as a future doctor 3.16 +/- 1.09. The project work gained an overall rating of 3.6 +/- 0.98 (mean +/- sd), while learning from lectures was rated as 3.50 +/- 0.76.

**(insert Figure 1a.)**

**(insert Figure 1 b.)**

*Students' views and the value they placed on the community work*

Qualitative analysis of the reflective notes elaborated on the value students placed on the community work and their appreciation of participatory community oriented learning. Five predominant themes arose from the qualitative analysis: (1) acquisition of knowledge and understanding the population and public health; (2) understanding and connection to the region; (3) positive practical outcomes; (4) team working; and (5) the time consuming nature of community task.

Acquisition of knowledge and understanding about the population and public health

One of the most significant contributions of the community project was providing students with an enhanced understanding of the health needs and problems of the community in which they live. It offered a valued opportunity to interact with members and organizations in the local community and gain valuable skills; thus providing an experience that could not be obtained from classroom lectures. One student reported:

> "The work gave the group knowledge that cannot be acquired in a standard lecture - dealing with an organization, understanding the organizational base behind building an intervention program, a more in-depth familiarity with the work of educational institutions in Israel and understanding of procedural difficulties faced by such organizations." (Group 1)

Understanding and connection to the region

The students appreciated the exposure to the community and its health needs and the connection it gave them to the area where they were now living. As future physicians, students emphasized that the project work contributed to their understanding of the diverse population:

> *"In* our opinion the project is important to help us understand the diverse populations living in Tsfat and the Galilee, and to ensure that we are able to contribute better further down the road (as doctors)*."* (Group 10)

> "The project has created a situation in which we learned and expanded our understanding of the space and geography in which we are living and influencing. It helped us to actively integrate and connect into the community." (Group 2)

Positive practical outcomes

The students' reflections were notably positive if their work led to actual practical outcomes for the organization. Some of the community organizations expressed similar positive impressions about the student's recommendations and aimed to incorporate them into their work.

> *"At the seco*nd meeting with the organization, the manager was excited by the conclusions we drew and the possibility of implementing the program (for people with se*vere intellectual disability),…* she reported the next day that she had made a recommendation to the Chairman of Akim to promote the program nationwide. The fact that the program was received with such enthusiasm is exciting, and we are pleased we were able to take a real difficulty and translate it into practical program which can contribute deeply to the health of *residents of the hostel and to the mentally disabled community in Israel."* (Group 9)

Team Working

Students recognized that engaging with peers within the community project work led to acquiring important skills that are crucial to being a good doctor in the future, particularly regarding team work and communication with diverse populations.

> *"Work in our group was characterized by coordination and harmony, with* each group member contributing his strengths and helping others to overcome *weaknesses. ……. We learnt to get to know our friends on the school* bench and realized that teamwork, especially with regard to maintaining *public health, is important and major in achieving the goal."* (Group 7)

Time issues

Despite students' appreciation for the skills and knowledge obtained from the community work, they highlighted recognition of the time consuming nature of such project work, and that this demanded extensive efforts within the short three week course duration. The intense work requirement of the course resulted in some students expressing some frustration and stress:

> *"The exercise was very interesting but time was so limited that the exercise* was very artificial. We are aware that in all probability the manager will not do much with the program without follow *up and continued intervention."* (Group 8)

The formal feedback session at the end of the course provided students with an opportunity to verbalise their concerns around the time involved in the course, and particularly condensed so early in their learning. Some students suggested that it would be more beneficial to spread the community work out over the duration of the year.

> "The community work was a great learning experience, but required great time and effort within such a short time period. Having the community work not within this short course, but over a greater period of time may be better with less time pressure, which would allow us to get more out of the experience." (Group 4)

Knowledge and skills gain by the students

A comparison of marks attained from the two assessments in the Public Health course were analysed. The results suggest that the level of knowledge gained was similar across the two years (mean $\pm$ sd = 83.0 $\pm$ 7.3 vs. 85.0 +/- 9.3; p=0.430). Group marks for student reports were high, ranging from 80 to 100 and presentations

82 to 95. Analysis of the marking schema demonstrated examiner satisfaction with students' acquisition of public health skills, namely determining needs, searching for evidence and designing an evaluation framework.

## DISCUSSION

The purpose of this study was to assess the value, effectiveness and feasibility of participatory community oriented teaching methods in an intensive three week public health course for medical students. The course at the Medical School in the Galilee was designed with the intent of promoting the school's values of social accountability: to provide medical students with an understanding of local health needs and begin to equip them with the public health skills they would need in their future careers. It was strategically placed on entry to medical school to emphasize the importance of these attributes to professional training and to ensure students appreciated the socio-demographic context of the area where they were studying. Work assignments, students' ratings and views of the course, and comparison of grades with the traditional public health course from the previous year were used to determine if community work resulted in comparable and valuable knowledge and skills acquisition. Our evaluation indicates that these aims were achieved.

In a recent systematic review, McMenamin and colleagues (2014) concluded that 'published literature is weak and diverse in nature and has not yet yielded compelling evidence about the impact of service learning on student learning outcomes'. Our study contributes to the evidence and suggests that essential skills can be gained without disadvantage to knowledge outcomes despite a reduction in traditional teaching hours. More importantly than knowledge acquisition alone, direct involvement of the students in non-clinical local community organizations at this

early stage in their medical education gave them insight into the health needs and problems of the local target groups. The task additionally provided them with learning experiences that exposed them to the social and cultural context and diversity of the local community's health needs, and a range of skills around team work and community engagement These learning components are in line with the criteria set forward for social accountability by the ASPIRE initiative, an activity of the Association of Medical Education (AMEE) in Europe that is specifically designed to recognize excellence in medical schools (ASPIRE, 2013).

There are a number of indications that community experience impacts positively on the development of socially committed graduates, increasing their awareness of community health needs and the responsibility to address health inequalities in marginalized populations (Meurer et al., 2011; Saffran 2013). In an in-depth analysis Dharamsi et al. (2010) described that community service learning also results in a sense of what it means to be vulnerable and marginalized, a heightened awareness of social determinants of health and the related importance of community engagement, as well as a greater appreciation of the health advocate role. Our students additionally perceived that the community work gave them a better understanding of the impact of social factors and economic issues on health. Unlike other courses such as Meurer's Urban and Community Health Pathway (Meurer et al., 2011) undertaken over a two year program, our course was a compulsory requirement for all students and was only three weeks in duration.

The qualitative analysis of student's reflective notes enriched our understanding of what they gained from this experience. As in other reports in the literature, (Long et al., 2011; Meili et al., 2011; Liang En et al., 2011; Chastony et al., 2013) our students reported that the community component was a stimulating,

enjoyable and positive experience. It provided them with skills and knowledge of the local community and population that could not be gained from formal lectures. Above all students appreciated the 'subtext' , or "hidden curriculum" underpinning the experience – giving them a deep understanding of vulnerable populations and a connection to the communities where they would be training as doctors. Skills identified by the students within the community project included experience of working in small teams, promoted dialogue, and communication.

We were concerned that changing the content and teaching methods so significantly could jeopardize students' knowledge base for public health. However, despite reducing formal lecture hours by half, we found that there were no significant differences in their test scores when compared with the previous cohort of students who had received a lecture based public health course. Students' reports and presentation grades were high, indicating that public health skills were indeed mastered.

Community oriented teaching methods do come at a cost. A major challenge in implementing such community engagement and oriented work is the heavy demands required to coordinate the logistics. Its adoption has been met with some concern, primarily due to the substantial manpower needed (Koh et al., 2008). To implement our public health course, many hours of coordination with community organizations, as well as with different educational professionals leading the different activities, were needed. Six public health tutors were required to facilitate the small group sessions; this is in line with studies that have shown that student contact hours are 3-4 times greater for educators in a community oriented curriculum than for educators in a traditional curriculum (Koh et al., 2008). Alongside the resource implications students highlighted their own concerns on time commitment and

perceived intensive work load necessary to complete the community work requirements.

The impact upon participating local community organisations is important. Feedback from participating groups was very positive; they appreciated the opportunity for partnership and expressed interest in working with the medical school on further joint initiatives. This form of involvement with the community will hopefully ensure sustainability despite the resources involved. Indeed, the success of the course and the appreciation and value expressed by both students and local organizations has already borne fruit and has led to the development of a required longitudinal course later in the undergraduate programme, with non-medical community placements over a two year period. We hope that this extended course will go beyond role play and will provide students and organisations with a mutually longer-term beneficial experience with a contribution to the ultimate goal of producing socially responsible health professionals of the future

**Conclusions:** Participatory community oriented teaching at the very beginning of medical training is effective for imparting knowledge and acquiring public health skills. The community work was highly valued and appreciated by the students, successfully engaged them in learning about local health needs at the grassroots level, and facilitated connection to their new location. Teaching public health in this way may be an effective means for medical schools to work with community organisations towards their overall goals of being socially accountable.

**Notes on contributors**

**Dr. Jumanah Essa-Hadad** is a researcher in the public health department at the Bar Ilan Faculty of Medicine. She holds a PhD in Public Health from the University of

Haifa. Her research interests include public health education, Web-based health education, and health of minority groups and disadvantaged populations.

**Professor Mary Rudolf** heads Public Health at the Bar Ilan University Faculty of Medicine since 2012. Prior to her appointment she was Professor of Child Health at University of Leeds, UK and a practicing paediatrician. Areas of special interest include childhood obesity, paediatric education and social accountability of medical schools.

**Prof. Deborah Murdoch-Eaton**, MBBS, MD, FRCPCH, is Dean of Medical Education, at The Medical School, University of Sheffield, UK. Her academic interests focus on Global Health, developing students' potential and individuality, embedding Social Accountability within medical education, and role of feedback in the development of learning skills.

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**Conflict of Interest**

None declared

**Glossary terms**

**Social accountability:** "the obligation [of medical schools] to direct their education, research and service activities towards addressing the priority health concerns of the community…. They have a mandate to serve". (WHO 1995)

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**Table 1: Community Organizations who participated in the exercise**

| **Organizations** | **Public Health Issue On which Students Chose to Focus** |
|---|---|
| Two elementary schools in Safed | • Preventing childhood obesity through healthy eating and physical activity<br>• Promoting physical activity and nutrition |
| Two Ethiopian immigrant absorption centers | • Education and awareness on alcohol and drug abuse<br>• Promotion of good nutrition and hygiene among immigrants |
| Safed Local Municipality | • Smoking prevention program for municipal staff |
| ENOSH- an NGO for individuals coping with mental illness | • Mentoring program to provide social support for members |
| Akim- a hostel run by an NGO for children and adults with intellectual disabilities | • Improving communication skills of health professionals when working with individuals with mental disabilities |
| Haredi JewishWomen's Center | • Increasing awareness regarding oral health/hygiene of children<br>• Raising awareness among Haredi mothers regarding dangers of passive smoking ($2^{nd}$ hand smoke) |
| Soup kitchen | • Increasing food safety and hygiene in the organization |
| Two community day centers | • Improving nutrition and physical activity levels among the elderly in the center<br>• Preventing depression among elderly |
| Nursing Home | • Preventing falls among the elderly |

**Table 2: Composition of Public Health Courses in 2011 and 2012**

| **Public Health Curriculum** | | **2012** | **2011** |
|---|---|---|---|
| Traditional Lectures | Epidemiology and Screening | 11 | 22 |
| | Health Promotion and Preventive Health | 14 | 12 |
| | Health Inequalities/Health of Galilee Population | 7 | 10 |
| | Environmental Health | 0 | 12 |
| | Occupational Health | 0 | 6 |
| | Other Issues | 5 | 28 |
| Small Group Work (ethnic forum, TBL, etc) | | 9 | 0 |
| Community Work (lectures and small groups) | | 35 | 0 |
| Lifestyle Medicine | | 6 | 0 |
| Total Teaching Hours | | 87 | 90 |

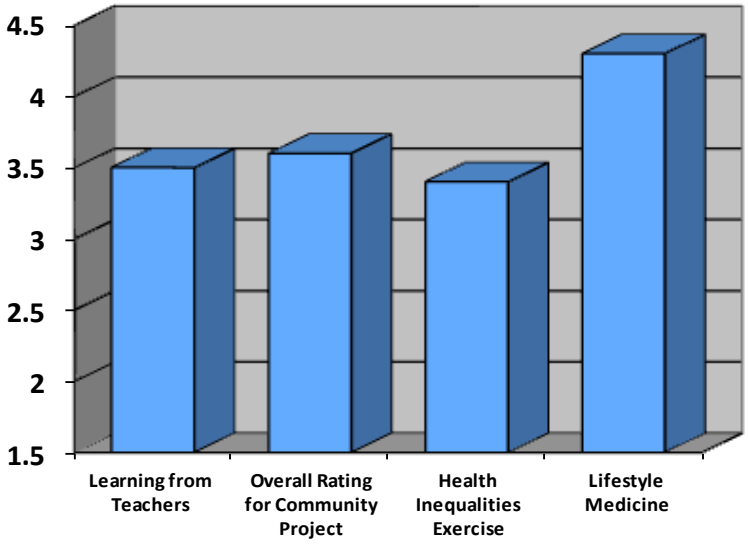


**Figure 1a. Students ratings of teaching methods (n=51)**

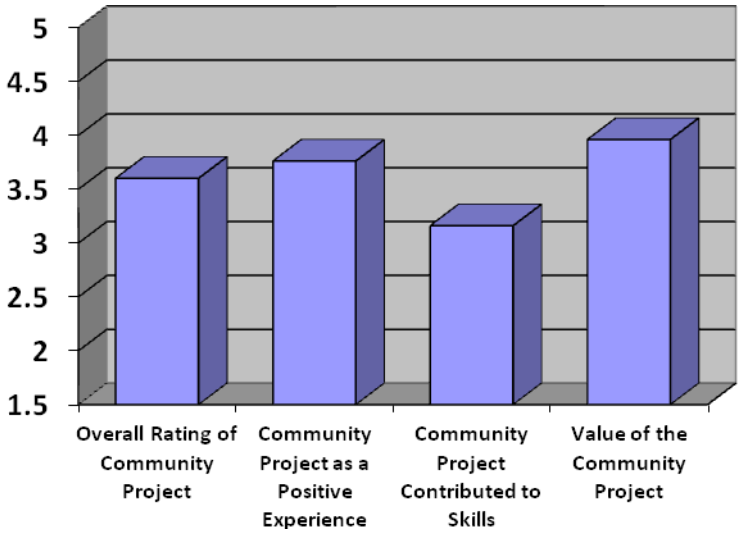


**Figure 1b. Students' perceptions regarding community project (n=51)**