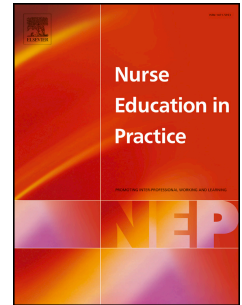# Accepted Manuscript

Learning about population-health through a community practice learning project: an evaluation study

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Introduction

This article explores a population-health community practice learning opportunity for nursing students during their first year of their undergraduate programme. There were three main drivers for this. Firstly, there is a growing shift towards home and community treatment options (e.g., Linsley et al, 2011). Secondly, finding sufficient traditional community placements with district nurses/health visitors for increasing student numbers in the UK is a challenge that is explored widely in the global literature (e.g., Betony and Yarwood, 2013; Smith et al, 2010; Dietrich et al, 2011; Reimer-Kirkham et al, 2007). Thirdly, there is an increasing emphasis nationally and internationally on the importance of disease-prevention as a major component of nursing (e.g., Department of Health, 1997, 1999, 2004; Young et al 2014; Reimer-Kirkham et al, 2007; Kemppainen et al, 2012)

In the UK community practice placements for student nurses normally involve the students being allocated to work alongside and under the supervision/mentorship of a community nurse or health visitor. A summary of these roles can be found in Table 1.

(Insert Table 1 near here)

This population health-based practice learning opportunity was given to student as part of their community practice hours of learning and enabled the students to explore the challenges for nurses about providing health interventions in the community to populations at risk. An evaluation study was undertaken to explore

student engagement with the population health-based learning opportunity, its value and impact on them, and some sustainability issues.

Population health is one aspect of public health and involves the exploration of health and disease in a population as specified by geographical, cultural or political guidelines (Porta 2008). Fraser (2005) argued that:

"Population health is an ill-defined term. It can refer to a concept, in this case referring to the health of a defined population or a field of study that links health outcomes, determinants of health, and interventions. A variety of competing definitions are attached to the term 'public health', but many health professionals consider public health to be broader and more encompassing than population health" (Fraser 2005, p. 177).

Therefore, population health includes the social, cultural and political determinants of health. Population health and public health are the combination of sciences, skills and beliefs directed to the maintenance and improvement of the health of all people through collective or social actions (Royal Australian College of General Practitioners (RACGP), 2011). Population health and public health are often used interchangeably, but other writers (e.g. Campos-Outcalt, 2004; Fraser 2005) argue that there are subtle nuances between these two disciplines. For example, a population-health approach to child obesity might explore whether the incidence of childhood obesity in one community/population is rising and if this incidence is different to other communities or the larger national population. Conversely, a public health perspective on the same issue might involve a research project on a cross-section of children/survey of parents to determine risk factors for childhood obesity in

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this community.   The findings might lead to a targeted health promotion campaign followed by an evaluation study into the effectiveness of the campaign.

Literature Review

The literature reviewed focused on population health and the student nurse experience of population-health issues. In the United Kingdom (UK), The Nursing and Midwifery Council (NMC) requires student nurses to gain experience in primary healthcare and community settings (NMC 2010). Similar statutory requirements exist for nursing education in other countries, e.g. Nursing Council of NZ (2010). However, often this is perceived as placements with community practitioners which may not necessarily include an in-depth exploration of population health. Indeed, much of the literature related to community practice learning opportunities for undergraduate student nurses is often difficult to schedule due to a shortage of placement capacity (Betony and Yarwood 2013). Much of the literature fails to distinguish between primary care placements and learning opportunities related to public/ population-health in communities.

Dahlgren and Whitehead (1991) described the many facets of community that impact on population-health including:

- General socio-economic, cultural and environmental factors
- Living and working conditions (including education, work environment, unemployment, water and sanitation, health care services, housing)
- Social and community networks
- Individual lifestyle factors
- Age, sex and constitutional factors

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Winslade et al (2013) suggest a three-level model for public health that incorporates the contribution that nurses can make. These levels are:

- Individual interventions including nursing interventions that focus on changing individual's behaviour, or influencing local policy related to what affects the health of individuals/small groups

- Community-level interventions which can refer to geographical communities, families or groups of people with a common interest or common condition.

- Population-level interventions related to implementing and evaluating public health initiatives, engaging in strategic networks and working to reduce health inequalities

These three levels may impact on the way practice learning opportunities student nurses are perceived. For example, if the focus of learning is on the levels of individual and community, then placements working alongside community nurses, health visitors and practice nurses will be emphasised. However, if the focus of learning for the students is on evaluation of public health initiatives and more strategic approaches to population-based health, then alternative approaches to population-based practice learning opportunities need to be explored. This notion of innovative community practice learning opportunities for healthcare students is examined globally in the literature in the United States (US) (e.g., Council for Adult and Experiential Learning, 2012), in Canada (e.g., Reimer-Kirkham et al 2007), in New Zealand (e.g., Betony and Yarwood, 2013) and in Australia (e.g., Barnett et al 2010). Rodger et al (2008) argued that innovative models of clinical education need to be used which provide valuable learning experiences for students. Population-

based practice learning opportunities may contribute to nurses taking on a more political role in public health, a role that nurses historically have not yet demonstrated (Kemppainen et al 2012).

There is currently little empirical literature about student engagement, value and impact of student nurses undertaking placement learning opportunities specifically related to population-health. One study (Young et al 2014) reported on the findings of a small study into public health placements for student nurses. However, this experience did not specify an emphasis on population-health and the intention of the experience was to increase the number of newly qualified nurses choosing to work in public health in one state in the US. In Canada, too, the absence of available places for undergraduate students to gain experience working in public and population-health environments are limited (Council of Ontario Universities, 2013) despite the recognition that public health placements are important for baccalaureate nursing students to develop competencies related to health promotion, prevention, and population-health. Consequently, new nurse graduates may not be well-prepared in the practice of health promotion, disease prevention and population-health (Council of Ontario Universities, 2013).

In the UK Massey (2014) found that nursing students felt prepared in health promotion and safeguarding, but there was an absence of student understanding about what public health means. Opportunities to apply their public health skills were varied. However, this study did not specify the nature of the community placement undertaken by these students nor did it differentiate between public health and population-health.

The Australian literature presents some useful insights into the nature of population-health learning placements for student nurses. Although not identified as "population-health" a number of Australian studies have been undertaken related to placements in rural and remote settings, which usually revolve around working with indigenous/ aboriginal populations. These studies however, focus on how the experience improved student confidence (Bennett et al 2013), increased the numbers of nurses choosing a career in rural/remote health (Critchley et al 2007), and changes in attitudes towards rural health populations (Dalton et al 2008). There were no studies found related to how students engaged with this practice learning experience, and the value or sustainability of these placements.

The population-based practice learning opportunity

Students in this cohort had a designated 4-week community placement in year 1. However, due to insufficient community placements with district nurses and health visitors being available for all year 1 students in the adult, mental health and learning disability fields an innovative approach to practice learning in the community was needed. The students were divided into two groups. The first group undertook a two-week practice learning opportunity with district nurses/health visitors. At the same time, the second group undertook a population-health group work project activity over that two week period. At the end of the two weeks, the two groups changed over, the second group undertaking the two-week population health project while the first undertook their two-week practice learning opportunity with district nurses/health visitors. For both groups, the population-health project was undertaken in the same geographical locality as their health centre placements.

The aims of the population-health project were to enable students' understanding of the factors contributing to health and illness in a chosen population, to enable students to identify and define the health status of the population group, and to provide students with the opportunity to devise an action plan using a public health model to address some of the factors which impact on the health of that population group. The specific learning outcomes for this population health group project can be found in Table 2.

(Table 2 to be inserted near here)

A preparation session was provided and each student was given a workbook prior to the project. The workbook introduced them to the aims and learning outcomes of the population-health group project, provided them with an overview of the Rainbow Model of Health (Dahlgren and Whitehead1991) as a framework for completing the group project and presented guidelines and instructions for completing the project and presenting it to their peers. The focus of the population-health group project was to explore in depth a health issue identified within an at-risk/vulnerable population.

Table 3 shows how students worked together to complete the population-based project,

(Table 3 to be inserted near here)

The workbook for the two-week project included a number of activities for the groups to complete together to help them select and study their population as the focus for their project, and prepare their presentation. The group activities are shown in Table 4.

(Tables 4 and 5 to be inserted near here)

The activities involved exploring literature, collecting data from local agencies and discussion with relevant professionals in the locality.

The culmination of all the activities was a group presentation of their action plans to their peers through a PowerPoint presentation. These presentations took place at the end of the two-week population health project experience. Each group presented for 10 minutes with 10 additional minutes for questions. Each student also included the group action plan in their personal portfolio with a reflective account about what they learned and what surprised them within this population-health community learning opportunity.

The evaluation study

An evaluation research study was undertaken by educational researchers within the faculty. An evaluation research framework proposed by Marks-Maran et al (2013) was used. This framework structures evaluation research using a fourfold approach of student engagement, value, impact and sustainability. The research questions were:

- How did students engage with the preparation for the community project and the experience itself?

- What was the value of the experience to the students?

- What was the impact of the experience on the students?

- What are issues of sustainability for the future of the project?

Data were collected through an electronic survey using Survey Monkey™ consisting of 31 Likert-style statements to which students were invited to disagree, somewhat disagree, somewhat agree, or agree. In addition, there were 7 open-ended questions and 6 demographic questions. The open ended questions invited students to elaborate on the preparation for the experience, their experiences of group working, hoe they engaged with the project and presentations, the challenges faced, the value of the experience, its impact, how the experience could be improved, and any further comments they wished to make.

Responses to Likert-style statements and demographic questions were analysed quantitatively using SPSS v. 19 using descriptive statistics and reliability analysis. Responses to open-ended questions were analysed qualitatively using the Framework Method (Ritchie and Spencer 1994; Ritchie et al 2003).

As this was perceived as an evaluation of a teaching innovation, the Faculty Research Ethics Committee did not require ethical approval. However, students were assured of anonymity and confidentiality. Consent was deemed to be tacit in that completion of the online questionnaire implied consent. Students were also

informed that if they chose not to participate in the study, this would have no detrimental effect on their current or future studies.

The total population of adult, mental health and learning disability students for this cohort was 251. Of these, 203 (80.9%) were studying adult nursing, 36 (13.9%) were mental health nursing students and 12 (5.1%) were learning disability students. All these students undertook the population-health group project and all were invited to complete the online questionnaire.

Findings

The total number of returned questionnaires was 162 as follows: 135 studying adult nursing (66.5% response rate), 13 studying mental health nursing (36.1%) and 6 (50%) studying learning disability nursing. Response rate overall was 64.5%. Reliability testing was carried out for all quantitative items using Cronbach's alpha ratio and showed a score of .929. Pedhazur and Schmelkin (1991) suggest that lower limits of reliability are indicated by a Cronbach alpha coefficient of 0.5 to 0.7. A coefficient of .929 therefore indicates strong reliability.

Mean group size was 5.78 and there was no significant statistical difference between group size and any other findings.

Preparation for the project – value and student engagement

Students were asked to strongly agree/agree/disagree/strongly disagree to statements related to aspects of the preparation day. Findings are shown in Table 6.

(Insert Table 6 near here)

The majority of students agreed/strongly agreed that they received sufficient information, received sufficient preparation for working in a group, and received sufficient preparation for working with populations/public health communities and individuals. A total of 36 statements were coded from analysis of the open ended question about the preparation day and 3 themes emerged: value/quality of the preparation day (21 statements), quality of information provided (11 statements); and problems/issues (6 statements). Therefore, the strongest theme about the preparation day was its value/quality.

> *"Good preparation and explanation given to the students to help us understand and know what is expected of us during the project."*

However, a small number of statements (2) indicated that there was so much information given, which led to confusion.

> *"The information we received was…abundant…Some members of my group were unable to maintain full attention during the explanation. Only the introduction and action plan…stuck in their minds. Thus our group misunderstood what was required of us."*

Problems or issues identified by students were all related to how the preparation day could be improved, including: more information needed about how to work in groups and that sample presentations would have been helpful.

Working in groups – value and student engagement

Findings are shown in Table 7.

(Insert Table 7 near here)

The majority of students agreed/somewhat agreed that every member contributed equally to the project, that every member contributed equally to the preparation of the presentation that they worked successfully as a team, that they were satisfied with the team's time management and that they learned more because of working in a group. However, over 35% agreed/agreed somewhat that they personally contributed more than other members of the group.

The qualitative data adds to these findings. Through Framework analysis a total of 103 statements were coded and 3 themes emerged:

- Group worked well and work was divided equally (39 statements)
- Inequality of the amount of work carried out by group members (25 statements)
- Value of learning from the group (39 statements)

Undertaking the work

With regard to the materials provided/process of completing the population-health project, findings are shown in Table 8

(Insert Table 8 near here)

The majority of respondents felt that the workbook was useful and provided sufficient information and direction, that they received sufficient support during the project from lecturers, that they had sufficient time to complete the project tasks and that they had sufficient time to prepare the presentation.

Qualitative data about the challenges in gaining access to information and people yielded 104 coded statements and 4 themes emerged:

- No difficulty/easy to access information from people/organisations (36 statements coded)
- Difficulties encountered (55 statements coded)
- How challenges were overcome (8 statements coded)
- Insights gained about the public's access to information/services (5 statements coded)

Over 1/3 of the statements coded indicated that students had no difficulty accessing information from people and organisations within the community. Of the 55 statements coded about difficulties encountered in finding information, the following were identified:

- insufficient time to make appointments to see relevant people within the 2 weeks of the project (32 statements coded)
- people being too busy or unavailable (16 statements coded)
- unhelpfulness of people or agencies (7 statements coded)

A small minority indicated that information was unavailable due to issues of sensitivity or confidentiality. Despite this, many students found ways of overcoming

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information-finding difficulties. However, 5 statements suggested that if they, as students, found information difficult time, that it must be even more difficult for the public to access health information relevant to them.

Impact of undertaking the population-based project

Findings about the impact that the project are shown in Table 9.

(Insert Table 9 near here)

An impact scale was created to identify the areas of greatest impact on the students. An impact scale is a method of determining statistically which areas had the greatest impact and has been used in previous studies of this kind (e.g. Fergy et al 2011; Marks-Maran et al 2013). Nine Likert-style statements in the questionnaire were related to impact and the scale was created from these statements as shown in Table 10.

(Insert Table 10 near here)

Qualitative data supported these findings and yielded 4 themes: impact on learning (34 statements coded), impact on personal development (11 statements coded), enhanced communication/presentation skills, team-working and enhanced confidence) (11 statements coded), and impact on students' understanding of population health/health needs of a population (8 statements coded)

The largest number of coded statements related to the impact that the project had on student learning with 34 statements coded within this theme. Specifics of what learning took place included developing a greater understanding of public health issues, appreciation of the difficulties that people face in trying to access public health information and learning to be confident.

The one area of negativity (11 statements coded) was that although the community project was useful and interesting, it did not and should not replace hands on clinical practice placement time.

Impact of project presentations

The majority of students agreed/somewhat agreed that they learned from listening to other students' presentations, that they learned from preparing their own presentations and they learned from working on the project with the group.

Qualitative data yielded 2 themes about the presentations learning from others' presentations (21 statements coded), and personal development (including confidence, developing public speaking skills, identifying personal strengths and weaknesses and "learning a lot about myself.") (16 statements coded)

However, the need was also expressed for a longer period of time to complete the population-based project and prepare presentations.

Sustainability

Opinions of sustainability from the students' perspective comes from questions relating to whether they would recommend that the population-health project to other students, whether the project should be continued for future cohorts and whether they would like to engage in a similar group community health project in future. Findings showed that 90.2% of students agreed/agreed somewhat that the group presentation should be continued as part of this population health group activity. In addition, 84.5% of students would like to engage in another community public health group project, 89.6% would recommend this project to peers and colleagues and 85.7% would recommend that the school of nursing arrange for this same project to be undertaken by future cohorts of student nurses.

How the population-based project could be improved

Two open-ended questions were posed at the end of the questionnaire asking students if they had a suggestions for improving the population health-based group project and asking them for any final comments.

The data from the first of these – suggestions for improvements – yielded 35 coded statements within 4 themes: Individuals and groups (18 statements coded); time for the population health-based health project (8 statements coded), improving communication between university and community about the population-based health project (4 statements coded), and the project as a replacement for clinical placements (5 statements coded)

The issue of individuals working (or not) within groups was frequently cited. Suggestions were made that included presentations should be individual rather than

group, and finding ways of ensuring that all students worked equally within the group.

A significant number of coded statements suggested that the community project should be increased from 2 to 3 weeks to allow sufficient time to get information. This was often linked to the availability of access to people and agencies in the community and it was felt that if the project was longer, there would be more opportunity to meet with relevant people in the community. This appears to be linked to the need for better communication by the university to community agencies about the population-based projects so that these agencies/organisations know that it is happening, and that students may be contacting them for information.

A small number of statements indicated that students wish this population-based project to be incorporated as a part of the students' module on "health and society" or that the project is not a good replacement for a traditional community clinical placements with community nurses/health visitors.

Finally, examples of the at-risk populations selected by these students and the particular health issues chosen within this population can be found in Table 11.

(Insert Table 11 near here)

Discussion

Discussion focuses on the extent to which the aims of the research study have been met and the research questions answered. These are mapped against existing

literature and how the findings add to that literature. The university in which this study was carried out was facing a shortfall of community-based practice places for its student nurses. It needed to explore innovative practice learning opportunities as described in the international literature e.g., Council for Adult and Experiential Learning 2012; Reimer-Kirkham et al 2007; Betany and Yarwood 2013; Rodger et al 2008; Fraser 2005) that would offer students the opportunity to explore issues of population health in the geographical area where they would be undertaking community practice placements.

Student engagement

The majority of students appeared to engage well with the preparation day, group working and completing the work, and felt they were well-prepared to complete the population-based project and presentation. One interesting finding was that students would have liked more information about how to work in groups, supporting findings from a Canadian study (Gagnon and Roberge, 2011). Although this Canadian study focused on how undergraduate nursing students experience collaboration during group work activities and how students experience group work, their findings also suggested that students need to learn about how to work in groups as a precursor to multiprofessional working. It may be that part of the preparation for this population health-based project needs to emphasise the relationship between group work activities as a student and its potential influence on team-working in clinical practice.

In the study presented here, students also felt that having examples of presentations would guide them to prepare their own group presentation. A number of students felt that although they individually engaged in the project, this was not necessarily the

case for all students. Dissatisfaction was expressed by those who engaged with the group/group work activities against those who did not. The issue of students not attending group meetings or failing to contribute to the work was an ongoing theme during the study resulting in an unequal distribution of the work required to prepare for and deliver the group presentation. Similar group working issues amongst student nurses were also identified in a previous study of group work amongst student nurses (Gagnon and Roberge 2011), raising questions about the role of the university in preparing students for working in groups and how the nursing faculty can help students to make the link between group work in their undergraduate programme and its transferability to team working in clinical practice.

Where students did attend and contribute, they all felt that they contributed equally, managed their time well and worked successfully. However, some contradiction was noted in that over 1/3 of students indicated that they themselves contributed more than other members of their group. There is no immediate explanation for this contradiction in the data.

Finally, the issue of group dynamics emerged as a theme throughout the findings. Where groups worked successfully, participants felt that the group dynamics were good. However, a number of students reported poor group working and the getting the work done by the group proved to be challenging. Despite this, the majority of students appeared to enjoy engaging in group working suggesting that where groups work well, they are perceived to be good learning experiences.

Some students faced challenges when engaging in the data collection to complete their work and prepare their presentations. This was due to relevant people in the community not understanding what the students were there for, and in some cases, a perceived disinterest by community colleagues. Students often found ways of overcoming these challenges but there was a recommendation by some students that better communication between the university and the community services bout this population-health project is needed.

Value

On the whole, students valued the preparation day and the information provided in the workbook. In addition, learning through working in a group emerged as being valuable where the group worked well together and students valued learning about population health and learning about themselves. This supports an earlier study by Beccaria et al (2014) who explored the interrelationships between students, group work characteristics, and their approaches to learning. They found that nurse educators have a role in using group work activities to help students to develop metacognitive awareness in relation to group work, and to support those students who feel less comfortable in working with others. It may be that group work can play a role in helping students learn to learn and further research into this is needed.

Impact

Both undertaking the project and participating in presentations had a positive impact on students. The findings suggest that these students explored most, if not all, of the facets of community that impact on health in a population as described in the literature by Dahlgren and Whitehead (1991). The findings also suggest that

students focused, as they were meant to, on the third level of public health (population-health) described by Winslade et al (2013), but also incorporated the other two levels (community and individual) into their presentations and their learning. This may be due to the link between this population-based project and their placements with community nurse/health visitors.

Engaging in the project was a successful learning experience for the majority of students and learning look place through both preparing their own presentations and listening to the presentations from other groups. For some students, their learning was about improved communication and presentation skills, impact on confidence and impact on their team-working skills. For others it was related to having a greater understanding of particular populations and their health needs/issues. It is unclear as to why only half of the students felt that the project enabled them to apply a public health model to complete their group action plan. There may be reasons for this. Firstly, it may be a reflection of the absence of the use of public health models in practice and may suggest that such models are academic exercises rather than practical tools. Secondly, it may be that this population health project is attached to the community placement, rather than being attached to a particular module within the undergraduate programme, resulting in the absence of an obvious link between theory and practice. Additional study would need to be undertaken to explore this issue.

A small number of students felt that undertaking this population-based project was not a good substitute for a longer placements with district nurses/health visitors despite this project being undertaken as an adjunct to that placement. In addition,

several students commented that some sort of monitoring system is needed to ensure equal participation in and contribution of all in the group, including the suggestion that the presentations should be individual rather than group.

Sustainability

Sustainability of group work population health projects is an issue that does not appear in any previous literature. In this study, over 90% of students believe that the group presentation should be continued as part of this population health project, despite a small number who believe that presentations should by individuals to ensure that everyone engages in, and contributes to the work. A number of students indicated that they would like to undertake another similar community public health group project. This suggests that the project met a need in students and had a positive impact on their learning. The majority also would recommend that other students engage in this sort of project and that the university should off this project to future cohorts of student nurses.

How the population-based project could be improved

Suggestions made by students for improvement to the project included finding ways of ensuring equal contribution to the work by all group members, increase the time from 2 to 3 weeks and better preparation for community personnel in advance of students undertaking the project.

Interestingly, although the population health project was designed to be linked to students' traditional placements with community nurses/health visitors and was undertaken in the same geographical area as their community placement, a small number of students indicated that they would prefer the project to be linked to their module, "health and society," as a way of linking theory to practice. This suggestion may enable students to feel more able to apply a public health model to their presentations. A small number of students do not think this project should replace the traditional placements with community nurses/health visitors despite the acute shortage of such placements being available to large cohorts of student nurses (Betony and Yarwood 2013). However, the population-based project presented here supports arguments by Rodger et al (2008) that innovative models of clinical education can provide valuable learning experiences for students, including project-based placements which focus on health prevention/promotion and population health.

Practice implications of the findings of this study include:

- The need for the university to better prepare the community agencies and organisations for the project that the students will be undertaking

- The need to link this population-based project to the content/learning outcomes of a theoretical module so that there is a clear link for the students between the theory of health and society, the population-based project and practice placements in the community.

- Students can take the findings from their group projects into current and future community placements to provide a context for the health issues faced by the patients they see in those placements

- Nurse educators need to emphasise how group working in the undergraduate programme can have a positive impact on team-working in clinical practice.

Conclusion

It can be argued that engaging in a population health-based project does not adequately replace clinical placements with community nurses/health visitors. However, with increasing student numbers, the problem of providing such placements is increasingly challenging and alternative community health-focused learning opportunities need to be found. The study presented here begins to address this and found that population-health projects in the community promotes student engagement with population-health and has impact on, and value to the students. There is currently little empirical literature about engagement, value, impact and sustainability of student nurses undertaking innovative community population health-based projects as an alternative to placements with community nurses/health visitors. A longer term longitudinal study will be needed to see what impact this type of project has on students' long term career decisions and whether projects such as these will encourage nurses to choose careers in public and population health, as reported elsewhere in the literature (Young et al; Massey 2014; Critchley et al 2007).

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Tables and figures

Table 1: Summary of the roles of community nurse and health visitor in the UK (from NHS Careers at http://www.nhscareers.nhs.uk/explore-by-career/nursing)

Community Nurses (also known as district nurses): Part of the primary health care team; visit people in their own homes or in residential care homes, providing increasingly complex care for patients and supporting family members; teach and support patients to enable them to care for themselves or with family members teaching them how to give care to their relatives. Community nurses assess the healthcare needs of patients and families, monitor the quality of care they're receiving and are accountable for delivery of care.

Health visitors: In the UK, the role of the health visitor is varied and will include the following:

- Leading and delivering child and family health services (pregnancy through to 5 years) through working with parents to assess the support they need and develop appropriate programmes to enable the child to have the best possible start in life. Health visitors support and educate families from pregnancy through to a child's fifth birthday and the role includes offering parenting support/advice on family health and minor illnesses, new birth visits including providing advice on feeding and weaning, physical and developmental checks on new babies and providing families with specific support on subjects such as post natal depression.

- Providing ongoing additional services for vulnerable children and families including referring families to specialists, such as speech and language therapists, arranging access to support groups, and organising practical support.

- Contributing to multidisciplinary services in safeguarding and protecting children including n recognising the risk factors, triggers of concern, and signs of abuse and neglect in children. Health visitors are involved in every stage of the child protection process, including serious case reviews,.

- Providing a range of support services in children's centres such as establishing effective partnerships between children's centre, local GPs, the primary healthcare team and maternity services, coordinating health campaigns and offering education and training for children's centre staff.

Table 2: The learning outcomes for the population-based learning opportunity

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At the end of the two week population health practice opportunity students will be able to:

- Identify an at risk /vulnerable community/population

- Communicate with individuals and representatives of the at risk/vulnerable community/population group about their health

- Identify, define and understand the health status of that community/population group

- Identify some of the determinants of health and illness in the chosen community/population group

- Identify factors contributing to health & illness in the defined community/population group

- Define the factors influencing the use of health services within this community/population.

- Investigate the role of voluntary / independent services that play a role in regard to public health in relation to the chosen community/population group.

- Consider factors which facilitate/impede the community/population group accessing health and other services to improve their health

- Applying a public health model to complete an action plan to address health and illness issues of a given community/population.

Table 3: Undertaking the population-health practice project

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1. A group of about **4-8 people** will be identified for you with whom you will work.

2. Establish yourselves as a group using the knowledge and skills you have developed over year 1. Identify a plan and the roles of the group members in terms of what needs to be done. It might be necessary to elect a leader of the group who could be responsible for ensuring that the work is shared out equally

3. You need to be aware of why you are doing the study. You need to focus down on the provision of public health engaging effectively with individuals within an at risk/vulnerable population.

4. Once you have decided what type of public health opportunity your group would like to undertake and which population group you are going to base the study around, you need as a group to plan what information you require and how you are going to get it. Remember that a public health opportunity draws together key information into one place in a format that is useful to those who are reading/hearing/seeing it.

5. There is a wide range of resources and sources of information available to you to use. These are sources that provide statistics and measurements of activity; for example; the census, the Department of Health (DH), local NHS Trusts and their websites , local government agencies, local councils, local newspaper, charities, voluntary organisations and the local library

6. The other source of information is the data collected by visiting and talking to different people, organisations, services, companies, institutions, small businesses, churches, charities, going into shops and schools.

7. Remember that people who might be able to help you might be very busy and have limited time to spend with you. They do not have to spend any time with you at all! They can say NO! However if you do obtain a positive response, be courteous, acknowledge any help that you receive and try to make it worth their while to co-operate with you.

Table 4: Activities in the workbook

- Provision of a set of questions to enable the group to identify the health population they might select, exploring what public health does and what public health services are.

- An activity to enable groups to familiarise themselves with the population chosen through visits to service providers in the community and to apply what they had learned in their recently completed module, "Health and Society," about health beliefs in the population they were studying.

- An activity to enable each group to explore different types of population-based interventions, including interventions that are directed at an entire population within a community, the systems that affect the health of those populations, and/or the individuals and families within those populations, known to be at risk (Minnesota Department of Health, 2001).

- An activity to enable each group to select a population-based intervention and to write an action plan for how they would implement the intervention.

Three further activities were provided for the groups to complete in order to prepare their action plans. These activities were about:

- Illness prevention in populations

- Health screening and surveillance

- The nurse's role in developing public health guidance for a population.

Table 5: Community focused and systems focused practice

Population-based community-focused practice - These interventions changes community norms, community attitudes, community awareness, community practices, and community behaviours. They are directed towards entire populations within the community or occasionally target groups within these populations.

Population-based systems focused practice - This intervention changes organisations, policies, laws, and power structures. The focus is not directly on communities or individuals but on the systems that impact upon health. Changing systems is often a more effective and long-lasting way to impact population health then requiring change from every single individual in a community.

Table 6: Preparation for the population health project

Statement	n	Disagree	Somewhat disagree	Somewhat agree	Agree
I received sufficient information about what was expected of me	161*	0.0%	3.7% (n=6)	26.7% (n=43)	69.6% (n=112)
I received sufficient preparation to work in a group	160**	1.3% (n=2)	4.4% (n=7)	25% (n=40)	69.4% (n=111)
I receive sufficient information to work with public health communities and individuals	157***	.6% (n=1)	3.8% (n=6)	38.2% (n=60)	57.3% (n=90)

*1 student did not respond

**2 students did not respond

***5 students did not respond

Table 7: Working in a group

Statement	n	Disagree	Somewhat disagree	Somewhat agree	Agree
Every member of my group contributed equally to the population health study	159*	11.9% (n=19)	7.5% (n=12)	24.5% (n=39)	56% (n=89)
Every member of my group contributed equally to the presentation	159*	11.3% (n=18)	6.3% (n=10)	26.4% (n-42)	56% (n=89)
We worked successfully as a team	159*	3.8% (n=6)	6.3% (n=10)	18.2% (n=29)	71.7% (n=114)
I feel satisfied with the time management of my group	158**	3.2% (n=5)	6.3% (n=10)	19.0% (n=30)	71.5% (n=113)
I learned more because I worked in a group	158**	6.3% (n=10)	8.9% (n=14)	28.5% (n=45)	56.3% (n=89)
I feel I contributed more than other members of my group	159*	40.9% (n=65)	23.9% (n=38)	20.8% (n=33)	14.5% (n=23)

*3 students did not respond

**4 students did not respond

Table 8: Undertaking the work – value and student engagement

Statement	n	Disagree	Somewhat disagree	Somewhat agree	Agree
The population-health workbook was useful	158*	.6% (n=1)	4.4% (n=7)	32.9% (n=52)	62% (n=98)
The workbook provided sufficient information and direction	157**	.6% (n=1)	5.1% N=8)	35% (n=55)	59.2% (n=93)
I received sufficient support from lecturers through the project	158*	.6% (n=1)	3.8% (n=6)	27.8% (n=44)	67.7% (n=107)
I had sufficient time to undertake the tasks	158*	.6% (n=1)	4.4% (n=7)	24.7% (n=39)	70.3% (n=111)
I had sufficient time to prepare the presentation	158*	0	3.2% (n=5)	22.2% (n=35)	74.7% (n=118)

*4 students did not respond
**5 students did not respond

Table 9: Impact of the project

Statement	n	Disagree	Somewhat disagree	Somewhat agree	Agree
Undertaking the project had a positive impact on my understanding of at-risk communities	157*	.6% (n=1)	3.2% (n=5)	24.8% (n=35)	71.3% (n=112)
I learned how to communicate with individuals and representatives within an at-risk community	157*	2.5% (n=4)	9.6% (n=15)	33.8% (n=53)	54.1% (n=85)
I learned to identify the health status of at-risk communities	157*	.6% (n=1)	4.5% (n=7)	35% (n=55)	59% (n=94)
I better understand the health status of at-risk communities	157*	.6% (n=1)	4.5% (n=7)	28% (n=44)	66.9% (n=105)
I learned how to identify some of the determinants of health and illness in at-risk communities	157*	0	2.5% (n=4)	26.1% (n=112)	71.3% (n=157)
I learned to identify factors influencing the use of health services	158**	0	1.9% (n=3)	31% (n=49)	67.1% (n=106)
I learned to investigate the role that voluntary and independent services play with regard to public health for at-risk communities	158**	0	3.8% (n=6)	28.5% (n=45)	67.7% (n=107)
I learned to consider factors that facilitate or impede the extent to which at-risk communities access health and other services	158**	.6% (n=1)	1.3% (n=2)	30.4% (n=48)	67.7% (n=197)
I learned to apply a public health model to complete an action plan to address health and illness issue of a given at-risk community	158**	1.9% (n=3)	6.3% (n=10)	39.2% (n=62)	52.5% (n=83)

*5 students did not respond

**4 students did not respond

Table 10: Impact scale – areas of greatest impact

- learning to identify determinants of health and illness in their at-risk population,

- engaging in the project had a positive impact on their understanding of at-risk populations,

- learning to identify factors that influence use of health services

- learning to understand factors that facilitate or impede access to health and other services by at-risk populations.

The impact scale: strongly reliable - Cronbach's alpha coefficient of .897.

Table 11: Examples of population-based projects undertaken

- 16 to 24 year old unemployed single parents
- Unemployment leading to health problems
- Adolescent drug abusers/addicts
- Adolescent anti-social behaviour
- Adult alcohol abuse in XXX borough of London
- Alcohol-related admissions to hospital in XXXX borough
- Childhood obesity
- Dementia in older adults
- Breast cancer in the over 60s
- Homelessness
- Homelessness and substance abuse
- Lone parent families with dependent children
- Mental health issues in areas of high deprivation
- Nutrition in people with learning disability
- Stress and unemployment
- Smoking in XXX borough
- Traveller communities and immunisation
- Health and social issues of people who do not speak English

Conflict of Interest Statement

There are no conflicts of interest in the article