A CITY Out of this World! OR IS IT? A Virtual Approach to Population Health Nursing Clinical Placement

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- Dalhousie University, Halifax, Nova Scotia, Canada
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Disclosure statement

- No conflict of interest
- No commercial interest or financial gain in the use of the virtual city that was used in our 3-phase Pilot Study
- Sentinel City ® (Healthcare Learning Innovations)
Learning Outcomes

Articulate the components of an online virtual urban setting, Sentinel City™, for use as a Population Health Clinical Placement

Discuss potential uses of Sentinel City™ components

Acquire an understanding of our Pilot Study findings
Overview

Introduction to Sentinel City®

Research Methodology

Results

Discussion and application
Our Story

- Population health nursing clinical placements
- New curriculum based on pedagogical theory
- National learning outcomes related to population health clinical placements
- Active learning and simulation
Welcome to Sentinel City!

https://youtu.be/UASEUreInOE

Sentinel Town:
https://www.youtube.com/watch?v=0wZmVY2vIZ0
Clinical virtual simulation is the recreation of reality depicted on a computer screen and involves real people [students] operating simulated systems. Pedagogical strategy to facilitate knowledge retention, clinical reasoning, improved satisfaction with learning, and finally, improved self-efficacy (Padilha, J., Machado, P., Ribeiro, A., Ramos, J. & Costa, P. 2019).
Overall goal of population health clinical:

- Assess a population, or neighbourhood by gathering and critiquing appropriate evidence, to document a population health assessment.
- Appreciate how the health of populations is determined by society at large.

Structure:

- 5 hours/week for 8 weeks
- 8 Clinical groups with 12 students each (96 students DE & 96 AS)
- 1 Clinical instructor per group
Clinical Placements

4 clinical groups were randomly assigned to Sentinel City®

2 clinical groups were assigned to an agency (Student Health Centre, Seniors residence, International Students Centre)

2 clinical groups were assigned to a neighborhood (low SES)
Data Collection Tool Design

Dalhousie School of Nursing Clinical Evaluation Guide & CASN (2018) Curricular Guidelines for Integrating Community health in Baccalaureate Programs of Nursing

Face and content validity

34 Survey questions were structured according to the following content domains:

- Knowledge/Critical Thinking
- Practice
- Communication/Collaboration
- Legal, ethical & professional accountability
- Leadership
Data collection

- 5-point Likert-style survey questions (not at all confident, slightly confident, neutral, confident, very confident)
- Opinio® on last day of clinical, sent by admin staff
- Ethics: TCPS Article 2.5- program evaluation studies
ANOVA results are provided with each learning outcome, and when significant differences were found (p ≤ .05), post hoc Tukey data is reported to provide additional information as to which groups had mean differences, and the direction of the differences.
OVERALL Results

188 students invited to participate (DE & AS)

Response rate was 55.32%, with 104 students completing the survey.

Demographics and virtual simulation background

There were no objectives in which students in Sentinel City reported percentages lower than students in agencies or geographical neighbourhoods.
Q10 “I am confident in my knowledge about the CHN process” (F = 1.199, p = .326)

Q11 “I am confident in my understanding of a population health assessment” (F = 6.214, p = .003). Students in Sentinel City placement were more confident (MD .757, SE .215, p = .002) than students in the neighbourhood placement.

Q12 “I am confident in my understanding to plan a population health intervention” (F = 8.027, p = .001). Students in Sentinel City placement were more confident (MD .889, SE .224, p < .0001) than students in the neighbourhood placement.

Q14 “I am confident in my ability to apply a population health perspective” (F = 6.656, p = .002). Students in Sentinel City placement were more confident (MD .603, SE .201, p = .009) than students in both the neighbourhood and agency-based placement.
Q15 “I am confident in my ability to collect secondary data” (F = 5.788, p = .004). Students in Sentinel City placement were more confident (MD .689, SE .203, p = .003) than students in the neighbourhood placement.

Q16 “I am confident in my ability to collect primary data” (F = 4.298, p = .016). Students in Sentinel City placement were more confident (MD .573, SE .202, p = .016) than students in the neighbourhood placement.

Q20 “I am confident in my ability to establish relationships with community members” (F = .429, p = .652).
Q31 “I am confident in my ability to advocate for health equity” ($F = 3.430, p = .037$). Students in agency-based placements were more confident (MD .638, SE .261, $p = .043$) than students in the neighbourhood placement.

Overall, the mean scores on the questionnaires differed among the 3 groups with the Sentinel City group having the highest mean (4.02), followed by the community agency (3.85), and the geographical neighbourhood placement group (3.61).
Q32 “Would you recommend future use of the clinical placement that you completed for this course?

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<td>53.12%</td>
<td>41.67%</td>
<td>64.58%</td>
<td>40.74%</td>
<td>21.88%</td>
<td>68.18%</td>
<td>61.54%</td>
<td>50%</td>
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<td>72.41%</td>
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<td>58.33</td>
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<td>33.33</td>
<td>27.59</td>
<td>8.33</td>
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RATIONALE FOR STUDENT RECOMMENDATION

Positive experiences

Convenient, safe, valuable, good way to ease into the skill of population health assessment before interacting with real people [Sentinel City® ]

Issues of fairness

Neighborhood and agency perceived as more time consuming; Sentinel City® was limited, interviews pre-set; all clinical groups should be exposed to Sentinel City® to begin clinical practice
### Support and guidance from CI

Students commented on the lack of guidance from their CI, believing the “other” groups received more support which was perceived as a “noticeable advantage”; clinical too advanced for Semester 3 students.

### Critique

“Sitting in a room during the summer months”; lack of “real world” opportunities, no real conversations; no Aboriginal content; too basic for university students for an entire term.
Q33 “Overall, the virtual simulation experience in Sentinel City® helped me to achieve the CHN course objectives”

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<th>Levels</th>
<th>2018 AS Virtual sim</th>
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<tr>
<td><strong>Strongly disagree</strong></td>
<td>9.09%</td>
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<tr>
<td><strong>Disagree</strong></td>
<td>18.18</td>
</tr>
<tr>
<td><strong>Agree</strong></td>
<td>59.09</td>
</tr>
<tr>
<td><strong>Strongly agree</strong></td>
<td>13.64</td>
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Q34 “I am satisfied with my learning experience in the virtual simulation using Sentinel City®”

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<th>Levels</th>
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Limitations

- Convenience sample consisting of students from only one university
- Student perceptions through self-reported data
- Different skill levels of CIs, particularly between the DE and AS cohort
The development work has been done!

Many assignment ideas, complete with learning outcomes, grading rubrics

Concept review and/or critical thinking question prompts

AACN Essentials have been mapped to each assignment
What we did....
Student Assignments

- Windshield survey
- Interviews with citizens, key stakeholders
- Assessment of subsystems, e.g., education, transportation, health care
- Home visit
- Population focused intervention
The Sentinel City group indicated the highest confidence that they were able to meet the course learning objectives (mean: 4.02), with the community agency group (3.85) and the geographical neighbourhood placement group (3.61) both indicating less confidence in meeting course outcomes.

The inconsistency in backgrounds of teaching and professional practice experiences of CI hired to teach population health clinical is problematic.

Student feedback indicates that a combination of virtual simulation and agency or neighbourhood settings would be ideal.
Recommendations

Further explore multi-contextual pedagogies to teach population health nursing

A combination of the virtual city and “real life” placements

Of critical importance, regardless of setting, is the support and guidance from qualified CI


Questions, comments?

- Thank you for attending the presentation
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