***Supplemental Digital Content 2: Article Characteristics (n=15)***

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| Article Characteristics | N (%) |
| Year of publication  <2000  2000-2005  2006-2010  2011-2015  >2016 | 2 (13.3)  2 (13.3)  3 (20)  4 (26.7)  4 (26.7) |
| Country of publication  Brazil  China  Finland  Germany  United States of America | 2 (13.3)  1 (6.7)  1 (6.7)  1 (6.7)  10 (66.6) |
| Study types  Competency inventory development  Competency measurement instrument development  Scoping review  Quasi-experimental competency assessment | 11 (73.3)  1 (6.7)  1 (6.7)  2 (13.3) |
| Population of interest  Nurse leaders (including directors, managers)  Nurses in executive level leadership positions  Nurses in various roles | 8 (53.3)  1 (6.7)  4 (26.7) |
| Frameworks/processes used to inform competency identification (not mutually exclusive)  American Organization of Nurse Executives (AONE)  Australian Health Informatics Education Council (AHIEC)  Canada's Health Informatics Association (COACH) HIP Competency  Generic organizational behaviour theories  Global Health Workforce Council (GHWC)  Information Management Framework  Informatics Research Organizing (IRO)  Technology Informatics Guiding Education Reform (TIGER)  Frameworks from prior competency research | 2 (13.3) 1 (6.7)  1 (6.7)  1 (6.7)  1 (6.7)  2 (13.3) 1 (6.7) 4 (26.7) 6 (40) |
| Primary method used to identify competencies  Expert Interviews  Qualitative descriptive case study  Delphi technique  Environmental scan  Surveys  Task force | 2 (13.3)  1 (6.7)  5 (33.3)  1 (6.7)  5 (33.3)  1 (6.7) |
| Number of relevant competencies identified  10-25  26-50  51-75  76-100  >100 | 5 (33.3)  3 (20)  3 (20)  2 (13.3)  2 (13.3) |