

## Supplemental Tables

**Supplemental Table S1.** Adapted Effective Public Health Practice Project quality assessment.

| Type of domain   | Criteria definition  | Classification (potential for bias)   |
|------------------|--|---|
| Selection bias   | Sampling method of the study population, representativeness (response rate, difference between responders and non-responders, investigation, and control of variables in case of difference between responders and non-responders) | <p><b>Weak:</b> Target population defined as representative of the general population or subgroup of the general population (specific age group, women, men, specific geographic area, and specific occupational group) and response rate is above 80%.</p> <p><b>Moderate:</b> Target population defined as somewhat representative of the general population, a restricted subgroup of the general population, response rate 60%-79%.</p> <p><b>Strong:</b> Target population defined as “self-referred”/volunteers, response rate less than 60%.</p> |
| Performance bias | Valid and reliable assessment of exposure<br>Assessors blinded for outcome status  | <p><b>Weak:</b> Register data or detail information on duration, type, and content of training.</p> <p><b>Moderate:</b> A dichotomized (yes/no) self-reported question was used.</p>  |
| Detection bias   | Clear definition of outcome<br>Standard method for outcome assessment<br>Assessor of outcome blinded to exposure status  | <p><b>Weak:</b> The outcome assessment was based on register data.</p> <p><b>Moderate:</b> The outcome assessment was based on self-reported measures.</p>  |
| Confounding      | Matching<br>Stratification<br>Statistical analysis   | <p><b>Weak:</b> Considered confounders and controlled for 80%-100% of confounders.</p> <p><b>Moderate:</b> Considered confounders and controlled for 60%-79%.</p> <p><b>Strong:</b> Considered confounders and controlled for less than 60%.</p>  |
| Attrition bias   | Withdrawal and drop- out rates<br>Size of missing data   | <p><b>Weak:</b> Follow up participation rate of more than 80%, or missing data of less than 20%.</p> <p><b>Moderate:</b> Follow up participation rate of 60%-79%, or missing data of 20%-40%.</p> <p><b>Strong:</b> Follow up participation rate of less than 60%, or missing data of more than 40%.</p>  |

**Supplemental Table S2.** Risk of bias assessment

| Study (authors, year of publication and country)           | Selection   | Performance | Detection | Attrition | Confounding |
|--|---|-------------|-----------|-----------|-------------|
| <b>Cohort studies</b>                                      |   |             |           |           |             |
| Holm et al. 2017, Denmark [1]                              | Low   | Moderate    | Low       | Low       | Low         |
| Chang et al. 2016, USA [2]                                 | Low   | Low         | Low       | Low       | Moderate    |
| Ries et al. 2012, USA [3]                                  | Moderate  | Low         | Low       | Low       | Moderate    |
| Robinson and Tingle 2003, UK [4]                           | Low   | Moderate    | Moderate  | Moderate  | High        |
| <b>Cross-sectional studies</b>                             |   |             |           |           |             |
| Wang et al. 2022, China [5]                                | High  | Low         | Moderate  | Low       | Low         |
| Miura et al. 2021, Japan [6]                               | High  | Moderate    | Moderate  | Low       | High        |
| Gan et al. 2020, China [7]                                 | Low   | Moderate    | Moderate  | Low       | Low         |
| Liu & Mao 2020, China [8]                                  | Low   | Moderate    | Moderate  | Low       | Low         |
| Du et al. 2019, Taiwan [9]                                 | Low   | Moderate    | Moderate  | Low       | Moderate    |
| Kols et al. 2018, Ethiopia [10]                            | Moderate  | Moderate    | Moderate  | Low       | Moderate    |
| Moloney et al. 2018, New Zealand [11]                      | High  | Moderate    | Moderate  | Low       | Moderate    |
| Nowrouzi et al. 2016, Canada [12]                          | High  | Moderate    | Moderate  | Low       | Low         |
| Yu and Kang 2016, South Korea [13]                         | Moderate  | Moderate    | Moderate  | Low       | Low         |
| Agyapong et al. 2015, Ghana [14]                           | Moderate  | Moderate    | Moderate  | Low       | High        |
| Gallego et al. 2015, Australia [15]                        | High  | Moderate    | Moderate  | Low       | Moderate    |
| Tomietto et al. 2015, Italy [16]                           | Moderate  | Moderate    | Moderate  | Low       | Moderate    |
| Chenoweth et al. 2013, Australia [17]                      | High  | Moderate    | Moderate  | Low       | High        |
| Marinucci et al. 2013, 7 Sub-Saharan Africa countries [18] | High  | Moderate    | Moderate  | Low       | High        |
| Turner et al. 2012, UK [19]                                | High  | Moderate    | Moderate  | Low       | Low         |
| Malik et al. 2011, Pakistan [20]                           | Moderate  | Moderate    | Moderate  | Low       | Moderate    |
| Estry-Behar et al. 2010 [21]                               | High  | Moderate    | Moderate  | High      | High        |
| Flinkman et al. 2008 [22]                                  | Moderate  | Moderate    | Moderate  | Low       | High        |
| Garrett et al. 2008, Australia [23]                        | High  | Moderate    | Moderate  | Low       | High        |
| Fochsen et al. 2005, Sweden [24]                           | Moderate  | Moderate    | Moderate  | Low       | Moderate    |
| Lau et al. 2004, New Zealand [25]                          | Moderate  | Moderate    | Moderate  | Low       | High        |
| Lee and Bruvold 2003, Singapore and USA [26]               | Moderate (Low for sample from Singapore and high for sample from USA) | Moderate    | Moderate  | Low       | Moderate    |
| Chorus et al. 2001, the Netherlands [27]                   | Moderate  | Moderate    | Moderate  | Low       | Moderate    |

## References

- Holm, A.; Høgelund, J.; Gørtz, M.; Rasmussen, K.S.; Houlberg, H.S. Employment effects of active labor market programs for sick-listed workers. *J. Health Econ.* **2017**, *52*, 33–44. <https://doi.org/10.1016/j.jhealeco.2017.01.006>.
- Chang, S.; Morahan, P.S.; Magrane, D.; Helitzer, D.; Lee, H.Y.; Newbill, S.; Peng, H.L.; Guindani, M.; Cardinali, G. Retaining Faculty in Academic Medicine: The Impact of Career Development Programs for Women. *J. Womens Health* **2016**, *25*, 687–696. <https://doi.org/10.1089/jwh.2015.5608>.
- Ries, A.; Wingard, D.; Gamst, A.; Larsen, C.; Farrell, E.; Reznik, V. Measuring faculty retention and success in academic medicine. *Acad. Med.* **2012**, *87*, 1046–1051. <https://doi.org/10.1097/ACM.0b013e31825d0d31>.
- Robinson, S.; Tingle, A. Continuing education opportunities for recently qualified mental health diplomates. *J. Psychiatr. Ment. Health Nurs.* **2003**, *10*, 659–668. <https://doi.org/10.1046/j.1365-2850.2003.00648.x>.
- Wang, X.; Qin, H.; Zhu, Y.; Wang, Z.; Ye, B.; Zhu, X.; Liang, Y. Association of off-the-job training with work performance and work-family conflict among physicians: A cross-sectional study in China. *BMJ Open* **2022**, *12*, e053280. <https://doi.org/10.1136/bmjopen-2021-053280>.
- Miura, H.; Tano, R.; Oshima, K.; Usui, Y. Analysis of Factors Related to Working Status of Dental Hygienists in Japan. *Int. J. Environ. Res. Public Health* **2021**, *18*, 1025. <https://doi.org/10.3390/ijerph18031025>.
- Gan, Y.; Jiang, H.; Li, L.; Yang, Y.; Wang, C.; Liu, J.; Yang, T.; Zheng, Y.; Zhu, Y.; Sampson, O.; et al. A national survey of turnover intention among general practitioners in China. *Int. J. Health Plann. Manag.* **2020**, *35*, 482–493. <https://doi.org/10.1002/hpm.2921>.

8. Liu, J.; Mao, Y. Continuing medical education and work commitment among rural healthcare workers: A cross-sectional study in 11 western provinces in China. *BMJ Open* **2020**, *10*, e037985. <https://doi.org/10.1136/bmjopen-2020-037985>.
9. Du, P.; Huang, I.; Huang, Y.; Chang, C. Dual normative commitments mediating the relationship between perceived investment in employees' development and intention to leave among the healthcare workforce in underserved areas of Taiwan. *Rural Remote Health* **2019**, *19*, 4837. <https://doi.org/10.22605/RRH4837>.
10. Kols, A.; Kibwana, S.; Molla, Y.; Ayalew, F.; Teshome, M.; van Roosmalen, J.; Stekelenburg, J. Factors Predicting Ethiopian Anesthetists' Intention to Leave Their Job. *World J. Surg.* **2018**, *42*, 1262–1269. <https://doi.org/10.1007/s00268-017-4318-7>.
11. Moloney, W.; Boxall, P.; Parsons, M.; Cheung, G. Factors predicting Registered Nurses' intentions to leave their organization and profession: A job demands-resources framework. *J. Adv. Nurs.* **2018**, *74*, 864–875. <https://doi.org/10.1111/jan.13497>.
12. Nowrouzi, B.; Rukholm, E.; Lariviere, M.; Carter, L.; Koren, I.; Mian, O.; Giddens, E. An examination of retention factors among registered nurses in Northeastern Ontario, Canada: Nurses intent to stay in their current position. *Work* **2016**, *54*, 51–58. <https://doi.org/10.3233/WOR-162267>.
13. Yu, M.; Kang, K.J. Factors Affecting Turnover Intention for New Graduate Nurses in Three Transition Periods for Job and Work Environment Satisfaction. *J. Contin. Educ. Nurs.* **2016**, *47*, 120–131. <https://doi.org/10.3928/00220124-20160218-08>.
14. Agyapong, V.I.; Osei, A.; Farren, C.K.; McAuliffe, E. Factors influencing the career choice and retention of community mental health workers in Ghana. *Hum. Resour. Health* **2015**, *13*, 56. <https://doi.org/10.1186/s12960-015-0050-2>.
15. Gallego, G.; Dew, A.; Lincoln, M.; Bundy, A.; Chedid, R.J.; Bulkeley, K.; Brentnall, J.; Veitch, C. Should I stay or should I go? Exploring the job preferences of allied health professionals working with people with disability in rural Australia. *Hum. Resour. Health* **2015**, *13*, 53. <https://doi.org/10.1186/s12960-015-0047-x>.
16. Tomietto, M.; Rappagliosi, C.M.; Sartori, R.; Battistelli, A. Newcomer nurses' organisational socialisation and turnover intention during the first 2 years of employment. *J. Nurs. Manag.* **2015**, *23*, 851–858. <https://doi.org/10.1111/jonm.12224>.
17. Chenoweth, L.; Merlyn, T.; Jeon, Y.H.; Tait, F.; Duffield, C. Attracting and retaining qualified nurses in aged and dementia care: Outcomes from an Australian study. *J. Nurs. Manag.* **2014**, *22*, 234–247. <https://doi.org/10.1111/jonm.12040>.
18. Marinucci, F.; Majigo, M.; Wattleworth, M.; Paterniti, A.D.; Hossain, M.B.; Redfield, R. Factors affecting job satisfaction and retention of medical laboratory professionals in seven countries of Sub-Saharan Africa. *Hum. Resour. Health* **2013**, *11*, 38. <https://doi.org/10.1186/1478-4491-11-38>.
19. Turner, S.; Ross, M.K.; Ibbetson, R.J. The impact of General Dental Council registration and continuing professional development on UK dental care professionals: (1) dental nurses. *Br. Dent. J.* **2012**, *213*, E2. <https://doi.org/10.1038/sj.bdj.2012.664>.
20. Malik, O.F.; Abbas, Q.; Kiyani, T.M.; Malik, K.; Waheed, A. Perceived investment in employee development and turnover intention: A social exchange perspective. *Afr. J. Bus. Manag.* **2011**, *5*, 1904–1914. <https://doi.org/10.5897/AJBM10.1024>.
21. Estryn-Behar, M.; van der Heijden, B.I.; Fry, C.; Hasselhorn, H.M. Longitudinal analysis of personal and work-related factors associated with turnover among nurses. *Nurs. Res.* **2010**, *59*, 166–177. <https://doi.org/10.1097/NNR.0b013e3181dbb29f>.
22. Flinkman, M.; Laine, M.; Leino-Kilpi, H.; Hasselhorn, H.M.; Salanterä, S. Explaining young registered Finnish nurses' intention to leave the profession: A questionnaire survey. *Int. J. Nurs. Stud.* **2008**, *45*, 727–739. <https://doi.org/10.1016/j.ijnurstu.2006.12.006>.
23. Garrett, T. Pharmacy workforce recruitment and retention: An Australian Area Health Service perspective. *J. Pharm. Pract. Res.* **2008**, *38*, 183–187.
24. Fochsen, G.; Sjogren, K.; Josephson, M.; Lagerstrom, M. Factors contributing to the decision to leave nursing care: A study among Swedish nursing personnel. *J. Nurs. Manag.* **2005**, *13*, 338–344. <https://doi.org/10.1111/j.1365-2934.2005.00546.x>.
25. Lau, T.; Kumar, S.; Robinson, E. New Zealand's psychiatrist workforce: Profile, recruitment and retention. *Aust. N. Z. J. Psychiatry* **2004**, *38*, 547–553. <https://doi.org/10.1080/j.1440-1614.2004.01408.x>.
26. Lee, C.H.; Bruvold, N.T. Creating value for employees: Investment in employee development. *Int. J. Hum. Resour. Manag.* **2003**, *14*, 981–1000.
27. Chorus, A.M.; Miedema, H.S.; Wevers, C.W.; van der Linden, S. Work factors and behavioural coping in relation to withdrawal from the labour force in patients with rheumatoid arthritis. *Ann. Rheum. Dis.* **2001**, *60*, 1025–1032. <https://doi.org/10.1136/ard.60.11.1025>.