The Journal of Medical Education Research 2024 Vol 4 No 2 pp 7-18, DOI: 10.5750/jmer.v4i2.2229

HAS SUPERVISION AND TRAINING IN CAMHS IRELAND IMPROVED FOLLOWING THE MASKEY REPORT?

*Laura Bond**
University College Dublin, School of Medicine
Paediatric Liaison Psychiatry, Children's Hospital Ireland at Crumlin

Fiona McNicholas
University College Dublin, School of Medicine
Paediatric Liaison Psychiatry, Children's Hospital Ireland at Crumlin
Lucena Clinic, Rathgar, Dublin

ABSTRACT

Introduction: A look back review of South Kerry CAMHS in Ireland, known as the 'Maskey report' (MR) highlighted several key contributory factors including an absence of formal supervision, inadequate prescribing knowledge, and a lack of contractual requirements to engage in professional education to develop skills pertaining to child psychiatry.
Aim: To investigate child and adolescent psychiatrists' perceptions concerning supervision levels before and after the MR, their prescribing knowledge and practices, and professional education.
Methods: The study utilized a cross-sectional, mixed-methods observational approach, distributing a study-specific questionnaire electronically to 160 CAP. Demographic details and participants' perspectives on training, supervision, and CPD activities were collected. Statistical analysis, including chi-square tests, was conducted to explore associations with thematic analysis applied to free text responses for qualitative insights.
Results: From the 160 eligible respondents, 102 child and adolescent psychiatrists participated in the study giving a response rate of 63.8%. More than a third of non-consultant hospital doctors (NCHDs) reported less than weekly supervision (n = 11, 34.4%). Fifty-two respondents (51.0%) felt that psychotropic medication training for trainees was below adequate, and this was higher in NCHDs (χ^2 (2, n = 102) = 12.192, p = .002) and in those working in public settings (χ^2 (2, n = 102) = 10.098, p = .006). A third of respondents reported access to CPD activity as inadequate (n = 32, 31.4%) and this was also higher in NCHDs (χ^2 (1, n = 102) = 7.515, p = 0.006).
Discussion: Given the suboptimal frequency of supervision, perceived inadequacy of psychotropic medication training and lack of access to CPD

*Corresponding author: e-mail: laura.bond1@ucdconnect.ie

activities, further research to establish effective strategies for enhancing supervision and training of child and adolescent psychiatrists is warranted.

Keywords: child and adolescent psychiatrists, supervision, training, satisfaction

BACKGROUND

Non-Consultant Hospital Doctors (NCHDs) are medical practitioners in Ireland who work in hospitals but have not yet attained consultant status. This category includes both doctors undergoing formal training programs and those in non-training positions who contribute to patient care while gaining important experience. Psychiatry trainee NCHDs in Ireland complete a three-to-four-year pathway referred to as 'Basic Specialist Training' (BST), rotating through various specialties within psychiatry such as Adult Psychiatry, Psychiatry of Old Age, Child and Adolescent Psychiatry and Psychiatry of Learning Disability. Trainees subsequently progress to a three-year pathway in their subspeciality of choice referred to as Higher Specialist Training (HST) before being awarded a 'Certificate of Satisfactory Completion of Specialist Training' (CSCST). Obtaining the CSCST qualifies an individual for inclusion in the Irish Medical Council's (IMC) Specialist Division Register (College of Psychiatrists of Ireland, 2016), allowing the clinician to practice independently as a specialist consultant.

The Medical Practitioners Act (2007) mandates the Professional Competence Scheme (PCS) for every doctor registered with the Irish Medical Council (IMC) in Ireland, making it a compulsory program for maintaining professional standards. The College of Psychiatrists of Ireland (CPI), which is responsible for all aspects of psychiatry training in Ireland, manages the PCS requirements specific to psychiatry. CPI's curriculum encompasses both clinical and professional domains and include the psychiatric interview, physical examination, risk assessment, pharmacotherapeutics, professionalism and teamwork. Trainees are required to attain specific learning outcomes, determined by CPI through continuous Workplace Based Assessments (WPBAs), a Portfolio and by passing the College BST Examination.

Advancement through the psychiatry training program is contingent on approval by an 'Annual Review of Progress Panel'. Clinical supervision of psychiatry trainees is provided by their clinical supervisor and aims to enhance both professional development of trainees and the quality of care of patients (College of Psychiatrists, 2016). Additionally, trainees have a protected one-hour session of weekly educational supervision, which consists of mentoring, coaching, reviewing WPBAs and ensuring learning outcomes are being attained (College of Psychiatrists of Ireland, 2016).

To meet service demands, CPI has long advocated for an increase in the number of consultant and trainees (College of Psychiatrists of Ireland, 2018). Despite this, the number of consultants in Ireland remains significantly lower than the levels recommended by stakeholders such as the Irish Hospitals

Consultants Associations (2020) and National Doctors Training and Planning (2021). The gap in trained medical personnel and service demand has resulted in a "high level of reliance on non-training NCHDs to deliver psychiatry services that should otherwise be delivered by psychiatry trainee NCHDs and consultants" (National Doctors Training and Planning, 2021). Although the non-training NCHD contract mandates participation in education and training via the Continuous Professional Development (CPD) Support Scheme, the requirements are generic and need not be specific to psychiatry. Additionally, protections afforded to CPI trainees by way of mandated supervision and protected training time is less stringently applied to non-trainee NCHDs.

In 2020, concerns arose about clinical practices of a non-trainee NCHD regarding the assessments and treatments of children and adolescents attending a Child and Adolescent Mental Health Services (CAMHS) in South Kerry (Maskey, 2022). This led to a Health Service Executive (HSE) commissioned independent review by a United Kingdom (UK) expert, Dr Sean Maskey, which was completed in September 2021. The HSE published the findings, termed the 'Maskey Report' (MR) on the 26th of January 2022 (Maskey, 2022). The MR highlighted inadequate assessments and evaluation of attention deficit hyperactivity disorder (ADHD) and inconsistent and inadequate monitoring of psychotropic medication by the NCHD (Maskey, 2022). The MR found that there were 240 children whose care did not meet acceptable standards (Maskey, 2022) and clear evidence of significant harm caused to 46 (Maskey, 2022).

The MR highlighted several key contributory factors including an absence of formal supervision of the NCHD, inadequate prescribing knowledge and practices by the NCHD and a lack of contractual requirements for the NCHD to engage in professional education to develop skills pertaining to child psychiatry (Maskey, 2022). The MR advocated for the fulfillment of statutory obligations under the PCS by all NCHDs (Maskey, 2022), including supervision and professional education activities. Our study seeks to investigate the extent to which this recommendation is being implemented and adhered to by clinicians working in child and adolescent psychiatry services. For the purpose of this paper, NCHDs will refer to both non-trainee NCHDs and HST NCHDs.

AIM

The aim of the study was to explore the perceptions of child and adolescent psychiatrists (NCHDs and consultants) regarding the levels of supervision pre-and post-MR, psychotropic medication training and engagement with CPD activities.

METHOD

The study was a cross-sectional, mixed-methods observational study. A study specific questionnaire was distributed electronically via Google Forms by the College of Psychiatrists of Ireland to all consultants, clinical fellows and senior

registrars working in Child and Adolescent Psychiatry (CAP) (n = 160). Clinicians were invited to complete the questionnaire which took approximately 10-15 minutes. A reminder email was sent four weeks later (April-May 2023). All responses were anonymised.

Demographic details included seniority level (consultant/non-consultant hospital doctor (NCHD)), service type (CAMHS outpatient department (OPD), in-patient unit or liaison psychiatry), contract (permanent/non-permanent e.g. fixed rate, stand-alone or locum) and whether service delivered was private or public. Participants were asked to rate their views on training including perceived adequacy of trainee psychotropic medication training, consultant/trainee formal supervision and CPD activities. Participants were asked about potential barriers to supervision informed by the literature, and included staffing, workloads, and equity of workloads (Rothwell *et al.,* 2021). For ease of completion, responses to questions used a seven-point Likert Response Scale (significantly increased, increased, slightly increased, no change, slightly decreased, decreased, significantly decreased). Opportunities for free text responses were included on all questions to capture additional qualitative data.

STATISTICAL ANALYSIS

Statistical analysis was carried out using Statistical Package for the Social Sciences (SPSS) version 22.0. Associations between psychiatrists' perceptions to psychotropic medication training, engagement with CPD activities and frequency of supervision with demographic factors, working conditions, stress and motivation levels since the MR and perceived impact of the MR were analysed using Pearson's chi-squared test. Fisher's exact test statistic was used when expected frequencies were observed to be less than 5. The p-value was set at 0.05. Thematic analysis was conducted to capture frequently cited and meaningful information from free text responses (Clarke & Braun, 2017).

ETHICAL APPROVAL

Ethical approval was granted by University College Dublin on the 7th of March 2023 [LS-LR-23-54-BOND-MCNICHOLAS].

RESULTS

DEMOGRAPHICS

From the 160 eligible respondents, 102 child and adolescent psychiatrists participated in the study giving a response rate of 63.8%. Over 90% of NCHDs (n = 30) were higher specialist trainees (HST) with CPI and the remaining 2 were not currently in clinical training but working off-scheme in standalone posts. More than two-thirds of consultants (n = 54, 77.1%) held permanent

Table 1. Demographics of participants

Demographics	n (%)
Role	
Consultants	70 (68.6%)
NCHDs	32 (31.4%)
Work setting	
Community CAMHS	90 (88.2%)
Non-community (inpatient, liaison)	12 (11.8%)
Contract type	
Permanent	56 (54.9%)
Non-permanent (fixed contract, locum, stand-alone)	46 (45.1%)
Public/private setting	
Public	93 (91.2%)
Private	9 (8.8%)

contracts with the remaining holding locum contracts. The participant's demographics are listed in Table 1.

SUPERVISION

More than a third of NCHDs reported less than weekly supervision (n = 11, 34.4%). One trainee NCHD reported that they never received supervision, two trainee NCHDs reported supervision every few months and eight trainee NCHDs reported supervision every few weeks. There was no significant association between the frequency of supervision being less than weekly and the NCHD's work setting (χ^2 (1, n = 32) = 0.541, p = 0.462) nor public/private setting (χ^2 (1, n = 32) = 0.286, p = 0.593). Most NCHDs reported poor staffing levels in their service (n = 23, 71.9%), unmanageable workloads (n = 19, 59.4%) and unfair equity of workload (n = 20, 62.5%). There was no significant association between supervision being less than weekly with poor staffing levels (χ^2 (1, n = 32) = 2.490, p = 0.115), unmanageable workloads (χ^2 (1, n = 32) = 1.347, p = 0.246) or unfair equity of workload (χ^2 (2, n = 32) = 0.009, p = 0.923).

A third of respondents (n = 32, 31.4%) felt that supervision of NCHDs had increased post-MR, with the remaining reporting no change. This view was more pronounced in consultants than NCHDs (34.3% of consultants vs. 25.0% of NCHDs). Qualitative themes that emerged were increased vigilance of supervision post-MR with one consultant stating that they were now "*supervising more tightly"* [Consultant 1] and another psychiatrist felt that the MR had *raised issues regarding the supervision of NCHD's and highlighted the need for regular supervision regardless of how busy the clinicians are"* [NCHD 1].

PSYCHOTROPIC MEDICATION TRAINING FOR NCHDS

Just under half of consultants (n = 32, 45.7%) reported that post-MR, their supervision of NCHD prescribing and monitoring practice had increased.

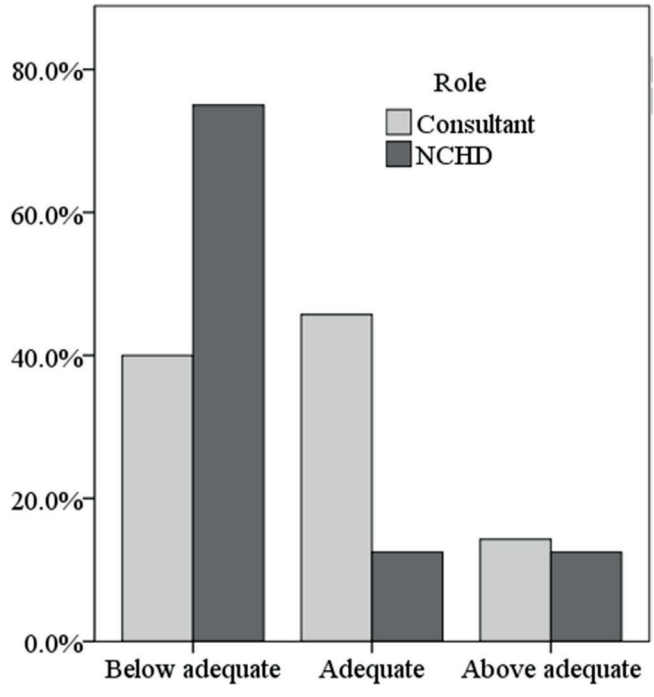
More than half of NCHDs (n = 20, 57.1%) reported that post-MR, the frequency of clinical discussion with their supervisor around psychotropic medication prescribing had increased. Fifty-two respondents (51.0%) felt that psychotropic medication training for trainees was below adequate (75.0% of NCHDs vs. 40.0% of consultants) (see Graph 1).

Reported medication training inadequacy was higher in NCHDs compared with consultants (χ^2 (2, n = 102) = 12.192, p = .002) and in those working in public settings (χ^2 (2, n = 102) = 10.098, p = .006). There was no significant association between training adequacy and work setting (χ^2 (2, n = 102) = 1.670, p = .434).

Qualitative themes that emerged included a gap in psychotropic medication training with one psychiatrist stating that *"there is a major need for improved teaching for senior registrars in my opinion. The very rigid and structured teaching at BST level disappears at HST level"* [NCHD 2]. Another psychiatrist recommended to *"improve training opportunities for clinicians especially with medication"* [NCHD 3].

ENGAGEMENT WITH CPD ACTIVITIES

Peer discussions and reading medication product information were the most common CPD activity reported by respondents and reading textbooks the least common (see Table 2).



Graph 1. Perceptions of psychotropic medication training for NCHDs

Table 2. Preferred CPD activities reported by child and adolescent psychiatrists

	Never (%)	Occasionally (%)	Often (%)
Attending peer discussions	4 (3.9%)	38 (37.3%)	60 (58.8%)
Reading medication product information	2 (2.0%)	41 (40.2%)	59 (57.8%)
Reading clinical guidelines	1 (1.0%)	46 (45.1%)	55 (53.9%)
Attending journal club/conferences	2 (2.0%)	46 (45.1%)	54 (52.9%)
Reading scientific literature	2 (2.0%)	47 (46.1%)	53 (52.0%)
Reading textbooks	9 (8.8%)	67 (65.7%)	26 (25.5%)

Most respondents rated that access to CPD activities was adequate or above adequate in the service they worked in (n = 70, 68.6%), however, a third of respondents reported access to CPD activities as being below adequate (n = 32, 31.4%). Reported CPD activity inadequacy was higher in NCHDs compared to consultants (χ^2 (1, n = 102) = 7.515, p = 0.006). There was no significant association between feeling that access to CPD activities was inadequate and work setting (χ^2 (1, n = 102) = 0.703, p = 0.402) or working in the public vs. private setting (χ^2 (1, n = 102) = 1.882, p = 0.266).

Fifteen respondents (14.7%, consultants n = 8, NCHDs n = 7) reported an increase in CPD activities post-MR, with 87 respondents (85.3%) reporting no change to CPD activities. There were no statistically significant associations between increasing CPD activities with role (χ^2 (1, n = 102) = 1.911, p = 0.228), contact type (χ^2 (1, n = 102) = 3.304, p = 0.069), work setting (χ^2 (1, n = 102) = 2.085, p = 0.296) or private/public setting (χ^2 (1, n = 102) = 0.102, p = 0.750).

DISCUSSION

This study explored perceptions of child and adolescent psychiatrists on supervision, psychotropic medication training and CPD activities. Our study found that over a third of child and adolescent trainee psychiatrists were reporting educational supervision occurring less than weekly and at a level not considered acceptable by CPI regulations. This is concerning given the findings of the MR, which highlighted a lack of formal supervision of NCHDs as being a key contributory factor into the substandard care of youth within the service.

The literature highlights low staffing and increased workloads as barriers to supervision (Lalani *et al.,* 2018; Rothwell *et al.,* 2021) and both were reported in this cohort of psychiatrists. Our study, however, did not report any associations with these issues and supervision frequency, therefore other barriers to supervision should be considered. According to the literature, potential barriers include a poor understanding of supervision by supervisors and trainees (Love *et al.,* 2017; Phillips *et al.,* 2012), a lack of supervisor training (Wilson *et al.,* 2016) and a lack of relationship and trust between the supervisor and trainee (Martin *et al.,* 2015; Nancarrow *et al.,* 2014). Enablers include having an open

and safe environment (Love *et al.,* 2017; Samuel & Thompson, 2018), a trusting supervisory relationship (Wilson *et al.,* 2016) and effective feedback (Gray *et al.,* 2015; Rodwell *et al.,* 2017). Notably, the requirements of CPI mandate that educational supervisors undergo specialised CPI training in supervision, 'Train the Trainer,' before assuming supervisory responsibilities, which encompass these aspects. Currently, the absence of a mandatory re-training mandate may lead to the scenario wherein specific consultants have undergone training solely on one occasion, which may have been a significant time ago. Further qualitative studies to explore potential barriers in providing weekly supervision from child and adolescents psychiatrists as well as other organisational and managerial stakeholders are warranted.

The study found that three quarters of NCHDs felt that psychotropic medication training was below adequate. This is an important finding, which should be urgently redressed, given that the MR highlighted a lack of knowledge of psychotropic medication and monitoring was a key contributory factor to 46 children being subject to serious harm (Maskey, 2022). Respondents working in public settings exhibited a higher prevalence of perceived inadequacy in psychotropic medication training compared to those in private settings. This may be attributed to the potentially greater availability of resources in private settings. Additionally, there was a discrepancy between the perceived adequacy of psychotropic medication training and the professional roles of consultants versus NCHD with more NCHDs reporting training inadequacy. This discrepancy may be attributed by several interconnected factors. Consultants may different expectations based on their own training experiences, leading them to view current programs as improved or adequate. Their broader perspective may enable them to assess available training resources with confidence, while confirmation bias might cause them to justify these views and overlook concerns expressed by NCHDs. Additionally, hierarchical dynamics may distance consultants from the challenges trainees face, resulting in an underestimation of the inadequacies in their training experiences. It is essential to prioritise a deeper exploration of NCHDs' perspectives on their current training experiences and their expressed needs for additional professional development in psychotropic medication management.

Training in psychotropic medication in child and adolescent psychiatry training generally occurs through experiential learning during clinical placements. Medication prescribing and monitoring may therefore vary between clinical placements depending on the supervisors' attitudes, willingness, and expertise in prescribing, and this has been reported in several studies (Bareis *et al.,* 2022; Mykletun *et al.,* 2021; Sjöström *et al.,* 2022). There are a lack of psychotropic medication clinical guidelines which could standardize prescribing and support safe prescribing and monitoring particularly off-label prescribing. The development of National Protocols and guidelines were recently recommended in the National Prescribing Audit (Halpin *et al.,* 2023), commissioned in response to the South Kerry CAMHS review.

Whilst CPI run regular online 'Masterclasses', topics are varied and are not always focused to child and adolescent psychopharmacology. There is an opportunity to develop formal training programmes in Ireland in child and adolescent psychopharmacology, which are accessible, cost-effective, and perhaps mandatory. Currently, Irish CAP trainees must go overseas should they wish to complete a formal psychotropic medication training programme. Options include the British Association of Psychopharmacology course on child and adolescent psychopharmacology held in the United Kingdom (Cortese *et al.,* 2022). Attending courses overseas can incur challenges such as high financial costs, increased time-off work and may not be feasible for trainees with personal commitments. The authors are committed to the development of formal child and adolescent psychopharmacology training programmes in Ireland and have developed a series of masterclasses to run monthly through University College Dublin, which commenced in January 2024. The masterclasses have both international and national expert speakers on a range of topics relevant to child and adolescent psychiatry including off-label prescribing, ADHD, psychosis, bipolar and treatment resistant depression.

Most participants reported no change to CPD activities, however, over 15% reported increased CPD activities post-MR. There was a mix of both formal CPD activities and self-directed CPD activities, which is in keeping with the literature (Younes *et al.,* 2019). CPD has been linked to many positive outcomes including lower reporting of doctors to regulatory bodies (Wenghofer *et al.,* 2015) and quality of professional practice (Goulet *et al.,* 2013). CPD may therefore provide opportunities for optimising child and adolescent psychiatry and repairing the reputation of CAMHS post-MR. Further research into CPD including barriers and enablers in the CAP context will be important.

This study explored the supervision and training of child and adolescent psychiatrists both pre-and post-MR. The study was strengthened by a good response rate (Fincham, 2008), which represents child and adolescent psychiatrists working in Ireland as well as a mixed methods study design to allow a personal context for the quantitative data. The cross-sectional design and self-report nature of the survey means that causality cannot be inferred and there is a risk of responder recall bias. The feedback regarding training and supervision was predominantly sourced from higher trainees, with only two respondents categorized as non-trainee NCHDs. This limitation raises pertinent questions about the broader applicability of our insights into supervisory experiences. To address this gap, future research should prioritise the inclusion of a larger cohort of non-trainee NCHDs, thereby facilitating a more comprehensive understanding of their distinct supervisory challenges.

Considering our study's findings of suboptimal frequency of supervision, perceived inadequacy of psychotropic medication training and lack of access to CPD activities, further research to establish effective strategies for enhancing supervision and training of child and adolescent psychiatrists is warranted. In line with this recommendation, the authors have developed and are

currently delivering monthly "Child and Adolescent Psychopharmacology Masterclasses" at University College Dublin (UCD) available to all child and adolescent health professionals across Ireland.

CONFLICT OF INTEREST STATEMENT

No potential competing interest was reported by the author(s).

REFERENCES

Bareis, N., Olfson, M., Wall, M., Stroup, T. S. (2022). Variation in psychotropic medication prescription for adults with schizophrenia in the united states. *Psychiatric Services, 73*, 492–500.

Clarke, V. & Braun, V. (2017). Thematic analysis. *The Journal of Positive Psychology, 12*, 297–298.

Fincham, J. E. (2008). Response rates and responsiveness for surveys, standards, and the Journal. *American Journal of Pharmacology Education, 72,* 43. doi: 10.5688/aj720243. PMID: 18483608; PMCID: PMC2384218.

General Medical Council. (2021). *Understanding the experiences of Locum Agency Locums. A qualitative and quantitative research study.* General Medical Council. Available online: https://www.gmc-uk.org/-/media/documents/20211111-locum-agency-locums-report-final-version-v2_pdf-88893519.pdf. (accessed April, 2024).

Goulet, F., Hudon, E., Gagnon, R., Gauvin, E., Lemire, F. & Arsenault, I. (2013). Effects of continuing professional development on clinical performance: results of a study involving family practitioners in Quebec. *Canadian Family Physician, 59,* 518–525.

Gray, T. G., Hood, G. & Farrell, T. (2015). The results of a survey highlighting issues with feedback on medical training in the United Kingdom and how a smartphone APP could provide a solution. *BMC Research Notes, 8,* 653.

Irish Medical Council. (n.d.). Professional Competence. Guidelines for Doctors. *Irish Medical Council.* Available online: https://www.medicalcouncil.ie/news-and-publications/publications/information-for-doctors/professional-competence,-guidelines-for-doctors.pdf. (accessed November 17, 2023).

Lalani, N., Griffith, K. A., Jones, R. D., Spratt, D. E., Croke, J., and Jagsi, R. (2018). Mentorship experiences of early-career academic radiation oncologists in North America. *International Journal of Radiation Oncology Biology Physics*. *101*(3), 732–740.

Love, B., Sidebotham, M., Fenwick, J., Harvey, S. & Fairbrother, G. (2017). "Unscrambling what's in your head": A mixed method evaluation of clinical supervision for midwives. *Women Birth, 30,* 271–281.

Martin, P., Kumar, S., Lizarondo, L., VanErp, A. (2015). Enablers of and barriers to high quality clinical supervision among occupational therapists

across Queensland in Australia: findings from a qualitative study. *BMC Health Service Research, 15,* 413.

Medical Practitioner Act. (2007). Number 25 of 2007. Medical Practitioner Act. Available online: https://www.irishstatutebook.ie/eli/2007/act/25/enacted/en/pdf. (accessed March, 2024).

Mykletun, A., Widding-Havneraas, T., Chaulagain, A., Lyhmann, I., Bjelland, I., Halmøy, A., Elwert, F., Butterworth, P., Markussen, S., Zachrisson, H.D., Rypdal, K. (2021). Causal modelling of variation in clinical practice and long-term outcomes of ADHD using Norwegian registry data: the ADHD controversy project. *BMJ Open, 11,* e041698.

Nancarrow, S. A., Wade, R. & Moran, A. (2014). Connecting practice: a practitioner centred model of supervision. *Clinical Governance: An International Journal, 19,* 235–52.

Phillips, S., Berman, S., Hector, S., Tapping, J., Ooms, A. & Marks-Maran, D. (2012). An evaluation study of a clinical supervision programme. *Dental Nursing, 8,* 794–799.

Rodwell, J., McWilliams, J. & Gulyas, A. The impact of characteristics of nurses' relationships with their supervisor, engagement and trust, on performance behaviours and intent to quit. *Journal of Advanced Nursing, 73,* 190–200.

Rothwell, C., Kehoe, A., Farook, S. F. & Illing, J. (2021). Enablers and barriers to effective clinical supervision in the workplace: a rapid evidence review. *BMJ Open, 11,* e052929.

Samuel, S. & Thompson, H. (2018). Critical reflection: a general practice support group experience. *Australian Journal of Primary Health, 24,* 204–207.

Sjöström, D., Rask, O., Welin, L., Petersson, M. G., Gustafsson, P., Landgren, K., Eberhard, S. (2022). The Winding Road to Equal Care: Attitudes and Experiences of Prescribing ADHD Medication among Pediatric Psychiatrists: A Qualitative Study. *International Journal of Environmental Research in Public Health, 20,* 221.

Wenghofer, E. F., Campbell, C., Marlow, B., Kam, S. M., Carter, L. & McCauley, W. (2015). The effect of continuing professional development on public complaints: a case-control study. *Medical Education, 49,* 264–275.

Younes, N. A., Abu AlRub, R., Alshraideh, H., Abu-Helalah, M. A., Alhamss, S. & Qanno,' O. (2019). Engagement of Jordanian Physicians in Continuous Professional Development: Current Practices, Motivation, and Barriers. *International Journal of General Medicine, 12*, 475–483.