A rapid evidence review of the needs and support of nursing staff delivering care to children and young people with mental health needs, learning disabilities and/or autism

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Executive summary

Aim: The purpose of this rapid evidence review was to identify the experiences and needs of nursing staff caring for children and young people (CYP) with mental health (MH) needs, learning disabilities (LD) and/or autism in non-specialist settings.

Design: The review was limited to articles in English from High Income Countries published between 2011-2021 and found in five databases.

Results:

- 38 articles were included in the review.
- 17 articles were from the US, 9 from the UK, 3 from Canada, 3 from Australia, 2 from Ireland, one each from Portugal, Italy and Iceland, and one was global in scope.
- 26 articles focused on CYP with MH needs, 8 on LD and 4 on autism.
- 21 of the papers reflected on the experiences of staff working in inpatient wards, 6 focused on the emergency department (ED), 1 on intensive care units (ICUs) and 10 covered multiple hospital areas.

The main challenges identified by staff were:

- Lack of confidence to communicate with CYP and parents
- Lack of knowledge on how to assess symptoms and deliver care
- Concern staff would cause harm due to lack of knowledge
- Difficulties managing a safe hospital environment for CYP with MH needs, LD or autism, staff and other CYP on the ward
- Uncertainty regarding who was responsible for CYP care
- Difficulties finding the additional time required to care for CYP with LD and autism.

Tools to improve care

- 12 articles identified tools that could be used to support CYP's care: 4 on LD; 7 on MH; and 1 tool focused on managing behaviours that challenge staff.
- Tools related to CYP with LD focused on: assessment processes, supporting staff knowledge of LD and how to provide appropriate care.
- Tools related to MH focused on: improving staff knowledge of MH conditions and care planning, and specific conditions such as delirium, eating disorders, and risk of suicide.

Training and support interventions

- Training programmes focused on communicating a disability diagnosis, recognising and caring for CYP who self-harm and managing clinical aggression.
- Support interventions focused on improving communication with CYP with LD and autism, a feeding intervention, clinical supervision sessions for staff and MDT meetings.

Preferences for future training reported by staff included:

- The assessment of LD, eating disorders, risk of suicide, risk of self-harm
- How to address aggressive behaviour and crises
- Detecting pain and other symptoms in non-verbal children
- How to communicate with children and parents
- How to implement de-escalation techniques
- Selecting and dosing appropriate medications
- Staff members' knowledge of where they can gain support and advice (and refer families)
- Understanding current guidance and policy

1. Aims and questions guiding the review

The purpose of this rapid evidence review was to identify the experiences and needs of nursing staff caring for children and young people (CYP) with mental health (MH) needs, learning disabilities (LD) and/or autism in non-specialist settings. These findings will be used to inform the development of a training programme for staff by the London Transformation and Learning Collaborative (LTLC).

The review was guided by the following questions:

1. What is the experience of nurses caring for CYP people with MH needs, LD and/or autism in acute care settings?
2. What are their needs for training and support?
3. Has any training/support been developed to address these needs?

2. Design

The review design was informed by guidance for rapid evidence reviews developed by Tricco et al. (2017). Due to the rapid nature of the review (6 weeks), the questions and search strategy were targeted to allow for the identification of relevant papers that could be analysed within the review timeframe.

Search strategy

We identified search terms using a combination of free-text and controlled terms building on previous work and expertise in the team in the fields of MH and LD. We tested and refined terms by running exploratory searches in electronic databases (PubMed and CINAHL). We also looked for grey literature and tested the terms in relevant archives/databases (Open Grey and TRIP), an online browser (Google Scholar), and a number of health care and nursing websites (Department of Health, Royal College of Nursing, US Center for Disease Control and Prevention); however, only the TRIP database search identified potentially relevant material. We tested a provisional search strategy for sensitivity versus breadth on PubMed, using different combinations of Boolean operators and search strings (see Appendix 1 for the full search strategy).

The search was limited to articles published in English between 2011-2021 to keep knowledge current and the search manageable in scope. The search strategy focused on terms related to nursing, MH, LD, autism, CYP and the acute setting. Final searches were conducted in November 2021 on four databases (PubMed, CINAHL, Web of Science, PsychInfo) and the TRIP clinical database for grey literature.

Document selection

The search results were imported into Rayyan, which is a validated tool with semi-automated features enabling the detection of duplicated publications from the different databases. The software also displayed citation details, titles and abstracts of each publication, facilitating screening.

The initial title and abstract screening for eligibility was conducted in unison. Following the initial screening at title/abstract level, a second researcher cross checked 10% of exclusions against the inclusion criteria. Following the title and abstract screening, the remaining publications that met the inclusion criteria were imported into an Excel document and the full text was screened for eligibility.

We applied the following inclusion criteria:

- Relevance to the research question
- Research conducted in a High-Income Country as defined by the World Bank
- Published in English
- Published in the past 10 years (2011 – November 2021).
- Focused on the perspective of nurses working in acute settings with no specialist training for providing care to CYP with LD, MH needs and/or autism.

To keep the scope of the search within manageable limits, we did not include PhD theses, dissertations, books, conference proceedings, incomplete versions of papers and papers where we could not access the full text.

Data extraction

The data from the included articles were extracted using a data extraction form developed in REDCap using a pre-defined list based on categories identified in the screening process. The study details that were extracted from all articles included information on study design, study population, study setting and study methodology. The main categories extracted from the articles included: main patient characteristics, main staff needs, type of support required by staff and training programmes.

Data synthesis

We analysed the extracted data using framework analysis (Galet et al. 2013). The framework was based on the categories used in the data extraction form as well as additional categories of information reported in the articles. The final synthesis of findings was guided by the review questions.

Horizon scanning

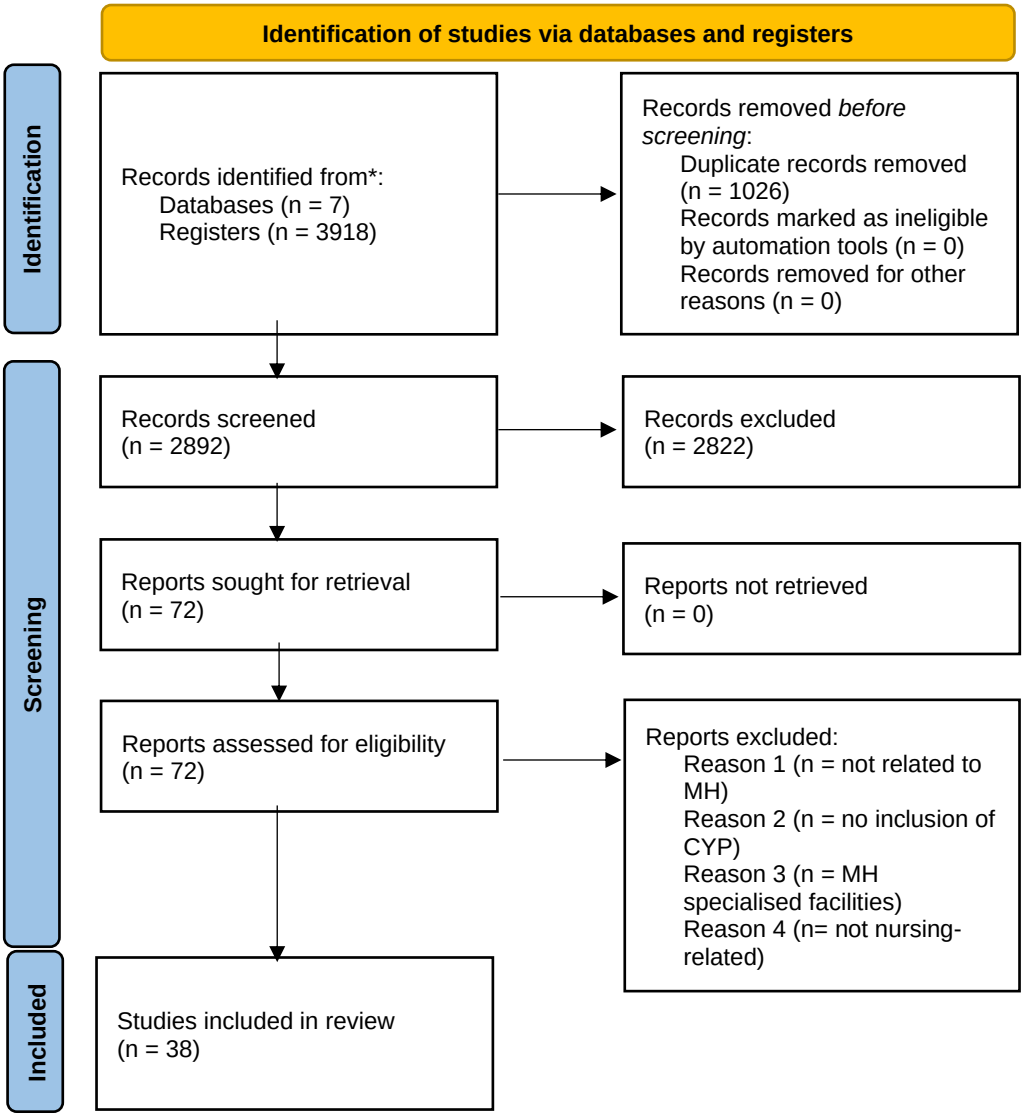
A Boolean search was made with a focus on terms linked to MH nursing for CYP, LD and autism. Searches focused on all shared tweets, forum posts, blog posts and web search terms for the period between November 2020 and November 2021. The results from the horizon scanning can be found in Appendix 2.

3. Results

Article selection

The initial search yielded 2892 articles (after duplicates were removed). 2822 articles were excluded as these did not meet the inclusion criteria outlined above. We reviewed 72 articles at full text level and excluded 34 because they were not related to MH, CYP, non-specialist mental health facilities, nursing staff or healthcare assistants. 38 articles were included in the final review (see Figure 1 for the PRISMA Flow Diagram).

Figure 1. PRISMA Flow Diagram



Article characteristics

The main article characteristics are summarised in Table 1. Seventeen articles were from the US, nine from the UK, three from Canada, three from Australia, two from Ireland, one each from Portugal, Italy and Iceland, and an additional one was global in scope. Most of the papers (26) focused on CYP with MH needs, eight focused on LD and four focused on autism. Twenty-one of the papers reflected on the experiences of staff working in inpatient wards, six focussed on the emergency department (ED), one on the intensive care unit (ICU) and ten covered multiple hospital areas. Thirteen papers were non-empirical reports in the form of commentaries and out of the remaining empirical papers, twelve were qualitative studies, six were quantitative studies and seven were mixed-methods studies.

Table 1. Main article characteristics

Surname / first author	Year of publication	Study location	Study setting	Type of article	Area of focus
Pengelly	2011	Ireland	Inpatient	Mixed methods	Mental health
Chun	2011	US	Emergency department	Quantitative study	Mental health
Schmid	2011	US	Emergency department	Non-empirical report (i.e., commentary)	Mental health
Moore	2012	US	Emergency department	Non-empirical report (i.e., commentary)	Learning disability
Vaz	2013	UK	Inpatient	Qualitative study	Learning disability
Harnett	2013	Ireland	Inpatient	Quantitative study	Learning disability
Jacob	2013	US	Multiple	Non-empirical report (i.e., commentary)	Mental health
Raveneau	2014	US	Multiple	Quantitative study	Mental health
Crosta	2014	US	Multiple	Non-empirical report (i.e., commentary)	Learning disability
Jolly	2015	US	Inpatient	Non-empirical report (i.e., commentary)	Autism
Oulton	2015	UK	Inpatient	Qualitative study	Learning disability
Balakas	2015	US	Inpatient	Non-empirical report (i.e., commentary)	Mental health
Silver	2015	US	Inpatient	Non-empirical report (i.e., commentary)	Mental health
Triggle	2015	UK	Inpatient	Quantitative study	Mental health
Vallières-Noël	2016	Canada	Inpatient	Qualitative study	Mental health
Street	2016	UK	Inpatient	Mixed methods	Mental health
Fisher	2016	UK	Inpatient	Mixed methods	Mental health
Anuik	2017	Canada	Emergency department	Non-empirical report (i.e., commentary)	Mental health
Glasper	2017	UK	Inpatient	Non-empirical report (i.e., commentary)	Learning disability
Ballard	2017	US	Emergency department	Quantitative study	Mental health
Harken	2017	US	Multiple	Qualitative study	Mental health
Bettencourt	2017	US	ICU	Non-empirical report (i.e., commentary)	Mental health

Hazen	2017	US	Multiple	Non-empirical report (i.e., commentary)	Mental health
McCormick	2017	Worldwide	Multiple	Non-empirical report (i.e., commentary)	Mental health
Delaney	2017	US	Inpatient	Non-empirical report (i.e., commentary)	Mental health
Breau	2018	Canada	Inpatient	Qualitative study	Learning disability
Lewis	2019	Australia	Inpatient	Qualitative study	Learning disability
Pluhar, E	2019	US	Inpatient	Mixed methods	Mental health
Corsano	2019	Italy	Multiple	Mixed methods	Autism
Mellor	2020	UK	Inpatient	Mixed methods	Mental health
Mitchell	2020	Australia	Inpatient	Mixed methods	Autism
Biering	2020	Iceland	Inpatient	Qualitative study	Mental health
Simoes	2020	Portugal	Multiple	Qualitative study	Mental health
Moran Gutman	2021	UK	Multiple	Qualitative study	Mental health
Rasmussen	2021	Australia	Inpatient	Qualitative study	Mental health
Latif	2017	UK	Inpatient	Qualitative study	Mental health
Mahoney	2021	US	Multiple	Quantitative study	Autism
Bowden	2021	US	Emergency department	Qualitative study	Mental health

Staff experiences

The articles included in the review highlighted a wide range of challenges reported by staff delivering care to CYP with MH needs, LD and autism. The key challenges included: lack of confidence to communicate with CYP and parents; lack of knowledge on how to assess symptoms and deliver care; concern staff would cause harm due to lack of knowledge; difficulties managing a safe hospital environment for children with MH needs, LD or autism, staff and other children on the ward; uncertainty regarding who was responsible for CYP care; difficulties finding the additional time required to care for CYP with LD and autism.

Staff training and support needs

Staff reported the need for additional training. The **main training topics** included in the articles were:

- The identification and assessment of LD.
- How to address aggressive behaviour and crises.
- The assessment of eating disorders, risk of suicide, risk of self-harm.
- Detecting pain and other symptoms in non-verbal children.
- How to communicate with children and parents.
- How to implement de-escalation techniques.
- How to identify signs of self-harm.
- Existing tools for assessments (i.e., suicide risk, eating disorders, pain scales).
- Selecting and dosing appropriate medications.

- Staff members' knowledge of where they can gain support and advice.
- Understanding current guidance and policy.

Some articles indicated that staff benefited from training programmes that were practical and adapted to the clinical environment of nursing staff. Other articles mentioned that training should be mandatory and integrated at the level of pre-registration (including placements in mental health).

In terms of support, staff mentioned that they required better collaboration with MH teams, protected time and space for multidisciplinary team meetings, time for the discussion of difficult cases and incidents (i.e., debriefing sessions).

Tools

Twelve articles identified tools that could be used to support children and young people's care: four were focused on LD; seven were focused on MH; and one tool focused on managing behaviours that challenge staff. It was unclear from most articles whether the effectiveness of tools had been evaluated, with the exception of measures related to pain assessment (Crosta et al, 2014), delirium (Silver et al, 2015), and suicide risk (Ballard et al, 2017).

Tools related to children with LD covered assessment processes including pain assessment using standardised measures, and tools to make children with LD visible in the acute setting, support staff knowledge of LD and how to provide appropriate care. Tools related to MH included generalised tools to improve staff knowledge of MH conditions and care planning, and tools focused on specific conditions, namely, delirium, eating disorders, and risk of suicide.

Table 2. Main tools reported in the articles

Author Year	***Problem focus***	***Tool(s) and purpose***	***Description***
Moore et al. (2012)	LD - general	*Purpose*: overall assessment of basic needs *Unnamed tool*	1. How does the child communicate? 2. How do you recognize when the patient is in pain? 3. What are the child's normal stooling/urination patterns? 4. What is the child's normal temperature? 5. What is the child's normal feeding regime? 6. Has there been any rash or skin breakdown? 7. What assistive devices are used? 8. What are the contact numbers for home health and/or the durable medical equipment company? 9. What are the family's/caregiver's specific concerns?
Jolly (2015)	LD - autism spectrum disorder (ASD)	*Purpose*: to create a patient profile to decrease the chance that information is lost during shift change, improve hospital personnel safety and decrease the child and family's anxiety levels.	1. What causes your child to have increased anxiety? Please list common triggers. 2. What is the best method to communicate with your child? A. Verbal, Picture, Sign Language, Other… B. Are there any special communication

		Template admission assessment tool for the child with ASD.	tools (ex: spell board) that we can obtain during your child's stay? 3. How should staff members approach your child? 4. Is your child particularly sensitive to touch, sound, smell, sight, or taste? 5. Does your child have any obsessive/restrictive behaviours? 6. How does your child demonstrate if he or she is in pain? 7. What are your child's early signs of increasing frustration and anxiety? 8. What are your best methods to comfort and de-escalate your child? 9. What are your child's strengths? 10. What is your child's home routine? We welcome you to bring in clothes, belongings, and food from home to make your child more comfortable.
Crosta et al. (2014)	LD - cognitive impairment	*Purpose*: pain assessment *1. Non-Communicating Children's Pain Checklist - Postoperative Version (NCCPC-PV)* *2. Individualized Numeric Rating Scale (INRS)* *3. Pediatric Pain Profile (PPP)* *4. The Revised Face, Legs, Activity, Cry and Consolability Scale (r-FLACC)*	• All measures have established validity and reliability for children with cognitive impairment who cannot report pain. Of the four measures, the clinical utility of the r-FLACC has been the most studied and findings suggest feasibility in acute settings. • The review suggests r-FLACC over the other 3 measures analysed. Pain intensity is measured on a 3-point ordinal scale (0-2) for five categories describing behaviour.
Glasper et al. (2017)	LD - intellectual disabilities	*Purpose*: to make children with LD visible to the health care team and support them to deliver appropriate care • *Printed laminated information cards.* • *Clearly visible labels in patient record.* • *Hospital passports.* • *Makaton or Picture Exchange System (PECS).* • *The Situation Awareness For Everyone (SAFE) toolkit.*	• Printed laminated information cards (credit card size) which contain key facts on intellectual disabilities for frontline care staff to help them optimise care delivery. • Clearly visible labels in patient records to flag that a child has a learning disability. • Hospital passports contain important information about children such as likes and dislikes and how they express pain. • Makaton or Picture Exchange System (PECS) to help children communicate. • The SAFE toolkit is used to support appropriate and timely care for children.
Moran and Gutman (2021)	MH - general	*Purpose*: the toolkit provides an outline of the common MH problems that practitioners may identify, along with basic information on the knowledge and skills nurses need to care for them. Training built on the "*Mental health in children and young*	Not given.

		people: An RCN toolkit for nurses who are not mental health specialists" (Royal College of Nursing, 2014)	
Vallières-Noël et al. (2016)	MH - general	*Purpose*: outline of a care plan for patients on admission *Individualized therapeutic care plan*	• The plan should include: diagnosis, level of aggression, suicidal risk, specific measures to be put in place (e.g. need for a sitter/guard, removal of dangerous objects), and the contact numbers of the parent and healthcare professionals involved.
Silver et al. (2015)	MH - delirium	*Purpose*: assessing delirium in critically ill children *The Cornell Assessment for Pediatric Delirium (CAPD)*	• Eight items that correlate with the diagnostic domains of awareness and cognition from the DSM-5 and also includes psychomotor symptoms. It has proven feasible to administer by bedside nurses.
Harken et al. (2017)	MH - eating disorders	*Purpose*: provide a structured outline of treatment while allowing for individualized care *Standardised order set for physicians to order upon admission.* .	• The order set covers vital signs/monitoring, nutrition/diets, nursing, consults, and laboratory work. Under nursing specifically, it includes mealtime supervision, bathroom privileges, patient privileges, activity, and observation.
Bowden et al. (2021)	MH - risk of suicide	*Purpose*: suicide risk assessment Tools mentioned in the discussion: • The Ask Suicide-Screening Questionnaire (ASQ) • SAFE-T pocket card • The Suicide Assessment Five-Step Evaluation and Triage • The Columbia Suicide Severity Rating scale • The Home Education Activities/peers Drugs/alcohol Suicidality Emotions/behaviour and Discharge (HEADS-ED) screening tool.	• The Ask Suicide-Screening Questionnaire (ASQ) - can be used to detect suicide risk with children aged 8+. • SAFE-T pocket card: suicide assessment five-step evaluation and triage for clinicians. • The Columbia protocol for healthcare and other community settings. • The HEADS-ED: a rapid mental health screening tool for paediatric patients in the ED.
Ballard et al. (2017)	MH - risk of suicide	*Purpose*: suicide risk assessment *Ask Suicide Screening Questions (ASQ)*	• The ASQ is a four-item suicide screening instrument. A "yes" response to any of the four items in considered a positive screen.

Schmid et al. (2011)	MH - risk of suicide	*Purpose*: suicide risk assessment • *Risk for self-harm screening questions* • *The Risk of Suicidality Clinical Practice Algorithm*	Screening questions: 1. Are you here because you tried to hurt yourself? 2. In the past week, have you been having thoughts about killing yourself? 3. Have you ever tried to hurt yourself in the past other than this time? 4. Has something very stressful happened to you in the past few weeks? The algorithm has a triage phase and an acute care phase, presented in the form of a flow chart.
Balakas et al. (2015)	MH and LD – behaviours that challenge staff	*Purpose*: care of patients with special developmental or behavioural needs • *Adaptive care plan (ACP) screening tool* • *ACP*	• ACP screening tool includes questions on: what child typically does at medical visits, what has worked well in the past, interaction with other people, agitation/aggression, helping child to relax, communication preferences. • ACP covers: medical environment, waiting times, staffing, communication among healthcare team, use of "quiet zone" sign for a patient's door, additional resources, involvement of parents.

Training and other support interventions

In addition to the tools outlined above, we were able to identify a series of interventions designed to deliver training and provide support to staff. We have included them in Table 3 categorised as training or other types of support.

Table 3. Main training and support programmes included in the articles

Author (year)	**Type of intervention**	**Purpose**	**Description**
Harnett (2013)	Training	A training programme to communicate a disability diagnosis	A 2 h training course on 'Best practice guidelines for informing families of their child's disability' was designed based on the findings of a nationally representative study of parents and professionals. The classroom-based course comprised a presentation of the research and recommendations of the best practice guidelines; a DVD film of parent stories and professional advice; group discussion; and a half-hour input from a parent of two children with disabilities.
Latif (2017)	Training	A training programme to increase knowledge of self-harm	Participatory approach towards using co-production with CYP and registered Children's Nurses (rCN) to develop a digital educational programme to improve nurses' knowledge, attitudes and confidence in caring for CYP with self-harm injuries. A priority-setting workshop with rCNs was used to

			establish consensus of information needs. This was followed by an e-learning content development workshop undertaken with CYP whom had previously experienced hospital admissions for self-harm injuries.
Mitchell (2020)	Training	Training on the management of clinical aggression	Simulation-based education plus web-based education resources on the management of clinical aggression and externalising behaviours in children with ASD, with or without an intellectual disability.
Vaz (2013)	Support	Improve communication with children with LD	Visual symbols were used to represent medical examinations and treatment procedures to make it easier for these children to understand what to expect.
Oulton (2015)	Support	Improve communication with children with LD	Staff who had received training in 'Makaton', a language programme using signs and symbols to help people to communicate, highlighted this as being particularly valuable.
Street (2016)	Support	Feeding intervention	A 3-week structured, supported feeding admission, which is presented as a way to try and avoid otherwise inevitable tier-4 admission for young people who are not engaging, or supportively for those who have engaged but struggle to achieve adequate food intake at home.
Fisher (2016)	Support	Supervision sessions for staff	Establishment of regular supervision for staff members allowing them a safe environment in which to discuss their feelings, worries, and concerns, addressing the emotional component involved in working with children and young people in psychological distress.
Hazen (2017)	Support	Multidisciplinary teams and support from mental health teams	Multidisciplinary group including representatives from child and adolescent psychiatry, paediatrics, nursing, and security devised guidelines for which long-stay patients are eligible for transfer to the medical wards that take into consideration the patient's behaviour in the ED and the likelihood of finding a psychiatric bed. Faculty members from the inpatient child psychiatry consult service met frequently with members of the paediatric inpatient medical teams to clarify distinct

			roles in creating and implementing treatment plans.

5. Limitations

The review was restricted by resource and time limitations, meaning that only a small number of databases and websites were accessed. This was not a systematic review; therefore, it is possible that certain subject headings, keyword terms and synonyms have been missed, and the review should not be treated as exhaustive. The review did not include a quality assessment of the evidence (including the assessment of risk of bias). The review was strengthened by having three reviewers searching for peer-reviewed articles and four reviewers cross-checking their relevance.

6. Recommendations reported in the articles

- ***Clinical environment***: Create areas on the wards or in the ED with limited noise, lighting and motion (calm spaces).
- ***Communication with children***: Embed strategies and tools (i.e., visual tools) to communicate with non-verbal CYP.
- ***Communication with parents/families***: Recognise the important role of parents and other family members as experts on the CYP.
- ***Clinical teams***: Create multidisciplinary teams to discuss patient cases and establish relationships between nursing staff and MH specialists to provide ongoing support.
- ***Clinical supervision***: Create a safe space for nursing staff to discuss difficult situations and incidents.
- ***Training***:
    - Embed training on caring for CYP with MH, LD and autism from pre-registration stages.
    - Integrate MH and LD placements during training.
    - Deliver regular training to staff on risk assessment, monitoring, and documenting mental status and behaviour, and basic de-escalation techniques.
    - Design training programmes that are practice-based and adapted to the local clinical context.

7. References

Anuik, J. (2016). 'A Canadian perspective on psychiatric nursing care'. in *Routledge Handbook of Global Mental Health Nursing: Evidence, Practice and Empowerment*, pp. 436–440. doi: 10.4324/9781315780344.

Balakas, K., Gallaher, C. S. and Tilley, C. (2015). 'Optimizing perioperative care for children and adolescents with challenging behaviors'. *MCN. The American journal of maternal child nursing*. MCN Am J Matern Child Nurs, 40 (3), pp. 153–159. doi: 10.1097/NMC.0000000000000124.

Ballard, E. D., Cwik, M., Van Eck, K., Goldstein, M., Alfes, C., Wilson, M. E., Virden, J. M., Horowitz, L. M. and Wilcox, H. C. (2017). 'Identification of At-Risk Youth by Suicide Screening in a Pediatric Emergency Department'. *Prevention Science*. ["Ballard, Elizabeth D.: Experimental Therapeutics and Pathophysiology Branch, Intramural Research Program, National Institute of Mental Health, National Institutes of Health, Building 10, CRC Room 7-3345, MSC 1282, Bethesda, MD, US, 20892, Elizabeth.Ball: ["Springer", 'Germany'], 18 (2), pp. 174–182. doi: 10.1007/s11121-016-0717-5.

Bettencourt, A. and Mullen, J. E. (2017). 'Delirium in Children: Identification, Prevention, and Management'. *Critical care nurse*. Crit Care Nurse, 37 (3), pp. e9–e18. doi: 10.4037/CCN2017692.

Biering, P. and Jensen, V. H. (2017). 'The concept of patient satisfaction in adolescent psychiatric care: A qualitative study'. *Journal of child and adolescent psychiatric nursing : official publication of the Association of Child and Adolescent Psychiatric Nurses, Inc*. J Child Adolesc Psychiatr Nurs, 30 (4), pp. 162–169. doi: 10.1111/JCAP.12189.

Bowden, C. F., True, G., Cullen, S. W., Pollock, M., Worsley, D., Ross, A. M., Caterino, J., Olfson, M., Marcus, S. C. and Doupnik, S. K. (2021). 'Treating Pediatric and Geriatric Patients at Risk of Suicide in General Emergency Departments: Perspectives From Emergency Department Clinical Leaders'. *Annals of Emergency Medicine*. Ann Emerg Med, 78 (5), pp. 628–636. doi: 10.1016/j.annemergmed.2021.04.025.

Breau, L. M., Aston, M. and MacLeod, E. (2018). 'Education creates comfort and challenges stigma towards children with intellectual disabilities'. *Journal of intellectual disabilities : JOID*. J Intellect Disabil, 22 (1), pp. 18–32. doi: 10.1177/1744629516667892.

Chun, T. H., Spirito, A., Rakowski, W., D'Onofrio, G. and Woolard, R. H. (2011). 'Beliefs and practices of pediatric emergency physicians and nurses regarding counseling alcohol-using adolescents: can counseling practice be predicted?' *Pediatric emergency care*. Pediatr Emerg Care, 27 (9), pp. 812–825. doi: 10.1097/PEC.0B013E31822C1343.

Corsano, P., Cinotti, M. and Guidotti, L. (2020). 'Paediatric nurses' knowledge and experience of autism spectrum disorders: An Italian survey'. *Journal of child health care : for professionals working with children in the hospital and community*. J Child Health Care, 24 (3), pp. 486–495. doi: 10.1177/1367493519875339.

Crosta, Q. R., Ward, T. M., Walker, A. J. and Peters, L. M. (2014). 'A review of pain measures for hospitalized children with cognitive impairment'. *Journal for specialists in pediatric nursing : JSPN*. J Spec Pediatr Nurs, 19 (2), pp. 109–118. doi: 10.1111/JSPN.12069.

Delaney, K. R. (2019). 'Child inpatient treatment: Moving it out of the shadows'. *Journal of Child and Adolescent Psychiatric Nursing*. Rush College of Nursing, Department of Community, Systems and Mental Health, Chicago Illinois Malden, Massachusetts: Wiley-Blackwell, 32 (3), pp. 110–111. doi: 10.1111/jcap.12251.

Fisher, G. and Foster, C. (2016). 'Examining the Needs of Paediatric Nurses Caring for Children and Young People Presenting with Self-Harm/Suicidal Behaviour on General Paediatric Wards: Findings from a Small-Scale Study'. *Child Care in Practice*. ["Fisher, Gemma: School of Nursing, Birmingham City University, Birmingham, United Kingdom, B15 3TN, gemma.fisher@bcu.ac.uk", 'Fisher, Gemma: gemma.fisher@bcu.ac.uk'] United Kingdom: ["Taylor & Francis", 'United Kingdom'], 22 (3), pp. 309–322. doi: 10.1080/13575279.2015.1118013.

Glasper, E. A. (2017). 'Optimising the Care of Children with Intellectual Disabilities in Hospital'. *Comprehensive Child and Adolescent Nursing*. ["Glasper, Edward Alan, E.A.Glasper@soton.ac.uk", 'Glasper, Edward Alan: E.A.Glasper@soton.ac.uk'] United Kingdom: ["Taylor & Francis", 'United Kingdom'] (Issues in Comprehensive Pediatric Nursing), 40 (2), pp. 63–67. doi: 10.1080/24694193.2017.1309827.

Harken, W., Maxwell, J., Hainline, M., Pollack, L. and Roberts, C. (2017). 'Perceptions of Caring for Adolescents With Eating Disorders Hospitalized on a General Pediatric Unit'. *Journal of pediatric nursing*. J Pediatr Nurs, 34, pp. e34–e41. doi: 10.1016/J.PEDN.2017.02.008.

Harnett, A., Bettendorf, E., Tierney, E., Guerin, S., O'Rourke, M. and Hourihane, J. O. (2013). 'Evidence-based training of health professionals to inform families about disability'. *Archives of Disease in Childhood*, 98 (6), pp. 413–418. doi: 10.1136/archdischild-2012-303037.

Hazen, E. P. and Prager, L. M. (2017). 'A Quiet Crisis: Pediatric Patients Waiting for Inpatient Psychiatric Care'. *Journal of the American Academy of Child & Adolescent Psychiatry*. ["Hazen, Eric P.: Division of Child and Adolescent Psychiatry, Massachusetts General Hospital, 55 Fruit Street, YAW 6A, Boston, MA, US, 02114, eric.hazen@mgh.harvard.edu", 'Hazen, Eric P.: eric.hazen@mgh.harvard.edu'] Netherlands: ["Elsevier Science", 'Netherlands'] (Journal of the American Academy of Child Psychiatry), 56 (8), pp. 631–633. doi: 10.1016/j.jaac.2017.03.022.

Jacob, M. L. and Storch, E. A. (2013). 'Pediatric obsessive-compulsive disorder: a review for nursing professionals'. *Journal of child and adolescent psychiatric nursing : official publication of the Association of Child and Adolescent Psychiatric Nurses, Inc*. J Child Adolesc Psychiatr Nurs, 26 (2), pp. 138–148. doi: 10.1111/JCAP.12029.

Jolly, A. A. (2015). 'Handle with Care: Top Ten Tips a Nurse Should Know Before Caring For a Hospitalized Child with Autism Spectrum Disorder.' *Pediatric Nursing*. Asthma Educator, Children's National Health System, Washington, DC Pitman, New Jersey: Jannetti Publications, Inc., 41 (1), pp. 11–22. doi: https://link.gale.com/apps/doc/A403916296/AONE?u=ucl_ttda&sid=bookmark-AONE&xid=c329c9df.

Latif, A., Carter, T., Rychwalska-Brown, L., Wharrad, H. and Manning, J. (2017). 'Co-producing a digital educational programme for registered children's nurses to improve care of children and young people admitted with self-harm'. *Journal of child health care : for professionals working with children in the hospital and community*. J Child Health Care, 21 (2), pp. 191–200. doi: 10.1177/1367493517697853.

Lewis, P., Wilson, N. J., Jaques, H., O'Reilly, K. and Wiese, M. (2019). 'A qualitative study of nurses' perspectives of caring for children with intellectual disability and their families in a paediatric acute care setting'. *Journal of Child Health Care*, 23 (4), pp. 639–651. doi: 10.1177/1367493519867234.

Mahoney, W. J., Villacrusis, M., Sompolski, M., Iwanski, B., Charman, A., Hammond, C. and Abraham, G. (2021). 'Nursing care for pediatric patients with autism spectrum disorders: A cross-sectional survey of perceptions and strategies'. *Journal for specialists in pediatric*

nursing : JSPN. J Spec Pediatr Nurs, 26 (4). doi: 10.1111/JSPN.12332.

McCormick, R. (2017). 'Does Access to Green Space Impact the Mental Well-being of Children: A Systematic Review'. *Journal of pediatric nursing*. J Pediatr Nurs, 37, pp. 3–7. doi: 10.1016/J.PEDN.2017.08.027.

Mellor, C., Blackman, J., Barker, E., Bhula, Z., Sibanda, E., Rawlings, E., Harrington, D. and Combe, G. (2020). 'Wellbeing Wednesdays: nurse-led clinic for improving physical health care in a general adolescent inpatient unit'. *British journal of nursing (Mark Allen Publishing)*. Br J Nurs, 29 (4), pp. 230–235. doi: 10.12968/BJON.2020.29.4.230.

Mitchell, M. J., Newall, F. H., Sokol, J. and Williams, K. J. (2020). 'Simulation-Based Education for Staff Managing Aggression and Externalizing Behaviors in Children With Autism Spectrum Disorder in the Hospital Setting: Pilot and Feasibility Study Protocol for a Cluster Randomized Controlled Trial'. *JMIR Research Protocols*, 9 (6), p. e18105. doi: 10.2196/18105.

Moore, C. P., Frizzell, J., Richmond, A. and Copeland, K. (2012). 'Nursing and Equipment Troubleshooting for Special Needs Children in the Emergency Department'. *Clinical Pediatric Emergency Medicine*. Philadelphia, Pennsylvania: Elsevier B.V., 13 (2), pp. 133–141. doi: 10.1016/j.cpem.2012.05.003.

Moran, R. and Gutman, L. M. (2021). 'Mental health training to improve communication with children and adolescents: A process evaluation'. *Journal of clinical nursing*. J Clin Nurs, 30 (3–4), pp. 415–432. doi: 10.1111/JOCN.15551.

Oulton, K., Sell, D., Kerry, S. and Gibson, F. (2015). 'Individualizing Hospital Care for Children and Young People With Learning Disabilities: It's the Little Things That Make the Difference'. *Journal of Pediatric Nursing*. ["Centre for Outcomes and Experience Research in Children's Health, Illness and Disability (ORCHID). Great Ormond Street Hospital NHS Foundation Trust, Greater London, England", "Centre for Outcomes and Experience Research in Children's Health, Illness an: W B Saunders, 30 (1), pp. 78–86. doi: 10.1016/j.pedn.2014.10.006.

Pengelly, T. (2011). 'Research and commentary: Children with mental health conditions should be cared for by appropriately trained nurses.' *Nursing Children & Young People*. RCNi, 23 (4), p. 11. doi: https://link.gale.com/apps/doc/A257765344/AONE?u=ucl_ttda&sid=bookmark-AONE&xid=16191177.

Pluhar, E., Freizinger, M. B., Nikolov, R. N. and Burton, E. T. (2019). 'Pediatric Nonsuicidal Self-Injury: A Call to Action for Inpatient Staff Training'. *Journal of psychiatric practice*. J Psychiatr Pract, 25 (5), pp. 395–401. doi: 10.1097/PRA.0000000000000417.

Rasmussen, P., Henderson, A. N. N. and Muir-Cochrane, E. (2012). 'An analysis of the work of child and adolescent mental health nurses in an inpatient unit in Australia'. *Journal of psychiatric and mental health nursing*. J Psychiatr Ment Health Nurs, 19 (4), pp. 374–377. doi: 10.1111/J.1365-2850.2012.01890.X.

Raveneau, G., Feinstein, R., Rosen, L. M. and Fisher, M. (2014). 'Attitudes and knowledge levels of nurses and residents caring for adolescents with an eating disorder'. *International journal of adolescent medicine and health*. Int J Adolesc Med Health, 26 (1), pp. 131–136. doi: 10.1515/IJAMH-2013-0015.

Schmid, A. M., Truog, A. W. and Damian, F. J. (2011). 'Care of the Suicidal Pediatric Patient in the ED: A Case Study'. *AJN, American Journal of Nursing*, 111 (9), pp. 34–43. doi: 10.1097/01.NAJ.0000405060.13022.b7.

Silver, G., Kearney, J., Traube, C. and Hertzig, M. (2015). 'Delirium screening anchored in child development: The Cornell Assessment for Pediatric Delirium.' *Palliative & supportive*

care, 13 (4), pp. 1005–1011. Available at: https://pubmed.ncbi.nlm.nih.gov/25127028/.

Simões, R. M. P., dos Santos, J. C. P. and Martinho, M. J. C. M. (2020). 'Characterization of adopted suicidal behavior and its main influencing factors: A qualitative study with adolescents'. *Archives of Psychiatric Nursing*. W.B. Saunders, 34 (5), pp. 405–411. doi: 10.1016/j.apnu.2020.07.014.

Street, K., Costelloe, S., Wootton, M., Upton, S. and Brough, J. (2016). 'Structured, supported feeding admissions for restrictive eating disorders on paediatric wards'. *Archives of Disease in Childhood*, 101 (9), pp. 836–838. doi: 10.1136/archdischild-2016-310506.

Triggle, N. (2015). 'National children's care report shows disparities in treatment'. *Nursing Children and Young People*. RCNi, 27 (7), pp. 8–9. doi: 10.7748/ncyp.27.7.8.s9.

Vallières-Noël, M.-M., Garçon, S., Rosmus, C., Goulnik, F. and Lavoie-Tremblay, M. (2016). 'Exploring the Needs for Support of Pediatric Nurses Caring for Children with a Mental Health Disorder Hospitalized in Non-Psychiatric Units'. *Archives of Psychiatric Nursing*. ["McCill University, Ingram School of Nursing, Montreal, QC, Canada", 'MCH Advanced Practice, Montreal Children's Hospital (MCH), Montreal, QC, Canada', 'Mental Health, Department of Psychiatry, Montreal Children's Hospital (MCH), Montreal, QC, Canada', ": Elsevier B.V., 30 (2), pp. 170–177. doi: 10.1016/j.apnu.2015.08.008.

Vaz, I. (2013). 'Visual symbols in healthcare settings for children with learning disabilities and autism spectrum disorder'. *British Journal of Nursing*. Consultant Paediatrician with a Special Interest in Neurodevelopmental Paediatrics, NHSÂ¿South Warwickshire NHS Foundation Trust U2 - PMID: NLM23411823.: Mark Allen Holdings Limited, 22 (3), pp. 156–159. doi: 10.12968/bjon.2013.22.3.156.

Appendix 1: Search strategy

#1Nursing

Nursing [MH] or nursing [TIAB] or "Nurse Practitioner" [MH] or "nurse practitioner*" [TIAB] or "Nurse Administrators" [MH] or "nurse administrator*" [TIAB] or "nurse manager*" [TIAB] or "nurse staffing" [TIAB] or "nurse educators" [TIAB] or "nurse prescribing" [TIAB] or "nursing care" [TIAB] or "nurse patient relation*" [TIAB] or "nurse specialist" [TIAB] or "nursing care standards" [TIAB] or "nursing care delivery" [TIAB] or "nursing assessment and diagnosis" [TIAB] health care support worker, nursing associate, clinical nurse specialist, healthcare assistant

#2Mental health

"Mental Health" [MH] or "mental health" [TIAB] or Anxiety [MH] or anxiety [TIAB] or Anger [MH] or anger [TIAB] or Grief [MH] or grief [TIAB] or Bereavement [MH] or bereavement [TIAB] or Emotions [MH] or emotions [TIAB] or "Social Alienation" [MH] or "social alienation" [TIAB] or "Social Isolation" [MH] or "social isolation" [TIAB] or "Mental Health Services" [MH] or "mental health services" [TIAB] or "Community Mental Health Services" [MH] or "community mental health services" [TIAB] or "Mental Disorders" [MH] or "mental disorder*" [TIAB] or "Feeding and Eating Disorders" [MH] or "eating disorder*" [TIAB] or "Depressive Disorder" [MH] or "depressive disorder" [TIAB] or "Affective Symptoms" [MH] or "affective symptoms" [TIAB] or Depression [MH] or depression [TIAB] or "Self-Injurious Behavior" [MH] or "self-injurious" [TIAB] or "self-injury" [TIAB] or "self-harm" [TIAB] or "Stress, Psychological" [MH] or "Suicide" [MH] or suicide [TIAB] or "Suicide, Attempted" [MH] or "attempted suicide" [TIAB] or "suicidal ideation" or "emotional wellbeing" or "disturbance/disturbance of feelings" or distress* or "aggressive behaviour" or "aggression mental health crisis"

#3Learning disabilities and autism

"learning disab*"[TIAB] or "Learning Disabilities"[MH] or "learning problem*"[TIAB] or SLD[TIAB] or "Intellectual disabilities" or Dyscalculia[TIAB] or Dyscalculia[MH] or "special needs"[TIAB] or "special education needs"[TIAB] or SEN[TIAB] or SEND[TIAB] or "learning disorders"[TIAB] or "down's syndrome"[TIAB] or "Down Syndrome"[MH] or "Williams syndrome"[TIAB] or autis*[TIAB] or "Autistic Disorder"[MH] or "asperger*"[TIAB] or "Asperger Syndrome"[MH] or ASD or Autism Spectrum Disorder or "fragile X"[TIAB] or "global developmental delay"[TIAB] or "cerebral palsy"[TIAB] or "challenging behav*"[TIAB] or "Language Development Disorders"[MH] or "Developmental Disabilities"[MH] or "Communication Disorders"[MH]

#4Children and young people

Child [MH] or child* [TIAB] or Adolescent [MH] or adolescen* [TIAB] or Infant [MH] or infant* [TIAB] or "young people" [TIAB] or youth [TIAB] or juvenile* [TIAB] or teenager* [TIAB] or student* [TIAB] or pupil* [TIAB]

#5Acute care

Hospitals [MH] or hospital* [TIAB] or Hospitalization [MH] or hospitalization [TIAB] or hospitalisation [TIAB] or "acute care" [TIAB] or "acute hospitals" or "Emergency Medicine" [MH] or "emergency medicine" [TIAB] or "emergency care" [TIAB] or "Emergency Treatment" [MH] or "emergency treatment" [TIAB] or Inpatients [MH] or inpatient [TIAB]

#6Experiences

Experiences [TIAB] or attitudes [TIAB] or perceptions [TIAB] or needs or support

#7Training

Training [TIAB] or education [TIAB] or “staff knowledge” [TIAB] communication

Appendix 2: ***Findings on training from the horizon scanning***

There was a total of 215 posts made about this topic, which were engaged with (shared, liked, retweeted and commented upon) a total of 393. Overall, these posts had a total of 630,000 views (impressions), while there was an average of 383 million web searches for information on these issues over the 12-month period.

Discussion of training opportunities, deadlines for applications and the advertisement of training courses was present throughout the dataset. While posts advertising registration for places on Undergraduate courses from universities in the UK and Northern Ireland were shared the most, there were also discussions around specific CYP MH modules, both by the professor's leading those modules, and by the student taking them. One example is a new children's mental health module taught on an undergraduate degree at the University of Manchester (Figure 2).

Figure 2. New children's mental health module taught on an undergraduate degree at the University of Manchester.

Other adverts were from more independent organisations, such as the "Academy Channel AOLL", which had adverts linked to taking for "access to HE" courses, that promised to give nursing student the needed training experience for enrolment in university courses, and for CYP mental health nursing roles. These independent organisations also had links on Instagram pointing to websites where nurses could sign up for online only sessions (Figure 3 and 4).

Figure 3. Academy Channel AOLL: advert for Access to HE courses

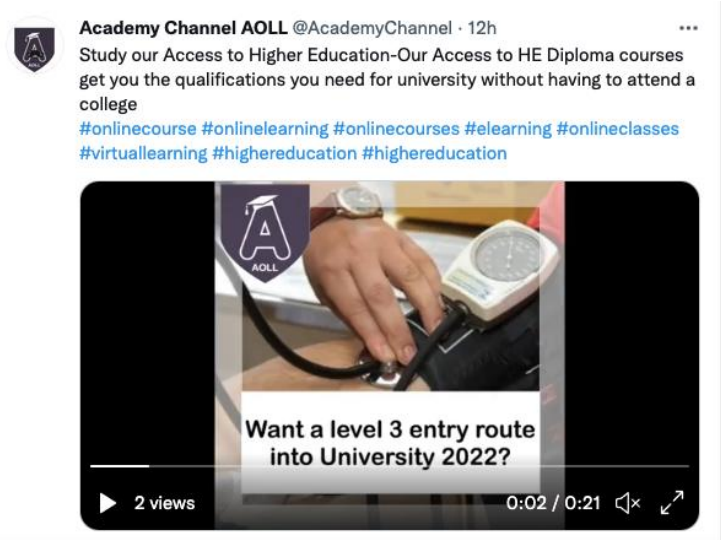


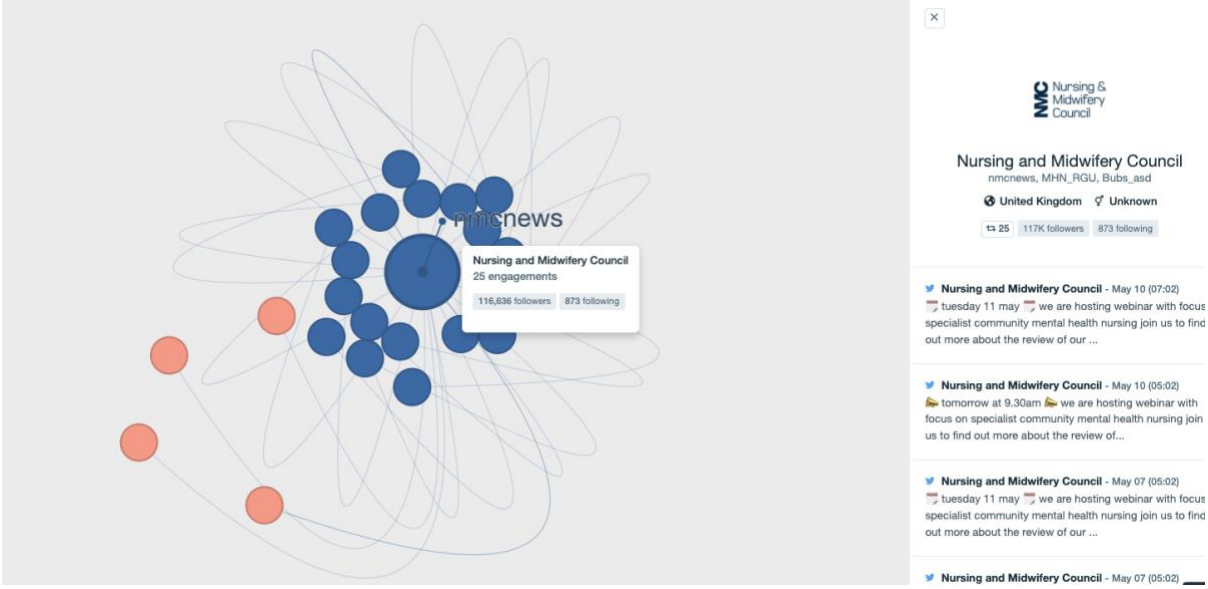
Figure 4. Academy Channel AOLL: website for Access to HE courses

Another use of social media was for some university courses to organise Twitter-based support/chat groups for nursing students. One example is the Open University “K102 Introducing Health and Social Care” group, an account for the Open University foundation module K102 learning community, where students were encouraged to reach out to each other and talk about their experiences of the module, and the module leaders responded to queries and linked to student blog posts (Figure 5).

Figure 5. Twitter support group: Open University “K102 Introducing Health and Social Care”.

Adverts for webinars focused on specialist practice qualifications (SPQs) - including community mental health nursing and modules for CYP, were shared by Twitter accounts for the Nursing and Midwifery Council using hashtags like #FutureCommunityNurse, which were in turn shared across the mental health network on Twitter, including accounts for RGU Mental Health Nursing, and NHS Greater Glasgow and Clyde, and UNISON SLaM.

Figure 6. Network of users sharing hashtag linked to advert for training webinar: #FutureCommunityNurse



Other training resources included the Nuffield Trust “#NHS Staffing Tracker” – a tracker that monitors trends across hospital services, general practice, mental health and learning disability services, as well as medical and nursing training. Posts about this tracker were also engaged with by users interested in CYP mental health training.

Figure 7. Nuffield Trust NHS Staffing Tacker - resource followed by those interested in jobs and further training.

Search strategy used for horizon scanning

(“Nursing” OR “nursing” OR “Nurse Practitioner” OR “nurse practitioner” OR “Nurse Administrators” OR “nurse administrator” OR “nurse administrators” OR “nurse manager” OR “nurse managers” OR “nurse staffing” OR “nurse educators” OR “nurse prescribing” OR “nursing care” OR “nurse patient relation” OR “nurse specialist” OR “nursing care standards” OR “nursing care delivery” OR “nursing assessment and diagnosis” OR “health care support worker” OR “nursing associate” OR “clinical nurse specialist” OR “healthcare assistant”) AND (“Mental Health” OR “mental health” OR Anxiety OR anxiety OR Anger OR anger OR Grief OR grief OR Bereavement OR bereavement OR Emotions OR emotions OR “Social Alienation” OR “social alienation” OR “Social Isolation” OR “social isolation” OR “Mental Health Services” OR “mental health services” OR “Community Mental Health Services” OR “community mental health services” OR “Mental Disorders” OR “mental disorder” OR “Feeding and Eating Disorders” OR “eating disorder” OR “Feeding Disorder” OR “depressive disorder” OR “Affective Symptoms” OR Depression OR depression OR “Self-Injurious Behaviour” OR “self-injurious” OR “self-injury” OR “self-harm” OR “Stress Psychological” OR “Suicide” OR suicide OR “attempted suicide” OR “suicidal ideation” OR “emotional wellbeing” OR “disturbance” OR “disturbance of feelings” OR “distress” OR “distressed” OR “distressing” OR “aggressive behaviour” OR "aggression mental health crisis") AND (“learning disabity”OR “Learning Disabilities” OR “learning problem” OR “learning problems” OR “SLD” OR “Intellectual disabilities” OR Dyscalculia OR Dyscalculia OR “special needs” OR “special education needs” OR "SEN" OR "SEND" OR “learning disorders” OR “down's syndrome” OR

“Down Syndrome” OR “Williams syndrome” OR autism OR “Autistic Disorder” OR “aspergers” OR “Asperger Syndrome” OR “ASD” OR “Autism Spectrum Disorder” OR “fragile” OR “global developmental delay” OR “cerebral palsy” OR “challenging behaviour” OR “Language Development Disorders” OR “Developmental Disabilities” OR “Communication Disorders”) AND (“Child” OR “childs” OR “children” OR “adolescent” OR “adolescent” OR “adolescents” OR “infant” OR “infants” OR “young people” OR “youth” OR “youths” OR “juvenile” OR “juveniles” OR “teenager” OR “teenagers” OR “student” OR “students” OR “pupil” OR “pupils”) AND (Hospitals OR hospital OR Hospitalization OR hospitalization OR hospitalisation OR “acute care” OR “acute hospitals” OR “Emergency Medicine” OR “emergency medicine” OR “emergency care” OR “Emergency Treatment” OR “emergency treatment” OR Inpatients OR inpatient)