

Adoption of e-portfolios for Registered Nurses & Midwives Professional Registration and Revalidation in Ireland: An Opinion Paper

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Abstract

In many countries, such as Australia, Canada, the United Kingdom (UK), and the United States of America, Nursing and Midwifery Professional Bodies undergo a revalidation process demonstrating evidence of continuing professional development (CPD) and clinical practice hours in order to remain an active member on the professional register. In most countries this process involves documenting evidence in paper format. However, in the UK, our closest neighbour, eportfolio submission is now offered as an option for revalidation. Ireland is imminently moving towards introducing documented evidence as a requirement for continued registration as currently, there are no requirements to demonstrate evidence of continuing professional development or clinical practice as part of the annual re-registration process. While there are plans to address this in the near future, there are no details regarding the revalidation requirements or process. Irish undergraduate and postgraduate nursing and midwifery students are beginning to use eportfolios for assessment purposes and are increasingly familiar with the online eportfolio platforms. In this paper, we provide a rationale for the Irish Nursing and Midwifery Board (NMBI) to adopt eportfolios for the submission of documentary evidence for both initial registration and revalidation. We will examine the advantages and the barriers to the introduction of eportfolios in this context. The use of eportfolios would provide the NMBI an opportunity to lead the way in registration and revalidation processes internationally, enabling nurses and midwives in Ireland to embrace the opportunities that the digital age presents.

1. Background

Revalidation is an important process by which licensed professionals Healthcare Practitioners demonstrate to their governing body that they are up to date, fit to practice, and comply with the current professional standards (National Health Service (NHS) England n.d.). In the case of the nursing profession, the purpose of revalidation provides assurance of continued professional competence to patients, the public, employers and other healthcare professionals (Jones et al., 2007; Flodgren et al., 2011). The move towards revalidation is part of an international trend towards self-regulation of the Nursing and Midwifery professional bodies, whereby Nurses and Midwives are responsible for their continuous professional development (CPD) (Nursing and midwifery board of Australia (NMBA n.d.), American Nurses Association (ANA n.d.). CPD enables nurses and midwives to develop new skills, acquire new knowledge to respond effectively to advances in healthcare (Hariyati & Safril, 2018). Many countries

worldwide have adopted this approach; however, they employ different processes. In general, countries require evidence of clinical practice and CPD hours, although the number of hours varies from country to country and evidence of mixed formal and informal training as part of the CPD hours (Table 1). Some countries have more robust requirements including letters of recommendation from employers confirming fitness to practice, surveys of performance from peers and clients, and evidence of reflective practice portfolios to show clinical competence (ANA n.d.).

Country	No. of Nurses	Governing body	CPD	Clinical Practice (Hours)	Freq. (Years)	E-portfolio	Source
Australia	331,804	Nursing and midwifery board of Australia	Yes	450 over 3 years	1	Yes	(NMBA n.d.)
Canada	135,000	Canadian Nursing Association	Yes	2,925 over 5 years	5	No	(CNA n.d.)
Ireland	58,150	Nursing and Midwifery Board of Ireland (NMBI)	No	No	1	N/A	(NMBI n.d.)
New Zealand	58,206	Nursing Council of New Zealand	Yes	450 over 3 years	3	No	(NCNZ n.d.)
UK	661,000	Nursing and Midwifery Council	Yes	450 over 3 years (or 900 for dual registration)	3	Yes	(NMC 2020)
USA	2,860,000	American Nurses Association	Yes	1000 over 5 years	5	No	(ANA n.d.)

Table 1. Revalidation Requirements

The United Kingdom (UK) was the first to introduce portfolios in the 1990s for revalidation (Webber, 1995). This process was predominantly conducted through paper format. However, following recommendations from the Francis Report (2013), the Nursing and Midwifery Council (NMC) introduced a new revalidation CPD policy that offered the option of using either paper or e-portfolio submissions in 2016 (NMC, 2020). The use of portfolios in the nursing and midwifery profession empowers practitioners to take responsibility for the creation and development of their work profile (Gordon & Campbell, 2013). In this digital age, e-portfolios have been proposed as a good alternative to paper-based processes. E-portfolios are technology-driven systems and are tools for keeping track of personal and professional development over time (Abrami & Barrett, 2005; Barker, 2005; Flanigan & Amirian, 2006; Ciesielkiewicz & Coca, 2013; Tailor et al., 2014). Arguably, a well-developed eportfolio creates a positive digital identity, articulating professional goals and experiences, highlighting unique skill sets or achievements, and connecting with other professionals who may lead to new opportunities and collaborations (Ryan, 2018; Judd et al., 2015).

Nursing is a physically demanding, skills based profession. It is worth noting that clinical partners (healthcare sites where clinical placements take place) view students' ability to practice skills as a performance indicator, which in turn reinforces the importance of skills-training for students (Forber et al., 2015). This finding was highlighted in a recent Irish study (Clynes et al., 2020) with final year students' reportedly wanting more skills based learning opportunities. However, nurse educators need to emphasise the importance of the soft skills, such as digital literacy, that will prepare them for any number of roles within health care settings, in which

the ability to communicate and collaborate will be even more critical moving forward in this digital age.

Adoption of eportfolios, as well as being practical, has major environmental advantages, reducing each person's carbon footprint, by cutting down on paperwork (Morris et al., 2010). The sustainability of eportfolios will appeal to the younger generation, who are aware of their personal responsibility thanks to the stellar work of environmental influencers like Greta Thunberg (Alter et al., 2019). Logistically eportfolios are fit for purpose on so many levels, such as providing opportunities to further develop digital skills, as well as provide a showcase for current and future employers. Eportfolios may also prove a critical element, highlighting the suitability of the applicant further education or research/clinical funding applications in the future.

The COVID-19 pandemic has highlighted that technology was primed and ready to flip to the online space. This 'flip' to online was relatively seamless and was achieved as a result of necessity rather than national digital strategic planning. The speed of the adaptation was striking, and again borne out of necessity. Moreover, we are entering a new era, the "next normal" and this new reality emerging from the ongoing COVID-19 pandemic, the recovery is predicted to be digital (Baig et al., 2020). Nursing and midwifery will benefit so much if we embrace this new reality, embrace the positives this will provide, and be part of the solution.

In Ireland, the Nurses and Midwives Act 2011 (NMBI, 2011) was signed into law to update the provisions relating to the regulation of nurses and midwives. The Act enhances the protection of the public in its dealings with the professions while ensuring the integrity of the practice of Nursing and Midwifery by the introduction of evidence of CPD and clinical hours for revalidation (NMBI, 2011). While the Act comprises many parts, the part about Maintenance of Professional Competence, and any provisions with this, such as revalidation have yet to be implemented (NMBI, 2011). The initial plan was to enact this part into effect in 2020, but with the global pandemic, no definite plans yet have been published. Before the implementation of a new revalidation process in Ireland, this paper will provide an argument in favour of adopting e-portfolios for registration and revalidation of Nursing and Midwives with the hope that the use of e-portfolios could be part of any new revalidation process from the onset.

2. The rationale for the adoption of eportfolios for nursing registration and revalidation

Revalidation fosters a culture of sharing, reflection, and improvement and these are key components of a range of measures designed to improve the quality of care for patients (Kolyva 2015). Many allied health professionals, such as doctors, physiotherapists, radiotherapists, occupational therapists, and pharmacists are already employing portfolios as part of their professional training and accreditation (Haldane, 2014; Karas et al., 2020). In the medical profession, in the UK the introduction of Modernising Medical Careers, brought about the introduction of eportfolio and workplace-based assessments as a critical component of medical undergraduate and postgraduate specialist training (Tailor et al., 2014). The e-portfolio platform provides an excellent platform to record CPDs and many medical professionals already use e-portfolios for revalidation purposes (Institute of Medicine (US) Committee on the Health Professions Education Summit, 2003; Tailor et al., 2014; Kennedy et al., 2019).

The nursing profession in Ireland lags behind their medical colleagues in adopting this eportfolio approach for registration, and revalidation. Given that other professionals, such as doctors (Larkin et al., 2019; " NHS eportfolios, n.d.; Royal College of Physician n.d.; and pharmacists ("E-portfolio," n.d.) use eportfolios currently, it provides an excellent opportunity for the Irish nursing and midwifery professionals to learn from their colleagues both nationally and internationally removing the need "to reinvent the wheel" and avoid common errors and pitfalls. The introduction of a new revalidation process in Ireland will require an investment in manpower and finances upfront to inform and educate nurses and midwives about the new approach. Given this cost, it makes sense to take the time to introduce a state of the art technology-driven e-portfolio platform from the outset, so Irish nurses and midwives could lead the way on revalidation processes internationally.

Student nurses and midwives globally are using eportfolios to reflect on their clinical practice during their training and this forms a part of their clinical assessment (Karsten, 2012; Gray et al., 2019). Where students use eportfolios as part of their education and assessment they describe them as useful repositories for documents, reflections, and learning experiences (Birks et al., 2016). The purpose of the portfolio is that the student takes ownership of their learning instilling a self-reflective approach that they continue to use for the remainder of their career (Hallam & Creagh, 2010). Experiential learning is an important part of education and the practice portfolio is the best place to capture this learning (Karsten, 2012). An eportfolio employed for clinical practice assessment could employ a tripartite model for supervision, with an academic and practice supervisor link. The advantage of eportfolio is that it could be accessed by both the practice supervisor and academic link simultaneously so student progression can be monitored throughout the placement and feedback can be provided promptly (Green et al., 2014).

The more widespread use of eportfolios is a relatively recent development for nursing students in Ireland, perhaps being predicated in part due to the arrival of COVID-19 and the requirement by students across all programmes to work asynchronously to complement online lecture hours (Donaldson et al., 2021). However, in our experience, nursing students were using eportfolios as part of their baccalaureate education to assess theory modules only (Eportfolio project School of nursing, psychotherapy & community health, 2021). Some faculty members have also introduced eportfolios (Loop Reflect- <https://reflect.dcu.ie/view/view.php?id=48860>) to enable students to upload relevant clinical documentation in relation to clinical placement since the pandemic began, and it has worked quite well. But why has it taken a pandemic to kick start this approach? Farrell's (2018) opinion piece discussed at length why eportfolio practice has not emerged at scale in Irish higher education in higher education worldwide (Harding, 2018) and suggests that academics need to be supported in their professional development, and that a greater understanding of eportfolio purposes and pedagogy should be developed in the Irish academic community. Now that we have made this transition it is important we focus on improving this adaption, and getting staff and student buy-in across the board to prevent the return to paper format. And key to successful implementation of eportfolios over the long term is to involve all stakeholders in the design of the eportfolio platform, from students, to clinical supervisors to academic supervisors (Chang et al., 2017).

3. Eportfolios

Eportfolios gained in popularity in response to both the EU and Higher Education Institutes (HEI) focus on the need to adapt and make use of technology enhanced teaching and learning opportunities (Nagle et al., 2019). This is in part driven by the rapid digitalisation and innovation at both a work, and society level (Salajan 2019). Eportfolios facilitate the pivot away from the didactic behaviourist approach seen previously at higher level education institutions to one in which the students are the creators of their own knowledge (Nagle et al., 2019). This approach promotes the use of reflection, experiential learning and active learning, all critical factors for health care educational approaches (McGuire et al., 2017; Cope & Murray, 2018) even more critical with the arrival of COVID-19 which has created new challenges (Cheng et al., 2020). Reflection is considered key in nursing, both for undergraduate and postgraduate nurses, to help develop strong clinical competencies (Schumann Scheel et al., 2017). Nurses and midwives will need to adapt to a wide variety of complex challenges in health care settings. Reflection allows the person to make sense of events and critique the role they played, their attitude, beliefs and actions and consider the role others played (Schumann Scheel et al., 2017). Thus the eportfolio has so much to offer as it encourages reflection “on action and in action” (Mann et al., 2009). Educators need to foster the reflective competencies in our students, as it is argued that reflection facilitates the implementation of evidence based practice (Rolfe, 2001), thus ensuring safe and effective care for patients (Murphy, 2004). Within higher level settings, eportfolios have three interrelated functions, learning, assessment and showcasing (Scully et al., 2018), and, as such, the role they play in student centred approach, such as enabling students to demonstrate skills, and reflect on learning (Kunnari & Laurinkainen 2017) mean they are readily applicable for nursing, from undergraduate to postgraduate level, and thus seem an ideal option to build on for revalidation purposes. Kunnari & Laurinkainen’s (2017, p.7) define ePortfolios as “Student-owned digital working and learning spaces for collecting, creating, sharing, collaborating, reflecting learning and competences... as well as storing assessment and evaluation”.

Thus, if commenced at undergraduate level, students’ eportfolios can evolve with them, they will be familiar with the technology and document their learning journey over time. In addition to recording the clinical practice piece, the eportfolio platform could be used to upload mandatory clinical hours and this also can be reviewed by partner clinical services and in the case of students, the degree-awarding body. Completion of 2,300 hours of clinical practice is a mandatory requirement for nursing students in Ireland and this evidence must be provided for initial registration in addition to documentation demonstrating mandatory clinical skill proficiency (NMBI n.d.). The eportfolio platform could be used as a central repository to house this information which is critical to the initial registration of Nursing students (Crathern et al., 2017). By incorporating eportfolios as part of undergraduate education and assessment students from the onset are familiar with the technology making its use for registration and revalidation an easy transition. This would also be true for Clinical Nurse Supervisors if the eportfolio platform is used for practice portfolios and since they too would become familiar with the technology it would also smooth the transition of eportfolios for revalidation purposes.

Recently, in Ireland a Professional Development Planning Framework (n.d.) was launched which aims to enable Nurses and Midwives to access a professional development plan (PDP), which is, in effect an eportfolio. It is well recognised that the main benefit of using eportfolios is that it promotes accountability and autonomy whereby recording reflective learning can be built upon over time these records and this tool could form a central repository for clinical and

career progression. Since all the evidence regarding professional practice is available in one place, this allows the individual to monitor career progression and to build evidence of clinical competence over time (Green et al., 2014). The platform needs to be flexible so that you can write extensively, edit your entries, and expand them over time. Ideally it should allow you to tag your entries into different folders to facilitate storing information in multiple locations. By uploading evidence over time, it removes any potential for recall bias or error. It also helps people stay on track for any revalidation requirements such as hours required for CPD and also recording clinical hours for revalidation purposes (Gray et al., 2019). The PDP tool was designed with consultation with NMBI, but as yet it is clear if it is a suitable platform in terms of for the national roll out of revalidation of Nurses and Midwives.

The Faculty of Nursing and Midwifery, Royal College of Surgeons Dublin, provides their own eportfolio site platform (developed in house) for students enrolled on their postgraduate programmes ("EPortfolio conference day 1," n.d.), the aim of which is to allow the graduates keep their knowledge and skills up-to-date by taking part in relevant continuing professional development. They include sections in which you can plan, record and reflect on professional development and link this activity to the College's domains of competence and the indicators within them. Whichever route NMBI chose to take whatever platform they consider; they need to consult with all stakeholders and consider the pros and cons of all platforms currently in use.

Eportfolios are currently employed to provide evidence of clinical competency for Advanced Nursing and Midwifery Practice, nationally (National Council for the Professional Development of Nursing and Midwifery, 2009) and internationally (Hayes et al., 2002). The eportfolio is designed to capture the development of clinical skills that can be logged and mapped across the specialist training requirements and the programme learning outcomes (Anderson et al., 2009). It facilitates clinical reflection and allows the Advanced Practitioner to record case-based studies. This evidence can be used to provide evidence for clinical competence and also evidence for use for recruitment purposes in their new clinical specialism (Crathern et al., 2017). Irish nursing post-graduate programmes such as DCU's, MSc in Nursing Practice/Healthcare Practice, also employ eportfolios as part of the practice assessment for core modules. Module feedback identified that DCU students found eportfolios useful, challenging and effective in merging academic and clinical components, which reflects what is published in the literature (Anderson et al., 2009; Crathern et al., 2017; Hayes et al., 2002). The use of eportfolios by post-registration Nurses and Midwives also supports the use of this technology for revalidation. While many postgraduate programmes employ eportfolios, a study by Birks et al. (2016) observed that postgraduate students are less likely to perceive the positive potential of eportfolios than undergraduate students which supports the need to introduce their use in the earlier stages of their career (Birks et al., 2016). Both undergraduate and post-graduate students would see the benefit further if it could be utilised for revalidation purposes.

Like many other healthcare professionals, Nurses and Midwives in Ireland use their qualification to work in other parts of the globe (Reddan, 2016). As part of this process, they need to provide a *curriculum vitae* and evidence of clinical competence. Current requirements to register as a Nurse/Midwife in different countries vary widely, despite the common background of Bachelor Nursing/Midwifery. The use of an eportfolio is very useful in developing a *curriculum vitae* and can also be useful to showcase clinical competencies to potential employers (Farrell, 2018). While Nurses and Midwives create practice portfolios these are paper-based and can be cumbersome and therefore in the case of an interview they cannot be mailed ahead and it is impractical to carry a portfolio to interview (Jones et al., 2007). Therefore, the eportfolio would facilitate the sharing of information to authorised individuals

in this case the potential employer. In an ideal world, the Nursing and Midwifery professions globally could join forces to identify common platforms that work across borders and boundaries. This would enable Nurses and Midwives to travel and work more freely and flexibly. The introduction of eportfolios globally would facilitate a more fluid transition from country to country where the training and educational requirements are similar. In the case where the requirements are very different, the Practice Portfolios could provide the evidence required for clinical competency at registration.

One of the barriers to the introduction of eportfolios for revalidation is that Nurses and Midwives are already using paper-based systems and there can be initial resistance from staff in the implementation and transition phase to a new system. People like the paper system because they have tangible evidence of their CPD (Gray et al., 2019). This will not be an issue in Ireland as currently, they do not have to provide evidence for revalidation so the eportfolio could be introduced as part of the new system. Studies have reported concerns regarding loss of data but these systems are shown to be a secure location to store collective information (Gray et al., 2019). One of the greatest challenges of introducing eportfolios for registration and revalidation purposes in Ireland is to get buy-in from key stakeholders. The best way to accomplish this is to engage stakeholders in the design and decision-making process early (Birks et al., 2016). The project would involve evaluating different software applications, developing and creating templates, implementing the project as a pilot study, and evaluating the process (Jones et al., 2007). There also needs to be a financial investment to purchase access to the platform and also the need for a secure server with space to store the data. This can have financial, legal, and security issues that should be ironed out before implementation. There may be a need to have technical support staff to oversee the process and also to provide training for staff (Jones et al., 2007; Poole et al 2018).

Therefore, if eportfolios are to be used for revalidation purposes it is crucial to address potential logistical and technological issues upfront and to the best fit and most user-friendly platform (Birks et al., 2016). The new system must have ease of access from multiple devices in real-time including mobile devices (Gordon & Campbell, 2013). There is some concern that there may be resistance to adapting to technology, although studies have shown that with training and support this resistance is overcome and staff adapts to the online system (Brown & Rooney, 2020). Individuals who use eportfolio must be computer literate (Wuetherick & Dickinson, 2015). Other barriers are access to computers and the internet as well as the need for training on the platform, although most systems are intuitive and are very user-friendly. The individual must be able to share and transfer data between multiple systems (Gordon & Campbell, 2013). Another barrier is getting buy-in across a jurisdiction for the same platform as different healthcare providers may already have systems in place for other healthcare professionals in their jurisdiction. Universities may want to use platforms that are used for other courses and will have already invested hugely in the programme of choice.

Given the number of Nurses and Midwives (Table 1), there is also the issue of how this will be managed. The Nursing and Midwifery bodies must select a platform that can be used for pre-registration and post-registration purposes. When introducing a new validation system in Ireland there could be concern over the large number of Nurses and midwives that will require processing (Table 1). In New Zealand due to the large numbers of Nurses/Midwives, hospitals take responsibility for the revalidation process while the Nursing Body audits a selection of individuals annually, although it is anticipated that all individuals will be audited over time (CCDHB, 2019). A paper-based system will cause problems regarding the storage and security of paper-based evidence and also issues about data protection. Paper evidence is cumbersome

to process and also to file for long term storage (Collins & Crawley, 2016). Using an eportfolio system means the relevant material can be shared with the employer and the nursing registration board so both have oversight on the documented evidence supplied by nursing staff for revalidation. There are only cloud storage requirements and evidence can be easily retrieved. Eportfolios therefore counter one of the many challenges that a paper-based system presents. However, the impact on the Irish Health Service (HSE) during the recent cyber-attack by ransomware criminals has highlighted the risk and vulnerability of any system, even a large governmental organisation. Hackers managed to cause catastrophic disruption to all elements of health services including major disruptions to radiotherapy services. Patients and staff personal and professional data were put at risk with hackers threatening to share private data. And while in this recent case the hackers provided the decryption key for free to reverse the damage done, the threat remains ("Irish cyber-attack: Hackers bail out Irish health service for free," 2021). This emphasises the need for financial investment to ensure systems are secure from future attacks and are more fit for purpose. Unless the systems are considered safe and secure, staff will not be willing to entrust their personal and professional data to cloud storage required for eportfolios.

A second consideration relates to the Bawa-Garba case ("Leicester doctor guilty of manslaughter of Jack Adcock, 6," 2015). Hadiza Bawa Garba, a junior paediatric doctor, was convicted of manslaughter for gross negligence and had her medical license revoked following the death of Jack Adcock, a 6-year-old child who suffered from Downs Syndrome. Dr Bawa-Garba disturbed and depressed following the death and was encouraged to record her mistakes in her eportfolio and to reflect on them. This honest recording of her feelings and her failings was used against her as evidence and this raises concerns that doctors and other health care professionals will no longer feel able to reflect openly and honestly, and use the reflection to learn (Rao, 2018). Education regarding the use of the eportfolio, which aspects to share and sections that should remain personal is critical to ensure these specific issues be addressed.

Another challenge is to select a platform that can support the nurse/midwife education continuum from undergraduate education to registration and thereafter post-registration needs including post-graduate training, Advanced Nurse and Midwifery practice, and revalidation (Gordon and Campbell, 2013). Ideally a common platform should be adopted that can be accessed by all Nurses and Midwives. This will depend on the process of registration and revalidation as it may also need to be accessed by the employer and the professional body. Several platforms can be employed, however, the most commonly used are Pepplepad and Mahara (Hains-Wesson et al., 2014; June, 2013). The advantage of these platforms is that the user has complete ownership of their eportfolio. They can set permissions giving access to nominated individuals and the user can select the material that the individual can access. The platforms also can build a *curriculum vitae* (Brown et al., 2007; Black et al., 2014). Irrespective of which platform is used it must be workable, adaptable and understandable (Collins & Crawley, 2016). All of these platforms have many advantages and disadvantages but when selecting the platform, you need to consider the intended audience and the needs of the user. If there is agreement on one platform between the universities, healthcare providers, and professional bodies then another issue is ownership in particular related to cost, training, and technical issues must be resolved. Given the importance of the revalidation process and the many advantages that an eportfolio would provide as a repository of an individual's clinical competence and continued professional development, it is worth the upfront investment in ensuring a "state of the art" process for revalidation in Ireland.

4. Conclusion and future direction

An evaluation of the e-portfolio revalidation process in the UK was carried out in 2019 and proved successful in that participants reported the process was straightforward with minimal burden, an important requirement for all revalidation processes (NMC 2020). The report demonstrated that much of the success lay in the implementation of the model including the use of eportfolios and embedding it across Nursing and Midwifery. This report could provide the basis for planning revalidation in Ireland. Based on the recommendation from NMC (2020) revalidation in Ireland from the planning and implementation phase must be "future-proofed" and in this paper, we provided a rationale for Irish Nurses and Midwives to embrace eportfolios as a digital approach for registration and revalidation. There are many advantages to eportfolios as discussed in this paper including the support of professional development and life-long learning allowing nurses and midwives to articulate professional goals and experiences, highlighting their unique skill sets or achievements. The paper identifies some challenges where the biggest identified is obtaining buy-in from all stakeholders and the identification of the correct platform. For nurses and midwives to step out of the shadows and make their voices heard, they need to become disruptive in this digital age and embrace technology, not shy away from it because it can seem challenging. But for that to happen technological support will need to be in place. Educators can play their role by exposing undergraduate students from the beginning to eportfolios and associated technologies so that these digital natives can educate themselves and others during their careers. Given that 2020 and 2021 are the International Years of the Nurse and Midwife, there is no better time to take the professions into the 21 century and embrace all the benefits of the digital age.

References

- Abrami, P., & Barrett, H. (2005). Directions for Research and Development on Electronic Portfolios. *Canadian Journal of Learning and Technology / La Revue Canadienne de l'apprentissage et de La Technologie*, 31(3). <https://doi.org/10.21432/t2rk5k>
- Alter, C., Hayes, S., & Worland J. (2019, December 4) *TIME 2019 PERSON OF THE YEAR GRETA THUNBERG* <https://time.com/person-of-the-year-2019-greta-thunberg/>
- American Nurses Association (ANA) n.d. *Renew your certification with the American Nurses Credentialing Center*. ANA Enterprise. <https://www.nursingworld.org/certification/renewals/>
- Anderson, D., Gardner, G., Ramsbotham, J., & Tones, M. (2009). E-portfolios: developing nurse practitioner competence and capability. *AUSTRALIAN JOURNAL OF ADVANCED NURSING*, 26(4), 70–76. https://www.ajan.com.au/archive/Vol26/26-4_Anderson.pdf.
- Anderson, D., Gardner, G., Ramsbotham, J., & Tones, M. (2014). *E-portfolios: Developing nurse practitioner competence and capability Health Informatics and Disease Registries View project ADRAS Inclusive Education View project*. https://www.ajan.com.au/archive/Vol26/26-4_Anderson.pdf
- Australian Nursing and Midwifery Accreditation Council. (2014). Re-entry to the Register Registered Nurse. In https://www.anmac.org.au/sites/default/files/documents/20150209_Re-entry Registered Nurse Accreditation Standards 2014.pdf.
- Barker, C. (2005). Self-report methods. In *Research methods in clinical psychology: An introduction for students and practitioners* (pp. 94–118). John Wiley and Sons.
- Barker, C., Pistrang, N., & Elliott, R. (2002). *Research methods in clinical psychology: An introduction for students and practitioners*. John Wiley and Sons.
- Baig, A., Hall, B., Jenkins, P., Lamarre, E., McCarthy, B. (2020, May 14). The COVID-19 Recovery will be Digital: A Plan for the First 90 Days. *McKinsey Digital*. Retrieved from <https://www.mckinsey.com/business-functions/mckinsey-digital/our-insights/the-covid-19-recovery-will-be-digital-a-plan-for-the-first-90-days>.
- Birks, M., Hartin, P., Woods, C., Emmanuel, E., & Hitchins, M. (2016). Students' perceptions of the use of eportfolios in nursing and midwifery education. *Nurse Education in Practice*, 18, 46–51. <https://doi.org/10.1016/j.nepr.2016.03.003>
- Black, S., Kane, C. and Elworthy, G., (2014). The complexities and challenges of introducing electronic Ongoing Achievement Records in the pre-registration nursing course using PebblePad and hand-held tablets. *Journal of pedagogic development*. 4(1).
- Brown, A., & Rooney, N. (2020, October 14). *Large scale digital innovation in South Australian student nursing and midwifery programs*. ANMJ. <https://anmj.org.au/large-scale-digital-innovation-in-south-australian-student-nursing-and-midwifery-programs/>

Brown, M., Anderson B, Simpson M & Suddaby, G. (2007). *Showcasing Mahara: A new open source eportfolio MOOCs in the Media View Project Learning Portfolio in Higher Education View project.*

https://www.researchgate.net/publication/238113615_Showcasing_Mahara_A_new_open_source_eportfolio

CCDHB n.d <https://www.ccdhb.org.nz/working-with-us/nursing-and-midwifery/nursing-at-ccdhb/professional-development/professional-development-and-recognition-programme/registered-nurse-portfolio-content-requirements/>

Chang, C.-P., Lee, T.-T., & Mills, M. E. (2017). Clinical nurse preceptors' perception of e-portfolio use for undergraduate students. *Journal of Professional Nursing*, 33(4), 276–281. <https://doi.org/10.1016/j.profnurs.2016.11.001>

Chantananurpak, K. (2015). Using E-Portfolio on Social Media. *Procedia - Social and Behavioral Sciences*, 186, 1275–1281. <https://doi.org/10.1016/j.sbspro.2015.04.063>

Cheng Y-C, Huang L-C, Yang C-H, Chang H-C. Experiential Learning Program to Strengthen Self-Reflection and Critical Thinking in Freshmen Nursing Students during COVID-19: A Quasi-Experimental Study. *International Journal of Environmental Research and Public Health*. 2020; 17(15):5442. <https://doi.org/10.3390/ijerph17155442>

Ciesielkiewicz, M., & Coca, D. (2013). *The Electronic Language Portfolio as a Tool for Lifelong Learning.*

Clynes, M., Sheridan, A., & Frazer, K. (2020). Student engagement in higher education: A cross-sectional study of nursing students' participation in college-based education in the republic of Ireland. *Nurse Education Today*, 93, 104529. <https://doi.org/10.1016/j.nedt.2020.104529>

CNA. (n.d.). Renewing your certification. Canadian Nurses Association. <https://www.cna-aiic.ca/en/certification/renewing-your-certification>

Collins, E., & Crawley, J. (2016). Introducing ePortfolios into nursing schools. *Nursing New Zealand*, 22(5), 34–35. <https://pubmed.ncbi.nlm.nih.gov/27514229/>

Cope V and Murray M (2018) Use of professional portfolios in nursing. *Nursing Standard*, 32 (30)55-63. DOI: [10.7748/ns.2018.e10985](https://doi.org/10.7748/ns.2018.e10985)

Crathern, L., Clark, S. J., Long den, J., & Styche, T. (2017). Using the RCPCH e-portfolio for trainee ANNPs: a three-year evaluative study. *Infant*, 13 (1) 29-32 https://www.infantjournal.co.uk/pdf/inf_073_rai.pdf

ePortfolio Conference Day1 [HEAnet Media Hosting](https://media.heanet.ie/player/acd1d492d19a3693eb75439999a8f58a)
<https://media.heanet.ie/player/acd1d492d19a3693eb75439999a8f58a>

EPortfolio project: School of nursing, psychotherapy & community health. (2021, January 4). Dublin City University. <https://www.dcu.ie/snpch/eportfolio>

E-portfolio. (n.d.). Royal Pharmaceutical Society

RPS. <https://www.rpharms.com/development/e-portfolio>

Farrell, O. (2018). Failure to Launch: The Unfulfilled Promise of Eportfolios in Irish higher education: An Opinion Piece. *DBS Business Review*, 2. <https://doi.org/10.22375/dbr.v2i0.30>

Flanigan, E. J., & Amirian, S. (2006). *ePortfolios; Pathway from Classroom to Career*. Handbook of Research on Eportfolios. <https://www.igi-global.com/chapter/handbook-research-eportfolios/20305>

Flodgren, G., Eccles, M. P., Shepperd, S., Scott, A., Parmelli, E., & Beyer, F. R. (2011). An overview of reviews evaluating the effectiveness of financial incentives in changing healthcare professional behaviours and patient outcomes. *Cochrane Database of Systematic Reviews*, 7. <https://doi.org/10.1002/14651858.cd009255>

Forber, J., DiGiacomo, M., Davidson, P., Carter, B., & Jackson, D. (2015). The context, influences and challenges for undergraduate nurse clinical education: Continuing the dialogue. *Nurse education today*, 35(11), 1114-1118.

Forbes H, Oprescu FI, Downer T, Phillips NM, McTier L, Lord B, Barr N, Alla K, Bright P, Dayton J, Simbag V, Visser I. (2016) Use of videos to support teaching and learning of clinical skills in nursing education: A review. *Nurse Education Today*, 42, 53-56. <https://doi.org/10.1016/j.nedt.2016.04.010>.

Francis, R. (2013, February 6). *Report of the Mid Staffordshire NHS Foundation Trust Public Inquiry*. GOV.UK. <https://www.gov.uk/government/publications/report-of-the-mid-staffordshire-nhs-foundation-trust-public-inquiry>

Gordon, J. A., & Campbell, C. M. (2013). The role of ePortfolios in supporting continuing professional development in practice. *Medical Teacher*, 35(4), 287–294. <https://doi.org/10.3109/0142159x.2013.773395>

Gray, M., Downer, T., & Capper, T. (2019). Australian midwifery student's perceptions of the benefits and challenges associated with completing a portfolio of evidence for initial registration: Paper based and ePortfolios. *Nurse Education in Practice*, 39(4), 37–44. <https://doi.org/10.1016/j.nepr.2019.07.003>

Green, J., Wyllie, A., & Jackson, D. (2014). Electronic portfolios in nursing education: A review of the literature. *Nurse Education in Practice*, 14(1), 4–8. <https://doi.org/10.1016/j.nepr.2013.08.011>

Hains-Wesson R, Wakeling L, and Aldred P (2014) A University-Wide ePortfolio Initiative at Federation University Australia: Software Analysis, Test-to-Production, and Evaluation Phases. *International Journal of ePortfolio*, 4 (2), 143-156.

Haldane, T. (2014). "Portfolios" as a method of assessment in medical education. *Gastroenterol Hepatol Bed Bench*, 7(2), 89–93. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4017561/pdf/GHFBB-7-089.pdf>

- Hallam, G., & Creagh, T., (2010). ePortfolio use by university students in Australia: a review of the Australian ePortfolio Project. *Higher Education Research & Development*, 29(2), 179–193. <https://doi.org/10.1080/07294360903510582>
- Harding, N., (2018) The Digital Turn: staff perceptions of the virtual learning environment and the implications for educational developer. *Irish Journal of Technology Enhanced Learning*, <https://doi.org/10.22554/ijtel.v3i2.45>
- Hariyati, Rr. T. S., & Safril, S. (2018). The relationship between nurses' job satisfaction and continuing professional development. *Enfermería Clínica*, 28, 144–148. [https://doi.org/10.1016/s1130-8621\(18\)30055-x](https://doi.org/10.1016/s1130-8621(18)30055-x)
- Hayes, E., Chandler, G., Merriam, D., & Christine King, M. (2002). The Master's Portfolio: Validating a Career in Advanced Practice Nursing. *Journal of the American Academy of Nurse Practitioners*, 14(3), 119–125. <https://doi.org/10.1111/j.1745-7599.2002.tb00102.x>
- Institute of Medicine (US) Committee on the Health Professions Education Summit. (2003). Health Professions Education: A Bridge to Quality. In A. C. Greiner & E. Knebel (Eds.), *PubMed*. National Academies Press (US). <https://www.ncbi.nlm.nih.gov/books/NBK221528/>
- Irish cyber-attack: Hackers bail out Irish health service for free. (2021, May 21). BBC News. <https://www.bbc.com/news/world-europe-57197688>
- HSE. (n.d.). Professional development planning framework for nurses and midwives. <https://healthservice.hse.ie/about-us/onmsd/cpd-for-nurses-and-midwives/pd-planning-framework.html>
- Jones, J., Sackett, K., Erdley, W., & Blyth, J. (2007). Chapter 13 ePortfolios in Nursing Education: Not Your Mother's Resume. *Annual Review of Nursing Education*. 5. 245-258.
- Judd, M.-M., Knight, C., Lovell, C., Kinash, S., Crane, L., Mclean, M., Mitchell, K., Dowling, D., Schwerdt, R., Judd, M.-M., Lovell, C., Kinash, S., Mclean, M., Mitchell, K., Dowling, D., & Schwerdt, amp; (2015). *Case studies to enhance graduate employability*.
- June. (2013). Mahara – a versatile open-source ePortfolio | Nursing informatics learning center. Nursing Informatics Learning Center. <https://nursing-informatics.com/blog/mahara-a-versatile-open-source-eportfolio/>
- Karas, M., Sheen, N. J. L., North, R. V., Ryan, B., & Bullock, A. (2020). Continuing professional development requirements for UK health professionals: a scoping review. *BMJ Open*, 10(3) <https://doi.org/10.1136/bmjopen-2019-032781>
- Karsten, K. (2012). Using ePortfolio to demonstrate competence in associate degree nursing students. *Teaching and Learning in Nursing*, 7(1), 23–26. <https://doi.org/10.1016/j.teln.2011.09.004>
- Kennedy, M.-C., Reast, A., Morrow, K., Bourke, F., Murphy, C., Arnett, R., & Bradley, C. (2019). Reviewing Competence in Practice: Reform of Continuing Professional Development for Irish Pharmacists. *Pharmacy*, 7(2), 72. <https://doi.org/10.3390/pharmacy7020072>

Kolyva, K. (2013). Help the nursing and midwifery council to shape revalidation. *Nursing Standard*, 28(9), 33–33. <https://doi.org/10.7748/ns2013.10.28.9.33.s44>

Kolyva, K. (2015). How reflection can raise standards of nursing care. *Nursing Times*, 111(44), 16. <https://pubmed.ncbi.nlm.nih.gov/26665382/>

Kunnari, I. & Laurikainen, M. (2017). Collection of Engaging Practices in Eportfolio Process – Publication of the Empowering Eportfolio Process Project. Häme University of the Applied Sciences: Hämeenlinna, Finland. <https://unlimited.hamk.fi/ammattillinen-osaaminen-ja-opetus/empowering-eportfolio-process/#.YRgUOIhKg2w>

Larkin E, O'Connor K, McNally PP250 Improving E-learning environments for tomorrow's paediatricians. *Archives of Disease in Childhood* 2019;104:A257. <http://dx.doi.org/10.1136/archdischild-2019-epa.600>

Leicester doctor guilty of manslaughter of Jack Adcock, 6. (2015, November 4). BBC News. <https://www.bbc.com/news/uk-england-leicestershire-34722885>

Donaldson, L. Farrell, O. Buckley, K. Farrelly, T. (2021). Beyond Traditional Assessment: A Covid CreateAthon of EPortfolio Based Assessment, NF funded seminar, DCU, 18th February. <https://www.youtube.com/watch?v=QUaaq44b-jk>

McGuire M; Goldstein C, Claywell L and Patton R. (2017) Analysis of Student Reflections of Experiential Learning in Nursing Health Policy Courses, *Nurse Educator*: 3/4 42 (20), 95-99 DOI: [10.1097/NNE.0000000000000321](https://doi.org/10.1097/NNE.0000000000000321) <https://doi.org/10.1007/s10459-007-9090-2>

Mann K, Gordon J, and MacLeod A, (2009) Reflection and reflective practice in health professions education: a systematic review. *Advances in Health Science Education*, 14, 595-621. <https://doi.org/10.1007/s10459-007-9090-2>

Morris AP, Hight LJ, Frazer SE (2010) Using ePortfolios to support clinical training in paediatrics *Archives of Disease in Childhood. Education and Practice*, 95, 157-164. <http://dx.doi.org/10.1136/adc.2008.142265> <https://ep.bmj.com/content/95/5/157.long>

Murphy JI (2004) Using focused reflection and articulation to promote clinical reasoning. An Evidence-Based Teaching Strategy, *Nursing Education Perspective*, 25(5)226-231 <https://www.proquest.com/scholarly-journals/using-focused-reflection-articulation-promote/docview/236601512/se-2?accountid=15753>

National Council for the Professional Development of Nursing and Midwifery. (2009). Guidelines for portfolio development for nurses and midwives third edition. <http://hdl.handle.net/10147/116377>

Nagle L, O'Connell M & Farrelly T (2019) A gap in governance: acknowledging the challenges of organic ePortfolio implementation, *Educational Media International*, 56(4), 328-342, <https://doi.org/10.1080/09523987.2019.1682271>

NCNZ. (n.d.). *Annual practicing certificates*. Nursing Council New Zealand. https://www.nursingcouncil.org.nz/Public/Nursing/Annual_practising_certificates/NCNZ/nur

[sing-section/Annual_practising_certificates.aspx?hkey=fe07dd4c-6718-415f-88c5-e98328475ee0](https://www.nhs.uk/medica/sing-section/Annual_practising_certificates.aspx?hkey=fe07dd4c-6718-415f-88c5-e98328475ee0)

NHS England. (n.d.). NHS England » what is revalidation?
<https://www.england.nhs.uk/medical-revalidation/about-us/what-is-revalidation/>

NHS eportfolios n.d. <https://www.nhseportfolios.org/Information/InfoPage?page=AboutUs>

NMBA. (n.d.). *Nursing and midwifery board of Australia*.
<https://www.nursingmidwiferyboard.gov.au/>

NMBI (2011)– *Nursing and Midwifery Board Ireland. The nurses and midwives act 2011*.
<https://www.nmbi.ie/What-We-Do/Legislation>

NMBI (n.d.). <https://www.nmbi.ie/Registration/Annual-Renewal>

NMC (2020). *Renewing your registration*. <https://www.nmc.org.uk/registration/your-registration/renewing-your-registration/>

Poole P, Brown M, McNamara G, O'Hara J, O'Brien S, and Burns D (2018) Challenges and supports towards the integration of ePortfolios in education. Lessons to be learned from Ireland. *Heliyon*, 4, (11). <https://doi.org/10.1016/j.heliyon.2018.e00899>.

Professional Development Planning Framework n.d. <https://healthservice.hse.ie/about-us/onmsd/cpd-for-nurses-and-midwives/pd-planning-framework.html>

Rao S (2018) Two judgements in the UK could shape the way medicine is practiced. *Medindia. Health in Focus*.<https://www.medindia.net/news/healthinfocus/two-judgements-in-the-uk-could-shape-the-way-medicine-is-practiced-177705-1.htm>

Reddan, F. (2016, November 30) *Where are the jobs for Irish healthcare workers worldwide?* <https://www.irishtimes.com/life-and-style/abroad/working-abroad/where-are-the-jobs-for-irish-healthcare-workers-worldwide-1.2887722?mode=sample&auth-failed=1&pw-origin=https%3A%2F%2Fwww.irishtimes.com%2Flife-and-style%2Fabroad%2Fworking-abroad%2Fwhere-are-the-jobs-for-irish-healthcare-workers-worldwide-1.2887722>

Rolfe, M. K. (2001). The NEBPINY programme (Phase 1). Changing practice-testing a facilitated evidence-based programme in primary care. *The Journal of Clinical Governance*, 9(1), 21-26.

Royal College of Physician- Professional Competence n.d <https://www.rcpi.ie/professional-competence/what-you-need-to-know-about-eportfolio-for-professional-competence/>

Ryan, J. A. (2018). Which resources are most helpful to support development of an ePortfolio? *British Journal of Nursing*, 27(5), 266–271. <https://doi.org/10.12968/bjon.2018.27.5.266>

Salajan FD (2019) Building a policy space via mainstreaming ICT in European education: The European Digital Education Area (re)visited. *European Journal of Education*. 54, (4), 591-604. <https://doi.org/10.1111/ejed.12362>

Schumann Scheel L, Peters MDJ, Meinertz Møbjerg AC. (2017) Reflection in the training of nurses in clinical practice settings: a scoping review protocol. *JBI Database System Rev Implement Rep.* 15(12), 2871-2880. doi: 10.11124/JBISRIR-2017-003482. https://journals.lww.com/jbisrir/Fulltext/2017/12000/Reflection_in_the_training_of_nurses_in_clinical.9.aspx

Scully, D., O'Leary, M. & Brown, M. (2018). Best of Ireland: The Learning Portfolio in Higher Education: An Integrative Review. In T. Bastiaens, J. Van Braak, M. Brown, L. Cantoni, M. Castro, R. Christensen, G. Davidson-Shivers, K. DePryck, M. Ebner, M. Fominykh, C. Fulford, S. Hatzipanagos, G. Knezek, K. Kreijns, G. Marks, E. Sointu, E. Korsgaard Sorensen, J. Viteli, J. Voogt, P. Weber, E. Weippl & O. Zawacki-Richter (Eds.), *Proceedings of EdMedia: World Conference on Educational Media and Technology* (pp. 2237-2246). Amsterdam, Netherlands: Association for the Advancement of Computing in Education (AACE). Retrieved November 8, 2021 from <https://www.learntechlib.org/primary/p/184584/>.

Taylor, A., Dubrey, S., Das, S., 2014. Opinions of the ePortfolio and workplace-based assessments: a survey of core medical trainees and their supervisors. *Clin Med (Lond)* 14, 510–516. <https://doi.org/10.7861/clinmedicine.14-5-510>

Webber, J., (1995) Specialist nursing practice. *Int J Palliat Nurs* 1, 66. <https://doi.org/10.12968/ijpn.1995.1.2.66>

Wuetherick, B., Dickinson, J., (2015) Why ePortfolios? Student Perceptions of ePortfolio Use in Continuing Education Learning Environments, *International Journal of ePortfolio*, (5)1 39-53 <http://www.theijep.com/pdf/IJEP135.pdf>