ORCA – Online Research @ Cardiff

Sustaining quality education and practice learning in a pandemic and beyond

'I have never learnt as much in my life, as quickly, ever'

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Abstract

The context of healthcare and of healthcare education has radically changed as a result of the Covid-19 pandemic. To identify positive strategies for midwifery education in this context, five case studies from the UK and beyond were conducted using an appreciative enquiry approach, from the perspectives of students, the maternity services, cross-university collaboration, and digital learning. A health system analysis was used to identify strategies to cope, adapt, and transform for the future, at the levels of individuals, teams, and the whole system.

Findings showed that the implementation of effective responses was possible. Responding effectively and rapidly to a shock as profound as this pandemic requires courageous, respectful, evidence-based, innovative, collaborative, cross-sectoral working and leadership across education institutions, practice settings, the regulator, government, and with students themselves. Pre-existing trusting relationships and collaborative systems supported rapid responses. Effective digital learning requires a pro-active, student-centred approach, and addressing the problems of inequitable access to equipment and space. Joint problem-solving and focussing on the key outcomes that matter contribute to developing successful strategies and robust processes. The pandemic provides an opportunity for student midwives to be re-imagined as essential members of midwifery teams and not 'just students'. Transformative actions identified include whole-system working, tackling longstanding problems including racism, poverty, prejudice, and systemic discrimination, and keeping students at the heart of the education system.

Highlights

- To identify positive strategies for midwifery education in the context of the Covid-19 pandemic, five case studies from the UK and beyond were conducted using an appreciative enquiry approach, from the perspectives of students, the maternity services, cross-university collaboration, and digital learning.
- A health system analysis was used to identify strategies to cope, adapt, and transform for the future, at the levels of individuals, teams, and the whole system.
- Findings showed that implementation of effective responses to this crisis was possible. This required courageous, respectful, evidence-based, innovative, collaborative, cross-sectoral working and leadership across education institutions, practice settings, the regulator, government, and students themselves.

- Transformative actions identified include whole-system working, tackling longstanding inequality and discrimination, and keeping students at the heart of the education system.

Introduction and background

The context of healthcare and of healthcare education has changed radically as a result of the Covid-19 pandemic (Coxon *et al.*, 2020). The impact on people's lives, on population health and wellbeing, and on healthcare services and staff, is unprecedented. At the same time, women continue to be pregnant, give birth, feed and care for their babies at the same rate as before. All maternity services must find ways of providing essential aspects of quality care in this context (Renfrew *et al.*, 2020). Changes are just as far-reaching from a learning and teaching perspective (Luyben, Fleming and Vermeulen, 2020a), and students, educators across university and practice settings, and regulators, have had to develop new standards and strategies, and new ways of working.

In this paper we consider the impact of the pandemic on midwifery students, educators and practice partners and on learning and teaching experiences. We examine five case studies from across the United Kingdom (UK) and beyond to identify challenges, achievements, and potential solutions, using a health systems lens. We identify some of the negative and positive developments that are emerging as individuals, health and education systems, and wider society adapt. We propose that this deeply challenging situation is at the same time a potentially rich learning environment for students and staff, and we consider ways in which learning can be valued and optimised. We identify evidence-informed principles to guide adaption, recovery, and the development of transformative new ways of working for midwifery education in the future.

Impact of the pandemic on the context of midwifery education and practice learning

Impact on everyone's lives, especially childbearing women, babies, and families

The Covid-19 pandemic is affecting most countries across the world (Worldometer, 2020) changing many aspects of people's lives. There are challenges for healthcare systems, which are responding to the shock of large numbers of people becoming sick and dying. As the pandemic has developed, some health service responses have evolved to incorporate the growing evidence base and to maintain care (Renfrew *et al.*, 2020, Royal College of Midwives and Royal College of Obstetricians and Gynaecologists, 2020). In some countries, however, services have been reconfigured towards more centralised care, including maternity services (Birthrights, 2020; Coxon *et al.*, 2020; Nacoti *et al.*, 2020). Restrictive practices have been introduced, resulting in unnecessary interventions being used routinely, companionship in labour and antenatal and postnatal care being severely reduced, and mothers and babies being separated (Coxon *et al.*, 2020; European Centre for Disease Prevention and Control, 2020; Karavadra *et al.*, 2020; Lavender *et al.*, 2020; Sadler, Leiva and Olza, 2020; Stuebe, 2020; Vogel, 2020). Childbearing women and their partners and families are experiencing heightened levels of anxiety and even fear and grief as they recognise their specific vulnerability and the vulnerability of their babies to this infection (Mappa, Distefano and Rizzo, 2020; Royal College of Psychiatrists, 2020; Sanders and Blaylock, 2020; Thapa *et al.*, 2020).

Magnifying existing inequities and racism

The pandemic is not affecting people equally. The impact of poverty is reflected in the disproportionate effect that lockdown is having on people's health and well-being, on children's education, and on death rates from Covid-19 (BBC News, 2020; Salisbury, 2020; Vassilev and Beynon, 2020). Gender inequalities have been illuminated; women are experiencing more negative effects from the pandemic, including increased levels of responsibility for childcare and dependents, reduced productivity, increased unemployment, and worsening financial situations (Linde and Laya, 2020; The Economist, 2020b; The Guardian, 2020). It is becoming clear that the conditions of lockdown magnify existing abusive behaviours (Kelly and Morgan, 2020; O'Donnell, Peterman and Potts, 2020; The Economist, 2020a; Williamson, Lombard and Brooks-Hay, 2020).

People of Black, Asian, and minority ethnic heritage are especially vulnerable to Covid-19 (Knight *et al.*, 2020), affecting women, babies and families, staff, and students (Sears-Allers, 2020). This worsens the existing inequality in mortality rates in pregnancy and childbirth; in the UK, compared to rates in white women, mortality rates before the pandemic were five times more for Black women and double for Asian women (Knight *et al.*, 2019). In a related development, there has been a growing realisation of systemic racism as a result of the Black Lives Matter movement (Black Lives Matter, 2020) highlighting the urgent need for all health professionals and students to better understand issues of racism, equity and equality through open conversations and learning opportunities, and to ensure personalised, respectful care for women and babies from these backgrounds (Bhala *et al.*, 2020; Burnett *et al.*, 2020; Lord, 2020). The healthcare education community has been challenged to respond pro-actively to prevent further harm to students and to staff as well as to women and families (Burnett *et al.*, 2020).

Impact on students and educators

Changes during the pandemic have had an impact on staff and students alike. Gender inequality has a disproportionate effect as over 70% of healthcare staff worldwide are women (European Institute for Gender Equality, 2020; Leung *et al.*, 2020), and many staff and students are from ethnic backgrounds that make them especially vulnerable to Covid-19. Many healthcare staff including midwives are under extreme levels of workload and psychological stress, affecting them both at home and at work (Greenberg *et al.*, 2020; Hunter, Renfrew and Downe, 2020; O'Connell *et al.*, 2020; Royal College of Midwives, 2020b; Wilson *et al.*, 2020).

The complex acute shock of the pandemic is having an impact on students at all stages of their education, and on educators in both university and practice settings (Luyben, Fleming and Vermeulen, 2020a). Educators have had to rapidly adapt all aspects of their education provision while maintaining standards and supporting students at a distance, often usual virtual communication. Midwifery regulators and governments have been required to respond swiftly and coherently to ensure safety for the public and quality learning continues for students (Nursing and Midwifery Council, 2020). Students themselves have reported profound negative effects, including disruption to their studies, delays in receiving contracts and pay for those who entered the workforce to support midwives, and fewer students

receiving job offers than expected (Royal College of Midwives, 2020c). The consequences of these changes for the physical and mental health and wellbeing of students and staff, including those who chose to return to practice to help throughout the crisis, is profound (Hunter, Renfrew and Downe, 2020; Royal College of Midwives, 2020a). The impact will not be short-term; students will carry the lessons of this time with them for the rest of their careers. Their learning is in the context of this pandemic, and their knowledge and experience of quality care, women's rights, decision-making, priorities, and equity, is likely to influence the way they care for women, babies, and families into the future (Lehane *et al.*, 2019; Renfrew *et al.*, 2020).

Case studies: learning and teaching in a pandemic

We conducted five case studies to examine the changes resulting from the pandemic. The aims were:
- in the context of this pandemic, to gain insight into the changes affecting students, educators, education institutions, and practice learning sites
- and to identify positive strategies to optimise learning, health, and wellbeing for students and staff, and to strengthen the capacity and capability of health and education systems to respond to future shocks and prevent the degree of harm that has been experienced in this pandemic.

We used an appreciative inquiry approach (May N *et al.*, 2011; Sidebotham *et al.*, 2015; Cockell, McArthur-Blair and Schiller, 2020) in selecting the case studies to identify positive responses to the challenges facing healthcare education settings. We aimed to identify and learn from examples of successful responses to this extensive shock to the system, and from diverse perspectives including students, educators in university and practice settings, and a large maternity system. The summaries of the case studies presented in this paper are necessarily brief; podcasts giving further details for each case study are available (link to be added).

We identified challenges, achievements, and lessons learned from each case study. In a process of 'sense-making', we analysed each case to identify key themes (Cockell, McArthur-Blair and Schiller, 2020). Drawing on the concepts of strengthening health systems and 'adaption with robustness' (Blanchet *et al.*, 2017; Abimbola and Topp, 2018), we have used the stages of *coping, adapting,* and *transforming* to analyse and present the findings from the case studies. These stages help to inform the actions needed for effective responses to the pandemic crisis and to plan readiness to respond to future shocks. They align well with the Global Strategy for Women's, Children's and Adolescents' Health 2016-2030 (2015) which focusses on the ambitions to *survive, thrive, and transform* (Every Woman Every Child, 2015).

Ethics approval for the case studies was gained from the University of Dundee Schools of Health Sciences and Dentistry Research Ethics Committee (application number UOD\SDEN\2020\020). Signed consent was gained from all case study contributers and organisations named.

Case study 1: The student perspective

This crisis has resulted in uncertainty for students in all countries and at all stages; about the length of their programme, where and when they can gain the clinical experience they need, and their financial situation. Senior students are taking on practice responsibilities much earlier than they expected and are being faced with situations they could never have imagined, at a time when face-to-face contact with lecturers is limited. Students at an early stage of their studies are unable to access practice placements, and theoretical and practice learning has been separated.

'Re-imagining my identity': insights from global student midwives

Context
Covid-19 and the subsequent changes to midwifery education have profoundly affected students the world over. This case study, written by a student midwife, draws on the different, yet strikingly similar experiences of students in England, Greece, Rwanda and Uganda. Individual versions of their experiences can be accessed in a series of blogs (All4Maternity 2020).

Key challenges
The removal of large numbers of student midwives from clinical practice was a universal reaction to the coronavirus pandemic. This prompted debate amongst students; were we losing our student identity by joining practice as part of the workforce? What about students who were not able to do this for health or family reasons? Senior colleagues in several countries reassured students that these changes did not undermine trainees' standing as student midwives. However, students continued to report feeling guilty about not attending practice placements, anxiety about the implications of reduced clinical exposure for their clinical proficiency, and concern about their employability.

A second challenge was the transition from face-to-face to online learning. This has been welcomed by some, but for those facing challenges including limited childcare, home-schooling or limited resources, this transition has been difficult and complex. Students have also expressed concerns that the elevated risk of contracting Covid-19 associated with clinical environments and practice would deter prospective student midwives from pursuing midwifery education; the legitimacy of these fears remains to be seen.

Key achievements
Despite these challenges, students adapted to blended learning modalities, continued to provide care and support for women particularly around infant feeding, and consoled parents when Covid-related restrictions prevented them from visiting their infants in neonatal units. Importantly, students were recognised as an integral part of the team within beleaguered maternity services.

Lessons learned

Midwifery students across the world remained committed to providing the best possible care for women, their babies and families, and their contributions to maternity services must continue to be embraced and celebrated in the wake of this pandemic.

Universities should commit to improving students' access to online learning by way of grants, equipment loan schemes and journal subscriptions, whilst also enabling students to overcome obstacles such as poor digital literacy. The pandemic provides an opportunity for student midwives to be re-imagined as essential members of midwifery teams and not 'just students'.

Case study 2: The whole system maternity service perspective

Midwifery education in the UK and in other countries including Australia, Canada, Malawi, New Zealand, and the USA is at graduate level. This requires close collaboration between university and practice settings, with the aim of integrating academic and placement learning to meet both national and international regulatory standards (International Confederation of Midwives, 2019; Nursing and Midwifery Council, 2019b, 2019a). Universities and their respective placement learning partners must align their programmes to these standards to be approved – and to continue to be approved - to deliver pre-registration midwifery programmes. The disruption resulting from the pandemic has seen inevitable fragmentation of the student learning experience in both university and practice settings, and has also disrupted the normal supervision and assessment of students during their practice placements.

'In it together': midwifery education in a pandemic from a service perspective

Context

By late March 2020 maternity services in the UK were facing enormous challenges in implementing changing policy guidance and supporting staff who were required to self-isolate to protect themselves or to reduce the spread of Covid-19. Concerns about workforce shortages resulted in Emergency Standards being developed by the UK professional regulator, the Nursing and Midwifery Council (NMC). Radical measures were introduced for midwifery and nursing students to be opted into the workforce, potentially disrupting their studies.

We are the operational and educational leads for a very large NHS Trust[1] in London, which normally has around 15,000 births in a year and around 300 midwifery students at any one time. Responding to the challenge of bringing students into the workforce required concerted and collaborative work to enable them to make a safe and positive contribution, and to complete their studies on time. It made sense to work collaboratively with the other two NHS Trusts within the North East Region of

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[1] An NHS Trust is an English organisational unit that provides hospital and community services for the population in a geographical area. Trusts are also responsible for providing practice-based education for students in collaboration with neighbouring universities.

London as we all work with the same four universities. We facilitated a multifaceted largescale collaborative project across all five maternity units in the region, together with our four university partners and with student engagement. About 100 second and third-year midwifery students participated (along with more than 250 nursing students) in one site alone.

We established regular meetings with university partners to ensure processes were consistent, safe, supportive, and enabled student progression on time and as safe competent practitioners.

Key achievements

To respond to the challenges and changes arising for the NHS from the pandemic three concurrent processes were put in place including; 1) identifying the specific learning needs for each student year group, 2) identifying individual students' learning needs - all students were invited to a one-to-one consultation - and 3) supporting service requirements for workforce deployment.

Two students co-designed and piloted a Covid-19 response handbook. Strong collaboration between the maternity services and the universities enabled the release of the students to co-develop this resource. The handbook design enabled each individual student's needs to be taken into consideration in consultation with each of them.

All students recruited onto the emergency programme completed their studies on time. Over 90% of the third-year students were offered conditional employment. Ongoing student confidence and satisfaction, and overall patient experiences, is being measured. Informal feedback indicates that students '*felt safe, valued and part of the team during this process'*. Some students reported that this period enabled them to use '*their inner resources'* and made them *'more confident in care provision for women'.* Practice Education leads reported a '*reduction in student sickness and absences'*.

Key challenges

Ensuring safety of the student, safety for the women in their care, and sufficient supervision by qualified staff in these challenging circumstances was critically important. Transferring students into the workforce under the NMC's Emergency Standards required the development of a bespoke job description to ensure employment law was considered, and that the students' changed status to become employees within their scope of practice was formally recognised. Robust recruitment processes via Human Resources and Occupational Health Assessments were needed.

Lessons learned

Education and human resources processes needed to be robust. A logic model was developed by the team to identify the impacts they were aiming to achieve, along

with the key outputs, activities, and enablers helped to identify the resources needed, the actions required, and the shared responsibilities. A blog/podcast gives further details on the development of this logic model (link to be added).

The midwives reported that adding third year students to the team not only *'helped to reduce workload'* but collaborative working with the students in their newly acquired joint student/employee status *'imbued confidence in the future workforce'*. This learning could help shape the role of future midwifery students as they approach the final stages of their programme.

Equally important was the collaborative working between the Trust's leadership and education teams and the universities, which thrived in the challenging yet positive partnership. Also evident was the ability to pull together as a team and as a system in responding to the pandemic with courage, developing innovative new ways of working with exemplary professionalism.

Case study 3: Collaborating across universities

The pandemic had a profound impact on the implementation of the transformative new UK education standards, known also as the Future Midwife standards (Nursing and Midwifery Council, 2019a, 2019b). Work to implement the new standards in universities and practice settings was getting underway just as the pandemic struck. Inevitably, progress on developing new programmes and curricula slowed and even stopped in some places, as educators suddenly had to adapt existing programmes to the new circumstances. In some universities, however, work on implementing the new standards continued to move forward.

Moving forward together: implementing the Future Midwife standards in a pandemic

Context

We are Lead Midwives for Education[2] in the three universities in Scotland that provide undergraduate midwifery education. Our programmes have a strong history of collaboration, choosing to work in partnership to present a louder voice for midwifery education in Scotland. Two long-established groups are important in sustaining this partnership working. These are 1) the universities, the education commissioner, and the government normally meet together four times a year as the Midwifery Education Group Scotland (MEGS), and 2) the Lead Midwives Scotland group, which has wider membership including the Lead Midwives for Education from each university, Chief Midwives of the 14 Scottish NHS boards, consultant midwives, Professors, the Chief Midwifery Officer for Scotland, the education commissioner, and the Royal College of Midwives. These groups provide important opportunities for collaboration across education, clinical practice, policy and governance and we are all motivated by the same drive to ensure that future midwives are the best they can be to care for women, babies and families in Scotland and beyond.

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[2] Lead Midwives for Education have a formal role in regard to the standards of midwifery education in their institution (Nursing and Midwifery Council UK 2019b, Part 3, pages 21-22).

Our joint work to implement the new NMC Future Midwife standards across Scotland was in its early stages at the beginning of the pandemic. Although implementation slowed almost to a halt at the start of the pandemic, we believed it was important that midwifery education was not compromised, and we gained momentum again as we continued to work together towards validation of our new programmes in 2021.

Key achievements

During the early months of the pandemic the MEGS group met weekly online to adapt to the changing circumstances, and these virtual monthly meetings continue and have worked well. Successes include continuing progress with implementing the new standards, and in particular, the development of a single national Midwifery Placement Assessment Document and a consistent approach to examination of the newborn education.

The existing national groups promoted positive opportunities for strengthening relationships during the fast-changing circumstances of the pandemic.

Key challenges
The honesty, trust and the established collective working enabled us to draw upon each other's resources and wisdom to find the right solutions at this difficult time. However, universities work as businesses within a competitive environment and these pressures inevitably affect midwifery education providers. Other universities in Scotland inevitably strive to also offer midwifery education and these internal and external pressures test the collaboration and have to be negotiated.

Lessons learned
Our pre-existing strong collaborative networks and shared values were essential for prompt decision making and for support for each other and for students. This reinforced the need to ensure that the collaboration remains as an essential part of our work into the future. Adapting to online communication networks worked well and addressed existing challenges for colleagues working in the many rural areas of Scotland. The online meetings for all promoted equity and improved participation and engagement.

Case study 4: Learning key skills in a pandemic

Infection control measures introduced across many countries included the wearing of face masks, and in some circumstances, full personal protective equipment (PPE). Wearing a facemask creates obstacles to effective communication for everyone, but students are still learning the skills of communication and wearing facemasks greatly complicates this learning. Wearing facemasks is even more problematic when there are complexities in women's circumstances such as being deaf, or experiencing bereavement, when compassionate communication becomes critically important.

Relating in a pandemic: **student midwives' experience of wearing facemasks during labour and birth**

Context

Early in the pandemic in the UK national guidance was issued on the use of personal protective equipment (PPE) by NHS staff likely to come into contact with people infected by the coronavirus, and The Royal College of Midwives produced a poster to detail the appropriate use of PPE for different stages and environments of birth and labour care. Whilst there are variations in the use of some PPE requirements for different settings, the use of a facemask covering the nose and mouth was required in all circumstances and environments.

I am the Executive Director of White Ribbon Alliance UK. With a vision of ensuring that all women and girls realise their rights to quality health and wellbeing, this case study supports our charity's universal charter for respectful maternity care (White Ribbon Alliance, 2015) by highlighting where barriers to the highest level of attainable health may exist in relation to accessible communication. My work with women who utilise the services of Deaf Parenting UK also highlighted that there was a lack of additional support offered in relation to PPE. This case study has been informed by the experience of students in the learning environment who needed support and guidance on how to communicate effectively using both verbal and non-verbal skills.

Key achievements

For some student midwives the use of facemasks opened a positive dialogue with their mentors about non-verbal communication skills and the challenge of overcoming the barriers. Students commented positively about learning different communication styles and techniques from experienced practitioners as something they think may not have happened if they had not been wearing facemasks.

Key challenges

However, some students thought the use of facemasks impacted negatively on their ability to concentrate, finding the masks hot and claustrophobic. Other students commented on how quickly masks became normalised, forgetting that some students entering practice during the pandemic have not experienced care without a mask and therefore have no reference point to learn from.

One student midwife who was caring for a deaf woman in labour reflected that the use of masks limited the woman's ability to lip read. This was upsetting for the student and crucial for the woman as she relied on receiving verbal cues at this critical time. It was equally challenging for the birth partner who was also wearing a facemask and trying to communicate both with the woman in labour and with the student midwife.

Students experienced an inconsistency in the use of facemasks, with some midwives choosing to remove their masks at certain points during their caregiving and others following the guidance strictly.

Concern and anxiety were expressed by the student midwives on how facemasks impacted on their understanding of what was being said to them and what they were being instructed to do during an emergency.

Lessons learned

Both the learner and the family need to be considered. Whilst student midwives are adapting to the use of facemasks as part of their caregiving, we all need to be sensitive to how vulnerable they may be feeling and find positive ways to support them while they learn how best to communicate in these difficult circumstances.

During the pandemic the Stillbirth and Neonatal Death Society (SANDS) released guidance for communication while wearing PPE (Stillbirth and Neonatal Death Society, 2020) and highlighted that wearing PPE can create a potential barrier for trusting relationships between parents and professionals. Their guidance offers nine considerations for how to increase compassionate communication via non-verbal means. These include: introduce yourself clearly and wear a visible name badge; acknowledge the difficulties; use eye contact and smile; consider your tone of voice; use hand gestures to support understanding; take your time; say things in a different way if you have not been understood; face parents and stand still while speaking; and carry a photograph of yourself. As we move on in our learning the use of transparent facemasks may also be realised as innovations evolve.

The use of facial expressions to communicate emotions is fundamental to human interaction. Whilst we are still experiencing the short term impact of the use of PPE it is worth considering that for some student midwives much of their learning within a clinical environment through Covid-19 will have happened with reduced exposure to the facial expressions of their colleagues and women in their care. It is yet to be seen what the long term impact of reduced emotional expression will be on the education of this cohort of learners. Increased attention will be needed to explore alternative forms of communication such as eye contact, use and placement of words, and the use of touch.

Case study 5: Online learning in a pandemic

Educators had to respond immediately to move most learning resources online and to support students at a distance, while they themselves were working from home. Students, educators and practitioners had to quickly develop the capabilities needed for living, learning and working in a digital context, with circumstances not affecting everyone equally.

'You're on mute' - midwifery education through digital technology

Context
We are a team of new and experienced educators working in the North-West of England. Our aim here is to share insights into how we navigated new education roles whilst supporting optimal learning, entirely through digital technology, for a cohort of students who started their midwifery education during lockdown. Informed by salutogenesis, our wellbeing-orientated education philosophy, we worked to

address the shared needs of both staff and students, keeping *'students, at the heart of everything we did'*.

Key challenges

Launching a new programme online during a global pandemic was '*daunting for all staff*'. Having never set foot on campus, one lecturer expressed her initial anxiety about whether she would '*have the same presence*' online as she had in person. She shared uncertainties about '*speaking into the void*' of faceless and muted online groups of people feeling low, isolated, unmotivated, or potentially distracted by their children or family. We needed to think about things differently and quickly, such as induction activities that we were used to doing face to face, getting to know one another 'virtually' knowing we probably wouldn't meet for several months, and creating a positive and caring learning community whilst balancing the overall anxiety about the pandemic.

Staff and student wellbeing was an ongoing concern. We learnt that staff and students faced similar challenges in terms of digital access, literacy and wider social constraints. Initially, we underestimated the need for rapid, ongoing and consistent communication with all cohorts. Listening and responding to student feedback was critical, facilitated through digital learning platforms and class student representatives. Collectively, both educators and learners felt a sense of shared optimism; a desire to rise to the challenge to provide and participate in a quality learning experiences.

Key achievements

Effective collaboration with our Technology Enhanced Learning Team was essential to strengthen and build staff and student digital literacy and skills. A new lecturer said '*I have never learnt as much in my life, as quickly, ever'*. We supported each other to rapidly upskill, by pooling our digital knowledge and skills through shared Digital drives, Microsoft Teams spaces and regular online meetings and webinars.

Utilising existing digital technologies, we adopted immersive online approaches to sustain engagement and learning. Translating our case-based learning curriculum model online increased student interaction. This '*enabled students to collaborate and lead presentations by sharing their screens*' and strengthened students' digital literacy and social learning opportunities, with their confidence increasing throughout.

We considered inequities of digital access and literacy, alongside wider social constraints faced by students by balancing planning, structure and some degree of flexibility. One lecturer said '*online learning is not spontaneous, but deliberate, premeditated and planned*' and another said '*being flexible and quick to think on your feet when something goes wrong*' was essential. Balancing these factors was crucial and we found it helpful to create social catch-up spaces to enhance pastoral care and to build relationships and a learning community.

Informal virtual coffee and catch-up sessions with students enabled relationships to form. One of the new educators found that '*interpersonal skills, compassion and empathy and being skilled at relationship forming'* transformed connections with the students. As a team we have been in awe of the contribution, flexibility and motivation of students to sustain their learning and make a difference across theory and practice.

Key learning

Creating online learning communities was crucial to ensuring staff and student wellbeing and has enabled both social and pastoral support. Being flexible, kind and patient when things go wrong, and creating time for personal interaction, was essential alongside optimising digital access and literacy.

Analysis of the case studies

These five case studies together illustrate the scale of the learning and teaching challenges brought about by the pandemic. They also demonstrate the ability of individuals and organisations to respond positively and effectively even under such challenging circumstances. A central recognition was how students made a positive contribution to developing new ways of working and to the care of women, babies and families.

Lessons learned that emerged from these case studies are presented in Table 1, organised using the concepts of coping, adapting, and transforming (Blanchet *et al.*, 2017; Abimbola and Topp, 2018) to consider the stages needed for effective responses to this crisis and most importantly, to plan readiness to respond to future shocks. Specific lessons learned and practical strategies related to optimising digital learning are presented in Table 2.

Tables 1 and 2 here

Themes that emerged from across the case studies included: Quality and safety; Joint planning and collaboration; New ways of working including technology; Learning quickly; Ensuring equity; Meeting personal and professional needs of students and staff; and Involving and listening to students and to women. Responses were identified at all levels; individual, team, and the whole system. Findings illuminated the qualities needed at all stages; to cope with the immediate shock to the system, to adapt to the changes, and the transformative changes needed to strengthen the system for the future.

One overarching finding was the importance of prior collaborative relationships and being open to develop new collaboratives quickly and responsively; the ability to rapidly cope and to adapt was especially enabled by existing strong cross-sectoral relationships and leadership. Another key finding was the importance of involving and listening to students; focussing on their individual needs, listening to them about what their needs and concerns were, and engaging them in developing strategies and solutions.

Being clear about the outcomes needed for each sector during the development of a cross-sectoral response to the crisis was identified as important. Outcomes identified included

keeping women, babies, families, students and staff safe, sustaining the quality of care and of education, ensuring student progression and future employment, and reducing work pressures for staff.

The breadth and depth of the learning for students, staff, and the system as a whole during this crisis was evident. For individual students and staff this included learning about quality and safety in a pandemic, protecting the human rights of women and babies in this context, infection control, safeguarding each individual's health and well-being, responding in an emergency, and remote working. For the system, this included the importance of evidence, using consistent guidelines, and the physical and mental health of staff and students. Tackling longstanding problems of inequality was an important aspect of transformation for the system, to enable engagement and involvement for all. A shared commitment to the equitable, quality care of women, babies, and families, and to optimising student experience, was key to addressing problems and sustaining joint working to overcome problems.

Discussion: *'Responding to a pandemic with courage and innovative ways of working'*

The findings from these case studies have shown that responding effectively and rapidly to a shock as profound as the Covid-19 pandemic requires strong, courageous, respectful, innovative, collaborative working and leadership. They demonstrate the importance of having pre-existing trusting relationships and collaborative systems in place and how these can be developed in the face of adversity. Team working should include technology and human resources along with education and practice colleagues, and students themselves. Joint discussion, problem-solving, and focussing on the key outcomes that matter all contribute to developing robust processes and to tackling longstanding problems. The findings illustrate the importance of keeping students at the heart of the education system, focusing on their needs and concerns; being 'with student', mirroring the health system's aim to be 'with women'.

Strengths and limitations of the case study approach

The five case studies examined were predominantly from the UK and describe responses to the pandemic between March-September 2020. While the number and context of case studies was limited, their reach was extensive. Together they included the collaborative work of five maternity units and four universities to organise a system to ensure ongoing quality education for hundreds of students, the experiences of all the universities in Scotland, in-depth experiences of students learning about communication while using face masks, the work of the midwifery education team from a large university in England, and the personal experiences of students from four countries including low-income settings.

The themes that emerged from across each of those different settings resonated with each other and with the growing literature in this field (eg Lazenby *et al.*, 2020; Luyben, Fleming and Vermeulen, 2020b; O'Gorman, Ion and Burnett, 2020). The health system framework we used – cope, adapt, and transform - differentiated between the immediate responses of individuals, teams, and systems as they established effective ways of working, while also considering the changes needed to build for the future.

Planning for the future – beyond the pandemic

Taking time to reflect, recover, re-think: considering the Future Midwife standards

The systemic shock of the Covid-19 pandemic has provided a stress test for the new UK midwifery education standards (Nursing and Midwifery Council, 2019b, 2019a). The developments throughout 2020 have caused profound shifts in priorities. As this paper has shown, these are in part a result of the pandemic itself, and in part due to the inequality, poverty, prejudice and systemic discrimination that have been exposed. As work picks up momentum again on implementing the new standards, the experience of the pandemic will help to clarify the importance of the standards that are fundamental to the principles of equity and human rights - the foundation stones of midwifery. This experience also underscores the critical importance of defining safety to include 'the physical, psychological, social, cultural, and spiritual safety of women and newborn infants' (Nursing and Midwifery Council, 2019b). Action is needed to address these issues directly, for example to dismantle racism in the new curricula (Burnett *et al.*, 2020).

Learning from the case studies and the pandemic highlight how a new lens can be used to add value to implementation of the proficiencies. For example; Standard 1.3: *'understand and act to promote and enable the human rights of women and newborn infants at all times, including women's sexual and reproductive rights'*, and Standard 1.16: *'demonstrate the ability to advocate for women and newborn infants who are made vulnerable by the physical, psychological, social, cultural, or spiritual circumstances'* are likely to resonate more strongly with educators and with students in the light of the learning of the past few months. Relevant knowledge for Standard 1.17 will include new ways of thinking in light of current events: *'demonstrate knowledge and understanding of the range of factors affecting women, newborn infants, partners, and families and the impact these factors may have, including but not limited to: health and social inequalities and their determinants, historical and social developments and trends, and cultural and media influences on public and professional understanding'.* To meet these standards, educators and students now have new learning to draw on to investigate and understand the roots of racism, sexism, and economic and social inequality, and to become proficient in advocating for the women, babies and families affected by these factors. The key themes of the Future Midwife standards provide a critical opportunity to optimise the learning environment in a crisis such as this pandemic; they include using up-to-date evidence, excellent communication, working in partnership, physical, psychological, social, cultural, and spiritual aspects of safety, advocacy, inequalities, interdisciplinary working, and taking personal responsibility for learning and development. The experience of the pandemic indicates that these standards have the potential to make an even greater significant contribution to transforming both education and service provision for the future.

Key principles for sustaining quality education in a pandemic

One of the aims of this paper was to identify strategies to strengthen the capacity and capability of health and education systems to respond to future shocks and to prevent the degree of harm that has been experienced in the Covid-19 pandemic. Each context is

different, but our findings suggest that there are learning points that can help to guide responses, adaptation, and transformation across diverse settings. Drawing on our analysis, we have developed a set of key principles for sustaining quality education in a pandemic and to strengthen systems in planning for future crises:

- **Strive to continue to provide education** - adapted to the context of the pandemic and individual circumstances - **that enables students to learn the importance of evidence-informed, equitable, safe, respectful, and compassionate care** for the physical and mental health of all women, newborn infants, and families, wherever and whenever care takes place
- **Protect and support students and education staff** in university and practice settings, including their mental health needs
- **Pro-actively address inequality** and ensure all students are staff are enabled to equitably and fully participate
- **Ensure education is student-focussed** to meet individual needs and concerns
- **Involve students** - use participatory approaches involving students, educators, practice staff, to develop context-specific approaches to what is possible/optimal within the constraints of infection control
- **Involve women and families –** use participatory approaches involving women and families, advocacy for women and families through the volunteer and charity sector, keeping women, their babies and families at the heart of everything we do
- **Optimise digital and blended learning** by developing pro-active strategies, and joint problem-solving with students
- **Learn from each other** across local, national, international networks – share resources and examples of success, and learn from mistakes
- **Support student caseloads** - practice continuity and relationship-based care with a small student caseload to optimise learning across the whole continuum, and to minimise infection risk
- **Support context-specific** approaches to learning, using approaches that are feasible and meet the needs of students, including blended learning approaches
- **Establish effective cross-sectoral collaboration** - pro-actively working across universities, practice sites, and the regulator to develop approaches that are within the regulations but where flexibility can be introduced
- **Optimise and value the irreplaceable learning experiences** in the current environment
- **Monitor the impact of changes** including assessment of unanticipated consequences

Conclusions: invaluable lessons for the future - the pandemic as a learning environment

How can we minimise harm and maximise quality learning in this context? We must take what learning we can from this devastating pandemic; to use at least some of this situation to the good, to spread the learning as needed to each other's countries and contexts, to be able to respond more quickly and appropriately if such a situation arises again in the future, and to prevent such harm happening again.

Times of crisis also offer opportunities. Educators, clinical staff and students coped with and adapted to this deeply challenging situation, and in some aspects, they thrived. They demonstrated that it is at the same time a rich learning environment. The pandemic provides an opportunity for student midwives to be re-imagined as essential members of midwifery teams and not 'just students'. We are all – together - learning new knowledge and skills that will inform the care of women, babies, and families during the remainder of this pandemic and beyond; learning how to manage the complex interplay between infection control, public health, human rights, and kind, compassionate, quality care. We need now to use this learning to transform our future so we are prepared for any future challenges.

Research is needed to examine the impact this experience has had on students and how this might affect them and their future practice, to identify ways in which they can be supported to learn the full range of midwifery knowledge, skills, and behaviours. This includes the cohorts of students who start their programmes during the pandemic and whose first experience of midwifery will be during this complex time. Their needs may be different from those who had already gained clinical experience.

As we move forward and recover from this pandemic, it is important that we do not lose the impetus to progress with innovative improvements to midwifery education that the pandemic has enabled, and to return to others that must be protected. Women need skilled, knowledgeable, kind and compassionate midwives caring for them throughout their maternity journey. Students must be enabled to learn everything they need, in an evidence-based and flexible way, as they become the midwives of the future.

As far back as the United Nations World Summit in 2005 three pillars of sustainability - economic, social and environmental - were identified and more recently re-affirmed in the 2030 Agenda for Sustainable Development (United Nations, 2015). Never has the concept of sustainability been so acutely felt within midwifery education. As these case studies demonstrate, this pandemic has created not only a crisis but the opportunity for transformation, promoting collaboration and innovation in a global context.

References

Abimbola, S. and Topp, S. M. (2018) 'Adaptation with robustness: The case for clarity on the use of "resilience" in health systems and global health', *BMJ Global Health*. BMJ Publishing Group, p. 758. doi: 10.1136/bmjgh-2018-000758.

All4Maternity (2020) Student blogs: https://www.all4maternity.com/a-different-time/; https://www.all4maternity.com/Covid-19-is-here/; https://www.all4maternity.com/the-impact-of-Covid-19-on-rwandas-student-midwives/; https://www.all4maternity.com/life-as-a-first-year-midwifery-student-during-Covid-19-in-the-uk/; https://www.all4maternity.com/the-Covid-19-cohorts-real-life-accounts-of-being-a-student-midwife-during-the-Covid-19-pandemic/

BBC News (2020) *Coronavirus: Care-worker death rate twice that of health workers*. Available at: https://www.bbc.co.uk/news/health-52616080 (Accessed: 23 June 2020).

Bhala, N. *et al.* (2020) 'Sharpening the global focus on ethnicity and race in the time of COVID-19', *The Lancet*. Lancet Publishing Group, pp. 1673–1676. doi: 10.1016/S0140-6736(20)31102-8.

Birthrights (2020) *HUMAN RIGHTS CHARITY CALLS FOR PROTECTION OF UK WOMEN IN CHILDBIRTH DURING NATIONAL EMERGENCY*, *Statement*. Available at: https://www.birthrights.org.uk/wp-content/uploads/2020/03/Final-Covid-19-Birthrights-31.3.20.pdf (Accessed: 3 April 2020).

Black Lives Matter (2020) *Black Lives Matter webpage*. Available at: https://blacklivesmatter.com/ (Accessed: 27 November 2020).

Blanchet, K. *et al.* (2017) 'Governance and capacity to manage resilience of health systems: Towards a new conceptual framework', *International Journal of Health Policy and Management*. Kerman University of Medical Sciences, 6(8), pp. 431–435. doi: 10.15171/ijhpm.2017.36.

Burnett, A. *et al.* (2020) 'Dismantling racism in education: In 2020, the year of the nurse & midwife, "it's time."', *Nurse Education Today*. Churchill Livingstone, p. 104532. doi: 10.1016/j.nedt.2020.104532.

Cockell, J., McArthur-Blair, J. and Schiller, M. (2020) *Appreciative inquiry in higher education: a transformative force*. Friesen Press.

Coxon, K. *et al.* (2020) 'The impact of the Coronavirus (COVID-19) pandemic on maternity care in Europe', *Midwifery*. Churchill Livingstone, p. 102779. doi: 10.1016/j.midw.2020.102779.

European Centre for Disease Prevention and Control (2020) *Coronavirus disease 2019 (COVID-19) in the EU/EEA and the UK – eighth update.* Available at: https://www.ecdc.europa.eu/sites/default/files/documents/Covid-19-rapid-risk-assessment-coronavirus-disease-2019-eighth-update-8-april-2020.pdf (Accessed: 29 April 2020).

European Institute for Gender Equality (2020) *COVID-19 and gender equality*, *European Institute for Gender Equality*. Available at: https://eige.europa.eu/topics/health/Covid-19-and-gender-equality (Accessed: 23 June 2020).

Every Woman Every Child (2015) *The Global Strategy for Women's, Children's, and Adolescent's Health (2016-2030)*. Available at: https://www.who.int/life-

course/partners/global-strategy/ewec-globalstrategyreport-200915.pdf?ua=1 (Accessed: 27 November 2020).

Greenberg, N. *et al.* (2020) 'Managing mental health challenges faced by healthcare workers during Covid-19 pandemic', *The BMJ*. BMJ Publishing Group. doi: 10.1136/bmj.m1211.

Hunter, B., Renfrew, M. J. and Downe, S. (2020) *Supporting the emotional wellbeing of midwives in a pandemic*. London. Available at: https://www.rcm.org.uk/media/4095/rcm-supporting-the-emotional-wellbeing-of-midwives-during-a-pandemic-v1-submitted-to-rcm_mrd.pdf (Accessed: 12 June 2020).

International Confederation of Midwives (2019) *Essential Competencies for Midwifery Practice*. Available at: https://www.internationalmidwives.org/assets/files/general-files/2019/10/icm-competencies-en-print-october-2019_final_18-oct-5db05248843e8.pdf (Accessed: 30 April 2020).

Karavadra, B. *et al.* (2020) 'Women's perceptions of COVID-19 and their healthcare experiences: A qualitative thematic analysis of a national survey of pregnant women in the United Kingdom', *BMC Pregnancy and Childbirth*. BioMed Central Ltd, 20(1), p. 600. doi: 10.1186/s12884-020-03283-2.

Kelly, J. and Morgan, T. (2020) *Coronavirus: Domestic abuse calls up 25% since lockdown, charity says*, *BBC News*. Available at: https://www.bbc.co.uk/news/uk-52157620 (Accessed: 23 June 2020).

Knight, M. *et al.* (2019) *Saving Lives, Improving Mothers' Care: lessons learned to inform maternity care from the UK and Ireland Confidential Enquiries into Maternal Deaths and Morbidity 2015-17*. Oxford.

Knight, M. *et al.* (2020) *Characteristics and outcomes of pregnant women hospitalised with confirmed SARS-CoV-2 infection in the UK: a national cohort study using the UK Obstetric Surveillance System (UKOSS)*. Available at: https://www.npeu.ox.ac.uk/downloads/files/ukoss/annual-reports/UKOSS COVID-19 Paper pre-print draft 11-05-20.pdf (Accessed: 11 May 2020).

Lavender, T. *et al.* (2020) *labour and birth companionship in a pandemic: rapid analytic review*. Available at: https://www.rcm.org.uk/media/3951/birth-companionship-in-a-pandemic-master-27-04-2020-002.pdf.

Lazenby, M. *et al.* (2020) 'Clinical nursing and midwifery education in the pandemic age', *International Nursing Review*. Blackwell Publishing Ltd, 67(3), pp. 323–325. doi: 10.1111/inr.12601.

Lehane, E. *et al.* (2019) 'Evidence-based practice education for healthcare professions: An expert view', *BMJ Evidence-Based Medicine*. BMJ Publishing Group, pp. 103–108. doi: 10.1136/bmjebm-2018-111019.

Leung, T. Y. *et al.* (2020) 'Gender equity and public health outcomes: The COVID-19 experience', *Journal of Business Research*. Elsevier Inc., 116, pp. 193–198. doi: 10.1016/j.jbusres.2020.05.031.
Linde, A. and Laya, A. (2020) *Why are women more than men suffering during the COVID-19 pandemic?*, *World Economic Forum*. Available at: https://www.weforum.org/agenda/2020/05/what-the-Covid-19-pandemic-tells-us-about-gender-equality/ (Accessed: 23 June 2020).

Lord M, 2020, 'Why the UK needs Black Breastfeeding Week'.Unicef UK Baby Friendly Initiative conference 18 November https://www.unicef.org.uk/babyfriendly/speaker-series-mars-lord/

Luyben, A., Fleming, V. and Vermeulen, J. (2020a) 'Midwifery education in COVID-19-time: Challenges and opportunities', *Midwifery*, 89, p. 102776. doi: 10.1016/j.midw.2020.102776.

Luyben, A., Fleming, V. and Vermeulen, J. (2020b) 'Midwives' professional and personal experiences during the COVID-19 pandemic in Europe: The set-up of the "CoroVie" project', *European Journal of Midwifery*. E.U. European Publishing, 4(June). doi: 10.18332/ejm/122694.

Mappa, I., Distefano, F. A. and Rizzo, G. (2020) 'Effects of coronavirus 19 pandemic on maternal anxiety during pregnancy: a prospectic observational study', *Journal of Perinatal Medicine*. De Gruyter, 48(6), pp. 545–550. doi: 10.1515/jpm-2020-0182.

May N *et al.* (2011) *Appreciative Inquiry in Healthcare*. Crown Custom Publishing Inc. Available at: https://www.abebooks.co.uk/Appreciative-Inquiry-Healthcare-Natalie-Daniel-

Becker/14887523190/bd (Accessed: 9 December 2020).

Nacoti, M. *et al.* (2020) 'At the Epicenter of the Covid-19 Pandemic and Humanitarian Crises in Italy: Changing Perspectives on Preparation and Mitigation'. doi: 10.1056/CAT.20.0080.

Nursing and Midwifery Council (2019a) *Standards for pre-registration midwifery programmes*. Available at: https://www.nmc.org.uk/standards/standards-for-midwives/standards-for-pre-registration-midwifery-programmes/ (Accessed: 23 June 2020).

Nursing and Midwifery Council (2019b) *Standards of proficiency for midwives*. Available at: www.nmc.org.ukStandardsofproficiencyformidwives1 (Accessed: 30 April 2020).

Nursing and Midwifery Council (2020) *Information for students and educators*. Available at: https://www.nmc.org.uk/news/coronavirus/information-for-students-and-educators/ (Accessed: 9 December 2020).

O'Connell, M. *et al.* (2020) 'Midwives in a pandemic: A call for solidarity and compassion', *Women and Birth*. Elsevier B.V., pp. 205–206. doi: 10.1016/j.wombi.2020.03.008.

O'Donnell, M., Peterman, A. and Potts, A. (2020) *A Gender Lens on COVID-19: Pandemics and Violence against Women and Children |, Center For Global Development*. Available at: https://www.cgdev.org/blog/gender-lens-Covid-19-pandemics-and-violence-against-women-and-children (Accessed: 23 June 2020).

O'Gorman, J., Ion, R. and Burnett, A. (2020) *Nurse education: the COVID-19 response was the first step in treating students as equals*, *NSStudent RCNi*. Available at: https://rcni.com/nursing-standard/students/nursing-studies/nurse-education-Covid-19-response-was-first-step-treating-students-equals-163406 (Accessed: 27 November 2020).

Renfrew, M. *et al.* (2020) 'Sustaining quality midwifery care in a pandemic and beyond', *Midwifery*, 88, p. 102759. doi: 10.1016/j.midw.2020.102759.

Royal College of Midwives (2020a) *Clinical Guidance Briefing: Maternity Staff Mental Health Care During COVID-19 Topic Maternity Staff Mental Health Care During Covid-19 Potential impact of Covid-19 in this topic area*. Available at: https://www.rcm.org.uk/media/3860/professional-clinical-briefing-no-11-staff-mental-

health.pdf (Accessed: 15 June 2020).

Royal College of Midwives (2020b) *RCM Clinical Guidance Briefing: Maternity Staff Mental Health Care During COVID-19*. London. Available at: www.cdc.gov%2Fcoronavirus%2F2019- (Accessed: 12 June 2020).

Royal College of Midwives (2020c) *So what now? Supporting students through a global pandemic and beyond*. Available at: https://www.rcm.org.uk/media/4368/so-now-what-student-survey-2020-final.pdf.

Royal College of Midwives and Royal College of Obstetricians and Gynaecologists (2020) *Information for healthcare professionals Guidance for provision of midwife-led settings and home birth in the evolving coronavirus (COVID-19) pandemic*. Available at: https://www.rcm.org.uk/media/3893/2020-04-17-guidance-for-provision-of-midwife-led-settings.pdf (Accessed: 28 April 2020).

Royal College of Psychiatrists (2020) *COVID-19 - Working with vulnerable patients*. Available at: https://www.rcpsych.ac.uk/about-us/responding-to-Covid-19/responding-to-Covid-19-guidance-for-clinicians/community-and-inpatient-services/Covid-19-working-with-vulnerable-patients (Accessed: 23 June 2020).

Sadler, M., Leiva, G. and Olza, I. (2020) 'COVID-19 as a risk factor for obstetric violence', *Sexual and Reproductive Health Matters*. Taylor & Francis, pp. 1–4. doi: 10.1080/26410397.2020.1785379.

Salisbury, H. (2020) 'Helen Salisbury: Poverty as a pre-existing condition', *BMJ*. BMJ, 371, p. m4607. doi: 10.1136/bmj.m4607.

Sanders, J. and Blaylock, R. (2020) *Users' experiences of COVID-19 maternity service changes*.

Sears-Allers, K. (2020) 'COVID-19 restrictions on birth and breastfeeding; disproportionately harming black and native women', *We News*, March. Available at: https://womensenews.org/2020/03/Covid-19-restrictions-on-birth-breastfeeding-disproportionately-harming-black-and-native-women/.

Sidebotham, M. *et al.* (2015) 'Midwives' perceptions of their role within the context of maternity service reform: An Appreciative Inquiry', *Women and Birth*. Elsevier B.V., 28(2), pp. 112–120. doi: 10.1016/j.wombi.2014.12.006.

Stillbirth and Neonatal Death Society (2020) *Communication while wearing PPE*. Available at: https://sands.org.uk/sites/default/files/Communication with PPE.pdf (Accessed: 27 November 2020).

Stuebe, A. (2020) 'Should Infants Be Separated from Mothers with COVID-19? First, Do No Harm', *Breastfeeding Medicine*. doi: 10.1089/bfm.2020.29153.ams.

Thapa, S. B. *et al.* (2020) 'Maternal mental health in the time of the COVID-19 pandemic', *Acta Obstetricia et Gynecologica Scandinavica*. Wiley-Blackwell. doi: 10.1111/aogs.13894.
The Economist (2020a) *Daily Chart - Domestic violence has increased during coronavirus lockdowns |, The Economist*. Available at: https://www.economist.com/graphic-detail/2020/04/22/domestic-violence-has-increased-during-coronavirus-lockdowns (Accessed: 23 June 2020).

The Economist (2020b) *This time is different - Downturns tend to reduce gender inequality.*

Not under Covid-19, *The Economist*. Available at: https://www.economist.com/finance-and-economics/2020/06/04/downturns-tend-to-reduce-gender-inequality-not-under-Covid-19 (Accessed: 23 June 2020).

The Guardian (2020) *Women's research plummets during lockdown - but articles from men increase*, *The Guardian*. Available at: https://www.theguardian.com/education/2020/may/12/womens-research-plummets-during-lockdown-but-articles-from-men-increase (Accessed: 23 June 2020).

United Nations (2015) *Transforming our world: the 2030 agenda for sustainable development*.

Vassilev, G. and Beynon, B. (2020) *Personal and economic well-being in Great Britain*, *Office for National Statistics*. Available at: https://www.ons.gov.uk/peoplepopulationandcommunity/wellbeing/bulletins/personalandeconomicwellbeingintheuk/june2020#disproportionately-impacted-groups (Accessed: 23 June 2020).

Vogel, G. (2020) 'New coronavirus leaves pregnant women with wrenching choices—but little data to guide them', *Science*. American Association for the Advancement of Science (AAAS). doi: 10.1126/science.abb9197.

White Ribbon Alliance (2015) *Respectful Maternity Care Charter*. Available at: https://www.whiteribbonalliance.org/respectful-maternity-care-charter/ (Accessed: 27 November 2020).

Williamson, E., Lombard, N. and Brooks-Hay, O. (2020) *'Coronavirus murders': media narrative about domestic abuse during lockdown is wrong and harmful*, *The Conversation*. Available at: https://theconversation.com/coronavirus-murders-media-narrative-about-domestic-abuse-during-lockdown-is-wrong-and-harmful-137011 (Accessed: 23 June 2020).

Wilson, A. N. *et al.* (2020) 'Caring for the carers: Ensuring the provision of quality maternity care during a global pandemic', *Women and Birth*. Elsevier B.V. doi: 10.1016/j.wombi.2020.03.011.

Worldometer (2020) *Countries where Coronavirus has spread*. Available at: https://www.worldometers.info/coronavirus/countries-where-coronavirus-has-spread/ (Accessed: 9 December 2020).

Table 1: Summary of lessons learned from five case studies of midwifery education in a pandemic: key topics identified to support a successful response to the crisis organised by concepts of health system strengthening: coping, adapting, transforming (Blanchet *et al.*, 2017; Abimbola and Topp, 2018)

Quality and safety	Joint planning and collaboration	New ways of working including technology	Learning quickly - individual, team, system	Ensuring equity of opportunity	Meeting personal and professional needs for students and educators	Involving and listening to students and to women
Coping						
A shared philosophy of midwifery and commitment to excellent education and maternity care promotes collaboration, helps to overcome barriers	Effective, rapid, pro-active responses in a crisis need strong collaboration across sectors	Rapid implementation of online meetings and teaching sessions can be done effectively: see Table 2 for details of lessons learned and practical strategies	Staying up to date with evolving emerging research evidence and new guidance is critical	Online learning brings equity challenges for both students and educators that must be addressed	Professional, social and pastoral support is needed for students	Assessing and meeting individual student needs is essential to avoid disruption and delays to their progress and to maximise their employment opportunities
Sustaining quality and safety in a pandemic requires courageous responses by individuals, the team, and the whole system	Joint working between universities, practice settings, and the regulator is essential, with joint planning to include clarity on what each sector wants to achieve	Technology expertise and support are an important part of the rapid technical response needed to address challenges	A crisis such as this pandemic is a rich learning environment for individuals, teams and the whole system		Students need reassurance that they remain student midwives and their learning matters whether they are removed from clinical settings or added to the workforce to help with shortages	Ensure feedback and student evaluation systems in place

Employment laws, human resources procedures and regulatory standards remain essential, and students must be aware of how to work within their cope of practice		Sharing of good practice and resources across universities enables rapid responses	Increased attention is needed for communication while wearing facemasks/PPE such as eye contact, use and placement of words, the use of touch		Physical and mental health of both staff and students matter: support them to know their limitations and to seek help when needed shortages	
Collaborative management of emergency situations must be prioritised by educators and regulators						
Adapting						
Robust processes are needed for assessing individual and team needs	Work together to maximise student employment by joint working across universities, clinical sites including human resources, professional regulator	Considering inequalities of digital access and literacy, including wider social constraints, is essential early	Learning to safeguard the human rights of women, babies, families in a crisis	Inequalities in digital access, literacy and wider social constraints need to be pro-actively addressed be education institutions for longer-term working	Use digital technology positively to meet students' and staff needs (see Table 2)	Students are part of the solution – they can alleviate workload if well supported, they can identify solutions if they are listened to, they can help to promote care of individual women and babies
Ensure feedback and evaluation from women and	A combination of specialist working groups with wider	Shared optimism to find solutions, educators and	Policy, guidance, evidence implementation	New ways of working, including online learning,		Caring for students and meeting their

families inform developments	networks shares the workload and helps to ensure continuing progress	students, and a desire to rise to the challenging for quality learning was key	should be consistent within and across learning environments	can be used to overcome inequalities of race, poverty and justice and to promote equity		needs helps them feel safe, promotes their confidence, reduces sickness absence
Promote, support and develop caseload models and continuity of care for student learning and for women	Collaboration with technology colleagues is important	Balance planning, structure, and flexibility in online learning situations	Develop robust monitoring procedures to assess unanticipated consequences and to capture successes and challenges; and communicate findings widely to promote learning	Students should be especially supported in meeting the needs of women who are made especially vulnerable at this time, eg those who have been bereaved, or have communication difficulties		Universities should commit to improving students' access to online learning: through grants, equipment loan schemes, journal subscriptions
Students are learning about quality care in this context, and must be enabled to re-examine their care once the crisis is over		Rapid, ongoing and consistent communication and listening to feedback is critical				
Transforming						

Good collaboration and excellent leadership can enable staff and students can thrive in challenging circumstances	Universities operate within a competitive environment. It is essential to identify solutions and enable collaborative working	By supporting each other educators have the potential to learn and adapt learning opportunities quickly	The circumstances of the pandemic offer opportunities for discussion, dialogue, and joint problem-solving that may not otherwise happen	Tackling longstanding problems including inequity, poverty prejudice, systematic discrimination	New ways of working may help to overcome pre-existing challenges faced by students and staff in relation to home working and childcare – the pandemic could provide more flexible working environments in the future	Students at the heart of everything we do – future midwifery education *'with student'*
Consider ways of working for senior students that incorporate them safely into the workforce towards the end of their programme, to increase confidence and skills	Strengthening good collaborative relationships and structures will optimise rapid effective responses	Capture successes and challenges to support the implementation of innovations	Technological solutions and support are key to success of any university	New evidence emerging from the pandemic provides opportunities re-focusing human rights for women and child rights for infants.	Concern about future applications to study midwifery needs to be addressed – will prospective students be deterred because of fear of contracting infection?	
		Evaluation of developments and innovations to capture sustainability	Sharing, utilizing and evaluating new innovations – capitalising on the creativity unlocked during the pandemic and building on it			
			Online learning and communication can work well both			

			for education and for women and families			

Table 2: Lessons learned and practical strategies for the positive use of digital technology

Collaborate with technology colleagues to develop digital solutions, digital literacy, and shared spaces
An equity approach is essential: institutions and staff need to be pro-active to prevent exclusion of staff and students resulting from individual family and economic contexts
Use existing positive and student-centred values and approaches to learning to inform the effective translation of the curriculum to an online platform
Educators and students working together is key to developing blended learning and innovative pedagogies
Sharing digital knowledge and skills enables rapid upskilling of staff, eg using shared drives, regular webinars
Creating online learning spaces that are safe for staff and students is critical for effective learning
Be prepared for a silent virtual room and be ready to connect and motivate through immersive and responsive digital learning sessions
Personal interaction and communication is essential; develop flexibility in the programme with allocated time for this
Create informal virtual sessions with students as well as formal education
Be flexible, kind and patient when things go wrong
Promote engagement: sharing screens, small group working, establishment of online learning communities
With online learning you are entering each other's private worlds; kindness and compassion still matter
Online learning is not spontaneous, but deliberate and premeditated and therefore it needs to be planned