



Children and Young
People's Health Services
North of Scotland
#MakingItBetter



North East and North Cumbria's
Child Health & Wellbeing Network

Child Health Services and Covid-19

The impact of the COVID-19 response on paediatric health services in North of Scotland and North of England

Research Findings

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Executive Summary

The COVID-19 response has caused major disruption in the health services, including child health services. This disruption has led to major changes in the delivery of services and ways of operating. This project aimed to understand the impact of these changes on child health service delivery in two regions of the United Kingdom - the North of Scotland and the North East and North Cumbria region of England - from the perspectives of a range of child healthcare providers. Change can offer opportunities as well as challenges; understanding what changes benefit or hinder the delivery of child health services, and what innovations can be usefully retained, is vital in order to optimise children and young people's health and wellbeing.

Qualitative interviews were conducted with 22 child healthcare professionals in the North of Scotland and 17 in the Northeast and North Cumbria in order to explore their views on changes to service delivery, and what the perceived impact of these changes were. Transformative social innovation theory offered a lens through which findings were analysed and changes reviewed.

Findings showed that a range of measures to support the pandemic response were rapidly implemented and new ways of working were discovered, principally due to the urgent need to control the spread of the virus. Not all of these measures were new, but the pace of change was certainly different. Keeping service users and their families safe and out of hospital was an urgent driver for change. The move to remote and online delivery of services was of course a major transformation to services across both regions. Different digital tools that had not been widely available prior to the pandemic, were rapidly made available and used in a multitude of ways. Telephone or digital consultations with service users were adopted extensively, with advantages such as convenience and efficiency to service users, staff and the health system as a whole.

New ways of working provided new insights into benefits, costs and unintended consequences. New ways of organising allowed different pathways for referrals and care to be tried and tested. Staff faced enormous pressures but found many new ways of organising themselves and their work in order to maintain services with reduced staff. Staff deployment was sparingly used to support overloaded services; where services ceased temporarily, teams were reformed, and staff were repurposed. At times, where clinical contact was significantly reduced, this could provide some headspace for staff to reflect on their work and review where improvements could be made. Sometimes it allowed them to get on top of their work, or deal with backlogs.

Staff wellbeing was an important theme and mental health services were developed to offer psychological first aid and support to both staff and the public in the pandemic. Staff frequently mentioned that their relationships with other professionals and with their service users changed. New ways of communicating and digitalisation often allowed services to integrate and collaborate better, and also improved patient-centred care with an increased emphasis on choice and promotion of self-care. However, these changes were not universally positive, and many were deemed unsustainable.

Despite all the stress and anxiety staff experienced, the pandemic provided an opportunity for positive lasting change. Practitioners on the front line felt empowered and listened to by decisions makers. A culture shift was noted, in which they felt some of the usual bureaucratic barriers had been lifted and staff were trusted to do their work and make changes where needed. There was also a greater sense of interconnectedness across the whole system. Although the pandemic has been an incredible challenge on so many levels, positive impacts have been experienced in child health services. Sustaining these to benefit patient outcomes and to support the future sustainability of services, will be vital.

Introduction

This report presents the findings of a qualitative study carried out in two regions of the UK - the North of Scotland (NOS) and North East and North Cumbria in England (NENC) - to examine the impact of the COVID-19 pandemic response on paediatric health services. The study set out to examine some of the key changes in children and young people's healthcare service delivery that have taken place in response to the pandemic, and to explore what innovations have emerged during this experience.

The urgent and immediate response to the COVID-19 pandemic precipitated many changes in the way health services are delivered and in the way many staff conduct their day-to-day work. The impact of these, and the opportunities for improving care have yet to be fully understood and exploited.

Since COVID-19 results in less severe disease and much lower mortality in children and young people than in adults (RCPCH 2020), healthcare services for children and young people have not been a particular target in the pandemic response. However, elements of the response, including school closures, social distancing measures and redeployment of paediatricians and other child healthcare specialists to support adult services have inevitably impacted on which child health services could continue to be delivered and how. It is important that we understand the impact and implications of these changes on health and social care service delivery, particularly given the pre-existing weaknesses in child health services such as fragmentation and staff shortages.

Changes to health and care services have taken place (and continue to take place) rapidly. These changes relate to: services; their delivery methods; marketing of those services; and organisational methods (OECD/Eurostat, 2019). Such changes present both opportunities in terms of future service improvements, as well as costs and possible unintended consequences. It is therefore vital to understand them both in the context of optimising children and young people's health and wellbeing now, and in the context of future service delivery as we come to a 'new normal' following the pandemic response. The findings of this research contribute to a growing body of knowledge that will allow for a holistic evaluation of the impact of the pandemic response on child health service delivery in the UK and inform efforts to 'build back better'¹, using learning from the experiences of two UK regions to ramp up efforts for long-term improvements in health and health care.

Background

The national policy context

The UK Government's Coronavirus Action Plan, published on 3rd March 2020, set out measures to respond to the COVID-19 outbreak and detailed the government's 4-stage strategy: contain, delay, research, mitigate. It also set out changes to legislation necessary for giving public bodies across the UK the tools and powers they need to carry out an effective response. Of relevance to our study, the legislation enabled:

- An increase in the available health and social care workforce, for example by removing barriers to allow recently retired NHS staff and social workers to return to work.

¹ 'Build Back Better' is an idea that comes from international disaster response thinking and refers to the use of the recovery, rehabilitation and reconstruction phases after a disaster to increase the resilience of nations and communities through integrating disaster risk reduction measures into the restoration of physical infrastructure and societal systems, and into the revitalisation of livelihoods, economies and the environment (United Nations General Assembly 2016). Here, we apply this idea to the recovery, rehabilitation and reconstruction of a health and care system that has undergone major disruption.

- A reduction in the number of administrative tasks frontline staff had to perform, enabling them to prioritise care for people with the most pressing needs, and allowing key workers to perform tasks remotely and with less paperwork.
- Changes to allow a wider range of healthcare professionals to administer a vaccine.

In England and Scotland, initial lockdown restrictions from March 2020 saw all non-urgent health care services stopped and capacity focused on the COVID-19 response, including the creation of COVID hubs and assessment centres, the boosting of ICU capacity, protection of urgent and cancer care provision, and joint working to reduce delayed discharges from hospital.

Phase 1 of Scotland's route map through and out of the COVID-19 crisis was published on 29 May 2020. It represented an effort to resume some services whilst at the same time mitigating the continued risk of overwhelming NHS capacity by keeping some restrictions in place. This involved beginning to restart NHS services covering primary and community services (including mental health), the phased resumption of some GP services supported by an increase in digital consultations, the roll-out of NHS Pharmacy First in community pharmacies, increased care being offered at emergency dental hubs, and a restart, where possible, of previously paused urgent elective surgery.

Phase 2 (published 18 June 2020) was introduced in stages from 19 June. Much of the update related to the continuation of physical distancing measures. In relation to healthcare, dental practices re-opened for urgent cases; a phased resumption of any suspended or postponed GP services was continued, supported by digital consultation; some chronic disease management was reintroduced; some screening services were phased in; health care provision for 'pent-up demand' was increased, as well as urgent referrals and triage of routine services; priority referrals to secondary care were scaled up; and community optometry practices re-opened for face-to-face emergency and essential eye care.

Phase 3 (which began in a phased way from 10 July 2020), allowed for an increase in planned care services, screening services, dental services, and community optometry, amongst others. At the time of writing this report, Scotland had not yet progressed to phase 4 (where a full range of health and social care services are expected to be provided).

In England, the Level 4 National Incident declared by NHS England and NHS Improvement on 30 January 2020 represented the first phase of the NHS pandemic response. A letter on 17 March 2020 identified 'important and urgent next steps' and referred to the fastest and most far-reaching repurposing of NHS staff and services.

The second phase of the NHS response to COVID-19 (published 29 April 2020) aimed to 'reset' health and care by: stepping up non-COVID-19 services; providing protection and testing for staff; and preparing for increased demand for COVID-19 aftercare and support in community health services, primary care and mental health.

On 31 July 2020, NHS England wrote a letter regarding the third phase of the NHS response, and a reduction of incident level from 4 to 3, effective from 1 August. The focus for this third phase was on: accelerating the return to near-normal levels of non-Covid health services, making full use of the capacity available in the 'window of opportunity' between then and winter; preparation for winter demand pressures; and taking account of lessons learned during the first COVID-19 peak so that beneficial changes might be 'locked in', and challenges such as support for staff and action on inequalities and prevention might be explicitly tackled. The importance of listening to and learning from patients and communities was highlighted in the letter, and local systems were asked to act on the 'Five principles for the next phase of the COVID-19 response' developed by patients' groups

through National Voices. These principles are to: actively engage with those most affected by the change; make everyone matter, leave no-one behind; confront inequality head-on; recognise people, not categories, by strengthening personalised care; and value health, care and support equally (National Voices, 2020).

Regional context

Our two regional settings were identified for pragmatic reasons: they both have strong children and young people's networks that were established to facilitate regional collaboration for improved health and wellbeing. The networks played an important role in shaping the research, facilitating access to information, and discussing emerging themes.

North of Scotland

In NOS, 'Making It Better' is a Regional Transformation Programme working across six NHS Health Board areas: Grampian, Tayside, Highland, Shetland, Orkney and Western Isles. Its purpose is to focus on children and young people's (CYP) health services across the North of Scotland, identifying the key issues, scoping the options and making evidence-informed recommendations for transformational change in order to improve service equity, quality and sustainability. The programme arose out of a recognition that Boards in the region are tackling a number of shared and significant challenges related to CYP health services, including:

- Remoteness and rurality and the safe transfer of CYP requiring high dependency care between units not covered by the National Intensive Care Retrieval Service. Within the region there are three island Health Boards and six Rural General Hospitals providing key frontline services to their local population.
- Recruitment and retention challenges and associated succession planning (particularly in community child health).
- Increased number of CYP with complex and/or technology-dependent health conditions living longer.
- Increasing number of CYP presenting at out of hours services and to hospital emergency departments.
- Inability to mobilise enough public, clinical or political support to undertake a major change to the current model of provision.

There is an estimated 260,000 CYP living in the NOS region, which accounts for 25% of the Scottish population aged 0-17 years. In 2016, the percentage of children living in low-income families ranged from 6.8% in the Shetland Islands to 23.2% in Dundee City.

In NOS, the increasing age of the population and change in their demographics (with a decline in younger people) is putting great pressure on health and social care services. Concerns regarding the medium and long-term sustainability of paediatric services in NOS have been growing over the last decade. There is a considerable problem with recruitment to specialities and professions engendered by the geography and relative isolation of living and working in NOS which puts services under even greater pressure. The six NOS Health Boards are all autonomous public bodies but in various ways are co-dependent for children's services. Across the region, there are various models of acute care for ill children, including GP-led and delivered, generalist-led and delivered, and paediatrician-led and delivered. Many specialist services are provided on a managed network basis from three main hubs (Dundee, Aberdeen and Inverness). The provision of generalist and specialist paediatric services for the dispersed population across the region, at both secondary and tertiary level, is challenging. NHS Scotland provides a universal health promotion programme to all children and their families, which includes a structured programme of needs assessment, health promotion and parenting support,

provided through regular contacts with health visitors, school nurses and other health professionals. There is a recognition within the NOS health and social care strategy (2018-2021) that a greater focus is required on targeted parenting programmes, better access to mental health services, and more effective promotion of health and wellbeing among CYP.

North East and North Cumbria

In NENC, CYP aged 0 to 18 years represent a fifth of the population in the region (ONS 2020). The need for a network focusing on CYP health was identified by the region's Integrated Care System. The Child Health and Wellbeing Network, established in 2019, encompasses over 700 members representing a wide range of roles within the system. Collaboration and integration are at the heart of their shared vision:

“In the North East and North Cumbria we believe all children and young people should be given the opportunity to flourish and reach their potential, and be advantaged by organisations working together” (The Child Health and Wellbeing Network, 2019).

The network established work streams in alignment to the seven priorities derived from the region through a survey of professionals and young people. Over 1000 survey responses gave clear focus in the following areas:

- Mental Health
- Poverty
- Additional needs and vulnerabilities
- Inequalities and Access
- Strong Start in Life
- Health Promotion
- Childhood Illness

Each area has specific outcomes such as:

- increasing awareness of mental health and perinatal health issues to change behaviours;
- reducing asthma attendances in A&E;
- reducing acute hospital admission for preventable illness for CYP with learning disabilities; and
- increasing our understanding of and reducing barriers to engaging in health from a poverty perspective.

The network is also committed to ensuring that the voices of CYP continue to influence its work through a working together strategy.

Poverty, one of the network's focus areas, has a huge impact on the health, wellbeing and outcomes for CYP in this region, as identified by two significant national reports:

- *End Child Poverty commissioned analysis:* Eight of the 10 UK local authorities suffering the sharpest child poverty increases over this period, which covered the peak years of austerity, were in the North-East of England, headed by Middlesbrough, where 41.1% of children lived in poverty in 2018-19, up from 28.6% five years earlier (Butler, 2020; Hirsch and Stone, 2020).
- *Growing up North – Children's Commissioners report:* Many of the most disadvantaged children in the North are falling far behind their equivalents in the South, particularly children growing up in London. They are less likely to do well in secondary school, more

likely to go to a poor school and more likely to leave education early. While some parts of the North have some of the best primary schools in the country, many secondary schools are struggling (Children's Commissioner for England, 2018).

Other relevant studies and data

There is a plethora of ongoing and newly emerging studies that provide insights into impacts on and unintended consequences for access to child health services, and which will have implications for service planning as we emerge from the pandemic response.

In terms of service use, evidence emerged early on in the pandemic that children and families were not accessing medical advice and review as frequently as in normal times. Emergency Department (ED) attendances dropped sharply (Thorne *et al.*, 2020; West, 2020; Public Health England, 2020; Public Health Scotland, 2020b). The idea of 'lock-down victims' has also been discussed (Horton, 2020), pointing to the possibility that the long-term avoidable deaths from the COVID-19 lockdown may exceed the number of deaths expected from the disease itself. Indeed, the impact on children through the pandemic and its response has been described as "collateral damage" (Crawley *et al.*, 2020). What is clear is that the pandemic response has had immediate and devastating consequences for many babies, children and young people, with likely medium- and long-term negative consequences given what we know about the impacts of adversity through children and implications for later-life health and wellbeing (Shonkoff *et al.*, 2012).

In Scotland, according to routine data analysed by Public Health Scotland (PHS), calls to NHS24 for children aged 0-5 years fell from mid-March 2020, to a low point at the end of April when activity was 45% of that seen in the same week the previous year (Public Health Scotland, 2020a). Out of hours attendance also fell to around 20% of the levels seen in 2019. Alongside this, levels of planned admissions to hospital fell to around 60% of those seen in the equivalent period in 2019. PHS note that across each healthcare category (NHS24, out of hours, ambulance services, emergency department attendances, emergency department admissions, and planned hospital admissions), the change in the absolute number of episodes compared with the previous year is greatest in those living in the most deprived areas. What is "clear from the routine data is that the closure, pausing and/or non-use of healthcare services and interventions disproportionately affects the most deprived families with young children" (*ibid*, p. 25).

Data analysed by Public Health England describes that between April and June 2020, planned admissions across all ages fell by 58.6%, compared to a baseline for the same period from the two previous years. However, the reduction was significantly greater for CYP aged 5-9 years (-66.6%) and 10-14 years (-63.7%). Children's unplanned admissions also fell sharply over the same period. For example: admissions for dental caries (-89.1%); asthma (0-24 years) (-80%); diabetes (-29.1%); epilepsy (-26.5%); gastroenteritis (-77.9%); lower respiratory tract infection (-90.5%); and accidents (-33.5%). Whilst in part the reduced admissions are likely to be explained by lower rates of some communicable disease (and other factors associated with the wider impact of COVID restrictions), evidence suggests that children with some non-communicable health conditions also experienced reduced access to hospital care. As children from more deprived families experience higher rates of illness, they are likely to have been disproportionately affected by reduced access (PHE, personal communication 12 March 2021).

Research questions

We acknowledge that there is a wide range of services that maintain, protect and improve child health, many of which lie outside of the NHS. It is important, in time, to understand the impact of the

pandemic response on all of these, and on the system as a whole. It is also vital to listen to and understand how service users – parents and carers, children and young people – experienced health service use during the pandemic response. However, this project, due to limitations in time and capacity, was focused on NHS commissioned/delivered health care services. The principal questions were:

1. What are the key changes in children/young people’s healthcare service delivery that have taken place in response to the COVID-19 pandemic?
2. What types of innovation have been introduced to existing care pathways, where, and in which clinical specialities?
3. From the perspective of health care professionals and service managers, what impact have the innovations had on (non-COVID-related) child health services in terms of service outcomes and resource use?
4. What barriers have health care professionals and service managers overcome, enabled by the pandemic response situation?
5. What changes, brought about in response to COVID-19, might be usefully sustained?

Methods

Data from the RCPCH has provided a useful high-level overview of how services have been affected. This data was collected (since 15 April 2020) using the on-line RCPCH COVID-19 impact tool which relied on Trust/Health Board representatives across the UK to submit information on a weekly basis. This tool asked which services the Trust/Health Board usually provides on a ‘business as usual’ basis and serves as a starting point to compare with how services have been affected by the current context. It then asks questions, to be answered each week, about how staffing and capacity in the organisation have been affected and activity in hospital inpatients, urgent care and emergency department admissions, routine statutory work, and sudden unexpected death in childhood/infancy. Whilst responses are patchy (particularly in the NOS region), this data provides a useful high-level overview of how services have been affected and gives pointers to innovations and concerns that might be further explored/understood.

In NOS, we gathered Daily Covid-19 staff briefings from NHS Tayside for the period from 18th March to 28th August, as well as the minutes of NOS Regional Meetings of the CAMHS Network (April 2020), the Child Health Network (March, April, May and June 2020), the Paediatric Gastro Network (February and May), the Child and Adolescent Neurology Network (February and May), the Child Protection Network (May), and the Paediatric Respiratory Network (February, March, May, June and July). From these documents we extracted, using MS Excel, data on services (or aspects of services) that were stopped, increased or changed, along with explanations for changes (where available), and current concerns/issues. We also collected each of the six North of Scotland Health Boards’ first stage Remobilisation Plans (for the period to end July) as requested by the Scottish Government Health and Social Care Directorate. These plans were qualitatively analysed to identify key themes related to women, children and young people.

In NENC, we reviewed the minutes of the Paediatric Critical Care Operational Delivery Network meetings for April and May 2020 to identify key themes to be applied to this research. They were reviewed alongside the Neonatal and Critical Care review in September 2020 and other items of learning within the Network’s circulation that were relevant to this work.

Primary, qualitative data was gathered through semi-structured telephone interviews with a purposive sample of 22 healthcare professionals in NOS and 17 in NENC during and immediately

following the critical period of the COVID-19 response (see below for further details). Participants were recruited through open and targeted invitations (using existing networks and contacts) and using the snowball method, aiming for a range of participants across key health service categories (general and acute paediatrics, mental health and therapy services) and across the medical, nursing and allied health professions. The aim was to reach data saturation in key themes. We had little difficulty reaching respondents; on the whole, people were keen to talk about their experiences.

All interviews were transcribed and analysed in NVIVO 11 using thematic analysis, identifying patterns and themes within the data (Ritchie and Spencer, 1994; Braun and Clarke, 2006). Data from all sources and from both regions were then combined according to a concurrent transformative design, using a thematic analysis framework in MS Word (Creswell *et al.*, 2003).

Preliminary analyses were presented to a webinar on the 25th November 2020 (using Microsoft Teams) attended by 65 stakeholders from across the two regions (35 from NENC and 30 from NOS), representing a wide range of service providers and commissioners from NHS organisations and local authorities, research and education professionals and third sector organisations. Participants were invited to ask questions and to discuss the findings and analysis. This discussion, which was found to be highly valuable given the constantly changing situation and the multiplicity of relevant perspectives, has been incorporated into our discussion of the data.

Theoretical framework

Changes that occur during crises are often described in terms of innovation (although care must be taken not to assume that all innovation is positive). Social innovation (as opposed to business innovation) is not yet a fully developed research field, but there is an emerging body of theory and practice that has its roots in a number of social science disciplines (Westley, 2013). In seeking to understand and explain the ways in which social innovation interacts with processes of systemic or transformative change, an EU-funded research project (TRANSIT; 2014-2017) developed a framework for transformative social innovation (TSI). In this framework, TSI is a process in which social relations, involving new ways of doing, organising, framing and/or knowing, challenge, alter and/or replace established institutions in a specific social-material context (Haxeltine *et al.*, 2016). Adopting this framework, the following categories were used to identify, understand and analyse innovations within our data:

- New social relations (agents in different contexts working together in different ways)
- New ways of doing (new technologies, practices)
- New ways of organising (new modes of organising, forms of governance, formats, institutions)
- New ways of framing (new values, meanings, visions)
- New ways of knowing (new knowledge, competence, cognition).

These categories of innovation are reflected on in the 'What have we learned' section of this report.

Research conduct and ethics

This study did not require NHS Research Ethics Committee review. However, it was conducted in accordance with the Economic and Social Research Council's (ESRC) framework for research ethics, following ESRC's policy and guidelines for good research conduct. Ethical approval was received from the University of Kent School of Sociology, Social Policy and Social Research Ethics Committee (SRCEA id 265). Research approval was granted by the relevant employing organisations of the staff we approached for interview.

The research participants were asked to give informed consent to take part in this study, using an information sheet and consent form (signed electronically and/or confirmed orally with a digital recording), written by the principal researcher and approved by the programme team.

Participants

NOS interviewees: N=22, interviewed between 10 June and 26 August 2020. Interviews therefore spanned phases 1, 2 and 3 of the Scotland Route Map. Of the participants, 18 were male, four were female. For the 17 participants for whom we know time in post, this ranged from eight months to 29 years.

NENC interviewees: N=17, interviewed between the 2 July and 8 October. Interviews therefore spanned the 2nd and 3rd phases of England's NHS response to COVID-19. Of the participants, four were male and 13 were female. Length of time in post was generally not asked.

Table 1: Breakdown of NOS participants by Locality and Profession (identification code in brackets)

	NHS Grampian	NHS Highland	NHS Tayside	NHS Western Isles	NHS Orkney	NHS Shetland	Total
Paediatrician	1 (NOS 004)	2 (NOS 007, NOS 014)	1 (NOS 005)	1 (NOS 015)	-	-	5
Community/ Specialist Nurse	1 (NOS 018)	2 (NOS 003, NOS 010)	1 (NOS 020)	1 (NOS 017)	1 (NOS 021)	1 (NOS 001)	7
CAMHS	-	2 (NOS 009, NOS 011)	2 (NOS 002, NOS 008)	1 (NOS 019)	-	1 (NOS 006)	6
Allied Health Professionals	2 (NOS 016, NOS 022)	-	1 (NOS 012)	-	1 (NOS 013)	-	4
Total	4	6	5	3	2	2	22

Table 2: Breakdown of NENC Participants by Locality and Profession (identification code in brackets)

	Tertiary	Cumbria	NE South	NE North	NE Central	Regional	Tot
Paediatrician	2 (NE 001, NE 012)	1 (NE 007)	1 (NE 006)		1 (NE 013)		5
Community/ Specialist Nurse		1 (NE 008)	1 (NE 014)	1 (NE 011)	1 (NE 010)	1 (NE 004)	5
CAMHS	-	1 (NE 016)	1 (NE 003)		-		2
Allied Health Professionals		-		1 (NE 005)			1
GP			1 (NE 015)	1 (NE 009)			2

Other		1 (NE 002)		1 (NE 017)		2
Total	2	4	4	4	2	17

Findings

The broader picture

Key findings from The Royal College of Paediatrics & Child Health near-real time data from paediatricians across the United Kingdom for 12-weeks from April 2020 were:

- 1) Reduced staffing: approximately 10% shielding; a further 13% working in different ways including remote-working; redeployment of up to 20% of tier-1 (junior) medical staff.
- 2) Redeployment of senior paediatric trainees from community to acute services. RCPCH comment that “This is worrying because of the importance of community services for vulnerable children, and the backlog of work such as child protection medicals”.
- 3) An important number of delayed presentations were reported: 230 with a delay in presentation for a new acute condition, plus 106 children with an exacerbation of a long-term condition over the 12-week period.

The key changes that have taken place

In the early stages of the pandemic response, daily COVID-19 briefings from NOS Health Boards confirmed the consequence of the national pandemic control measures in terms of the stopping of hospital visiting, and the cessation of many paediatric services including non-urgent procedures and operations, routine follow-up outpatient appointments, open access surgeries, immunisation programmes, births at home and in some community/midwife-led units. The key intention was to free up capacity in hospitals, in accordance with Scottish Government announcements. The NOS Child Health Network further discussed the cessation of cross-boundary working within the respiratory network, as well as flexible bronchoscopy, some gastro procedures, some neuro-developmental disorder work (due to lack of access to school reports), and clinics for asthma and complex respiratory patients and for patients with other chronic conditions.

It was clear from the daily COVID-19 briefings in NOS that as early as 18 March 2020, some clinical teams were running new outpatient clinics using video and telephone consultations. In general practice, patients were being reviewed by phone prior to coming into the GP surgery. In April it was noted in the Child Health Network meeting that telephone reviews were being conducted for paediatric patients with cystic fibrosis and various phone and “Near Me” (remote video consultation) clinics were being conducted, including some with multi-disciplinary teams. In April, dental staff in Tayside were trained to provide community phlebotomy. Many AHPs were reportedly redeployed.

In NENC, the minutes of the Paediatric Critical Care Operational Delivery Network meetings made frequent references to changes in service delivery (particularly in relation to new online clinics); innovations (such as the use of restaurant style buzzers to call patients to appointments); collaborative support (e.g., regarding testing turnaround and training requirements); developing and adopting shared guidelines (e.g. in relation to guidance on attendance, visiting and PPE); and the sharing of communications responsibilities (e.g., establishing a website, highlighting national messages and research initiatives, and cascading important messages to local communities).

Across all sites, in order to help limit the spread of infection, hospitals were reconfigured, and separate (red and green) pathways were created.

Within the interviews in NOS, service changes were unsurprisingly most frequently discussed in the mainland Boards (Tayside, Grampian and Highland) where the main paediatric hubs are based. Service changes were discussed by all participants in NENC.

Innovations to support the pandemic response

Remote and digital working

The most frequently mentioned type of change was associated with the move to online delivery of services. Near Me / Attend Anywhere (in Scotland) and a variety of online tools in England (including Attend Anywhere, One Consultation and AccuRx) were being used to, for example:

- keep families remotely involved in inpatient treatment (e.g., in the case of eating disorders and mealtimes in the NOS CAMHS inpatient unit);
- run out-patient and MDT clinics;
- deliver mental health support;
- deliver a range of therapy support; and
- communicate the results of oncology surveillance scans and other diagnostic tests.

Microsoft Teams was being widely used for interprofessional communications, from informal daily team chats or 'check-ins' to national and international training and professional development sessions. Several interviewees talked about having delivered training for other professionals (including teachers) and for parents and carers (e.g., in how to use equipment) via podcasts or videos.

Interviewees in most community-based services discussed doing less home visiting, swapping some home visits for telephone. Professionals talked about conducting a RAG (Red, Amber, Green) system (or similar) to identify those patients that needed to be seen face-to-face rather than online. Specialist nurses continued to provide the services at home required by 'priority' service users, such as children with specific healthcare needs like cystic fibrosis, but with additional infection control measures. Sometimes, the impact of reduced home visiting was ameliorated by using existing tools in new ways (e.g., Health visitors in NOS discussed sending out a questionnaire (ASQ3) they usually would have gone through in person), or by using tools such as pulse oximeters, spirometers and thermometers more extensively at home. Another new tool mentioned by an interviewee in NOS was a file sharing platform that parents/carers of children with epilepsy could use to send practitioners videos of their children having seizures. These videos were instrumental in helping the clinicians to assess and manage the patient. The new platform represented a more formal, easier, more efficient method to send videos that had previously been sent by a variety of other means.

Shifting care from hospital to community

Alongside the use of digital technology, there were various efforts to shift previously hospital-based activities into the community. For example, in Grampian, community hubs were established as a place where some measurements or investigations could be conducted (generally by specialist or community nurses), in lieu of home or hospital. This helped to improve the information that specialists received in advance of phone or video consultations. In NENC Central, we heard that paediatric clinics were run in the community to prevent referrals to the local ED. One of the paediatric nurses told us that she shared her contact details with ED so that if they received an inappropriate referral, they could refer back to the nurse so she could see the children and families in an environment that was safe for them. This paediatric nurse in NENC Central also shared that 'hot hubs' were set up for the whole of the primary care network, where children and adults with temperatures and coughs were seen to prevent them from going into hospital ED. Also in NENC, paediatricians worked more closely

with pharmacists and GPs to ensure prescriptions could be handled locally, rather than patients traveling to a specialist hospital to see the paediatrician.

There were specific efforts to help prevent hospital admissions. For example, in Highland, there was a significant service redesign to ensure the CAMHS service were able to respond immediately to emergency cases so that CYP could be kept out of hospital. Their usual therapeutic work was reduced in favour of more staff working acutely, staffing a rota to provide seven days a week 24 hours a day emergency access to a CAMHS professional. This service was later withdrawn because of low usage.

Supporting services that were seeing a surge in workload

In recognition that it was not only hospitals that were seeing a surge in workload, efforts were made to support primary care. For example, in Tayside, a new paediatric assessment area was made within the ED at Ninewells Hospital. A paediatric stream was developed in the GP out of hours COVID-19 assessment hub so that paediatricians were staffing what had previously been staffed by GPs. By having paediatricians carry out the initial assessment of CYP who had COVID-like symptoms (which was the majority of presentations), this also meant that most CYP avoided further intervention or hospital admission. It should be noted that whilst the situation allowed the paediatricians in Tayside to test the concept (one they had been thinking of for a while), they actually found very few parents were bringing their children in due to concerns about COVID-19.

Also in Tayside, an interviewee explained how hospital paediatric pharmacists were working on getting prescriptions “directly to community pharmacy, without going anywhere near the GP” (NOS 005). A scanned prescription sent directly to the pharmacy replaced a letter to GP staff requesting that they write a prescription for their patient.

Several interviewees explained that their junior doctors were all redeployed to the adult COVID response. In Grampian, a number of the specialty doctors, specialist nurses and allied health professionals from the community child health department were redeployed into acute care provision. An Occupational Therapist in Grampian explained that “when we first went into lockdown half of our staff were redeployed onto the wards” (NOS 016), she went on to explain that this had a huge and negative impact on their own service. In Tayside, two paediatric dieticians were redeployed to the COVID dietetics team since they had previously worked in adult dietetics and adult critical care. In Highland, some specialist and community nurses were redeployed to help the hospital. However, whilst the community paediatricians were “inducted and trained to step up a level whether it was medical grade or consultants” (NOS 007), they ultimately weren’t needed. They did, however, take over running the child protection rota to relieve pressures on the hospital. Interviewees in NENC North and Central in leadership and operational management roles also told us that redeployment to adult services was discussed and planned, although not always executed as the need did not arise.

Protecting non-Covid services

It was clear that whilst innovations to support the pandemic response were important, managers were simultaneously working hard to support and protect non-COVID services that they recognised as being essential. This included adjusting to reduced staffing caused by shielding and redeployments, and planning for scenarios where large numbers of staff could be off sick with COVID-19.

In Grampian, an oncologist described the changes in pathways required in order to enable them to continue providing services to cancer patients during the pandemic. This team changed pathways in order to help them get through their backlog of patients. Aspects requiring change included theatre pathways, ensuring there was critical care capacity for post-operative recovery.

For some vulnerable patients requiring ongoing non-COVID care, the locations and pathways of care were sometimes changed to help protect patients from potential infection.

In a number of areas, interviewees made it clear that managers soon learned the importance of keeping key staff in the community, rather than moving them into acute settings. In NOS, several interviewees talked about how they made an initial ‘push’ to make sure staff performing certain core functions, like child protection and CAMHS, were not redeployed, as this interviewee explained:

“The thing that came out of it was basically we are not redeploying our child protection team... we have to keep child protection in core in amongst us because we know there’s going to be more child protection incidents. That took a bit of a push. No, we are not doing that, we are not moving that group of staff. That has to be a core function.” (NOS 005)

Supporting the mental health of staff and the public

Staff wellbeing was an important factor driving some of the innovations. For example, in NENC, a change to CAMHS services was to offer psychological first aid to staff in their response to the pandemic, as well as to the leadership teams. The Medical Psychology Team at South Tees stopped their generic work and created a whole service to support staff working in acute settings. One of the paediatricians (NE 013) who was deployed to adult services, described how the leadership team had been walking the wards in order to support staff.

In the Western Isles, a ‘psychological hub’ was established that provided a phone line through the local authority, advertised in the newspapers, for people impacted by COVID and wanting support. This was staffed by a team of social work, educational psychology and CAMHS staff who came together to be able to provide a rapid response. This gave CAMHS staff stronger links with social work and educational psychology.

In Grampian and Orkney, a ‘Psychological Resilience Hub’ was established to provide a short course of psychological first aid (between 1 and 3 sessions) to help individuals manage feelings that have become difficult during COVID-19. Clinicians were available six days a week and made good use of video consultations. Alongside this, there were several examples of creativeness and adaptability in supporting CYP; for example, a new podcast called ‘Keep CAMHS and carry on’ was launched in March by a consultant psychiatrist at NHS Grampian, aimed at under 18s and their families, and in both areas, staff described making garden visits, or going for outside walks in order to give supportive consultations in a safe way.

Changes in ways of working

Alongside changes in pathways and service delivery, there were other, less ‘tangible’ but no less important changes in the ways people were working. Some interviewees talked about how there was more integrated working and improved communications across previously sub-specialist silos and across teams and organisations, for instance, in Grampian “all of the different clinical nurse specialists in paediatrics collaborated together to cross-cover each other’s workloads” (NOS 004). The data also highlighted a number of instances where communication processes were made more streamlined and efficient. Staff were coming together in different ways/fora and were attending remote meetings and working with people they wouldn’t normally work with, including other clinicals, managers, academics, and members of the armed forces. Interviewees reported a better engagement in meetings.

Staff were also used more flexibly, beyond the redeployments. For example, staff were working in teams they hadn’t worked with before. In NENC Central it was described how the emergency set up was changed, with wards closed and a new respiratory ward created. This meant training nursing staff to work with respiratory technology, mixing wards and recreating nursing teams to ensure mixed experiences on each ward. It was described as challenging: “managing that process and making it feel an engaged process rather than top-down” (NE 001). Across NOS, we heard how groups of staff

(especially those who were shielding) were identified to work in different ways, for example to run a remote outpatient service, or to triage patients for face-to-face assessments.

Attitudes also changed – both organisational and individual – and particularly towards online, remote and more flexible working. The experience “has maybe helped people to see that that can be done, and people can be effective in working from home. It’s increased people’s embracing of Microsoft Teams for example” (NOS 008). In NENC Central, interviewees described how the difficulty of completing rotas (due to so many staff changes and absences) led to a change in how this was done. It was handled in a self-managed way, with staff invited to come forward with what they could do, rather than being allocated shifts that they then had to change.

Several interviewees talked about an affirmation of ‘team spirit’ and mutual support which went across some of the traditional organisational boundaries.

What impact have the changes had?

A wide range of positive and negative impacts of the pandemic response were identified by all interviewees. These were very similar across the different services and amongst the different professions.

The health and wellbeing of staff

A key theme in the data was the impact of the pandemic experience on staff workload and wellbeing. Managers in both regions talked about spending a lot of time and energy trying to settle anxieties, work out how to continue services with reduced staffing, manage change processes, and support the wellbeing of their staff. This was made harder by having to work remotely, as this participant makes clear:

“A lot of my work early on was trying to settle down anxieties and that was quite hard sitting at my dining room table at the end of the phone or video link and things like that.” (NOS 001)

The impact on workloads was inequitable; some people’s workloads increased due to other services being paused, changed or stopped.

In NOS, one paediatrician explained how they went through a complicated assessment process to identify staff who might usefully be redeployed. This caused anxiety amongst those who really did not want to be moved. Whilst the identified staff were not eventually called on, their existing work was not recognised as a priority (with the exception of work related to child protection), which resulted in:

“Loads of anxiety. They didn’t get redeployed and ... they were left without being able to do their own job, because of what’s happened and it not being a priority, ... and they’ve gone through the whole stress of having to think about working differently. The need wasn’t there. ... A lot of frustration with that group.” (NOS 005)

In NENC, a reduced workload was more often mentioned than an increased workload. Whilst some staff were extremely busy, others at least initially found themselves with a little extra time and ‘space’, due to a reduction in clinical work and a reduction in numbers of patients coming through the doors.

“I remember one of the consultants told me, ‘I’ve emptied my inbox, I’ve got no email but for me it was really busy. I would say I was probably doing seven days from seven in the morning until eleven at midnight because it’s the operational side” (NE 017).

“My usual working hours are a 12-hour day - a good day for me; 14-hour days are ‘getting a bit tired’, and I work most weekends. I was getting down to a 10-hour day during the real strict lockdown, that was quite nice, so there you go, I had a bit more time for me.” (NE 001)

There was also a sense that this lull was very short-lived; once the initial period was over, there was a backlog of work in reviewing patients who had been missed and providing additional clinics to catch up.

Some interviewees were concerned that things were likely to get worse before getting better, as waiting lists grew, staff started to take leave, and demand increased as a consequence of the pandemic response. Some staff, particularly those in the community, were worried about the sustainability of their service, or their ability to meet demand. This was adding to the anxiety amongst staff, as these quotes illustrate:

“We did a quick data collection of how many schools visits are required once schools open and we were looking at 30+ children needing a school visit and how we are going to manage that is a real anxiety for our staff particularly for the more complex children with the more exceptional health care needs.” (NOS 016)

“... certainly for speech and language catch up because we have a tiny team and if you get behind it is impossible to catch up. That is a worry for us, how we are going to get back on top of that, the referrals and things from that department.” (NOS 021)

Staff who were still working on the wards or face-to-face with service users talked about the impact of wearing the full PPE. Staff who were working exclusively, or almost exclusively, remotely, talked about the exhausting nature of working in this way. Interviewees also described what they missed, working this way, in terms of informal connection with and support from their colleagues, and the sense of being part of a team.

“Ooh, um, I think to a certain extent it’s been a little bit more solitary in some ways, so particularly to begin with I think we’ve all gone off and done phone conversations and I think that liaison hasn’t always been quite as good.” (NE 005)

Interviewees talked about reduced job satisfaction, exhaustion and low morale. This Occupational Therapist noted that she works in “a really good team” that works well together and supports each other. Nonetheless, the lack of face-to-face interaction was having an impact:

“We have a really small team and I feel that there had been some impact on our team cohesion ... That cohesion of not meeting up ... we are just all like passing ships. ... It’s been a challenge.” (NOS 016)

As well as dealing with anxiety amongst the workforce, staff across the board (managers, clinicians and administrators) were taken up with responding to and managing the anxiety of parents, which resulted in many phone calls and other types of communication.

“But it was also the amount of anxiety of parents was just immense to try and cope with that and our admin staff and clinical staff were taking so many calls from anxious people.” (NE 001)

Staff reported that their teams coped amazingly well with rapid and dramatic change at the start. However, several interviewees commented that this was the easy part, compared to the challenge of returning to some kind of normal:

“ ... switching stuff off and rapidly reconfiguring services for the emergency COVID response was actually considerably easier than the phase we are in now. We are trying to configure the switching back on of services and what will we do, what order do you switch things back on? What are the biggest priorities to start doing again?” (NOS 004).

“I’ve had to ask all these people to work beyond their boundaries. To work seven days a week. Come in at the weekend. Do work they’re not used to. They’ve all adapted and I’m now asking them to adapt back. And I can’t find a way back very easily.” (NOS 009).

“It’s the routine things that you used to have to do that have dropped off, and now you’re trying to play catch-up because obviously everything sort of came to a stop, so you lost sort of the appraisals, that side of things a little bit. So now it’s more about checking in with staff to see if they’re okay, what do they need in order to help them” (NE 007).

There were some positive impacts mentioned too. A paediatrician in NOS commented that the pandemic response had disrupted a culture of ‘presenteeism’.

“There has been a culture of presenteeism at work and now that we have had to move to a different way of working that has not been an issue. That helps.” (NOS 014)

Another positive impact mentioned across NENC was described as a ‘focus on doing’, a dynamic that removed from some of the barriers encountered before.

“And then coronavirus came and, to be very honest, I know this might sound harsh, but I actually appreciated it to some extent because it meant, for me, to focus on action, to focus on something which is very imminent and very urgent. And I could actually kind of put off all the stuff which was, from my point of view, just the bureaucratic nonsense and really focus on what was important at that point” (NE 007).

Impact on staff working conditions and roles

Some interviewees noted that the rapid roll-out of technological solutions for remote consultation and home monitoring and ITC equipment such as webcams, laptops and smart phones generally make life/work easier for them (see barriers/enablers below).

Staff in more remote/rural areas noted that they were also happy to be able to access staff training and learning opportunities more easily now everything had moved ‘online’. In this respect, COVID was a bit of a ‘leveller’. In addition, by working with different people in different teams, there was a cross-fertilisation of ideas which some staff found stimulating.

“something for the islands boards is that we miss out on an awful lot of training opportunities that are delivered in the central belt. When we have to factor in travel and accommodation costs and time sometimes it is not worth us going for a half day or even a day. Now ... I have heard they [NHS Education for Scotland] are going to try to do more distance learning. We will have more opportunities that way which is fantastic. That will be a big benefit. There will be courses which have not been available to us which will now be available to us.” (NOS 006)

“...interaction with other teams has also widened for example we as professionals, we’ve been linking to teaching with Grampian and you can do it while you are at your computer doing your admin” (NOS 007).

“what the video things have allowed is that people who would otherwise not have come into work for a meeting because it would just take them half the day, they now can dip in for an hour, give their, give their input and get information, and then come out again. So it’s less disruptive and so more people get to access learning” (NE 012).

Whilst redeployment was not an issue that affected many of our interviewees directly, staff in both regions were finding that the redeployment of other members of staff impacted on their own role. A paediatrician in NOS described paediatrics as a “donor speciality in an adult pandemic” (NOS 005). Role boundaries were becoming blurred, with some staff having to take on the roles of others, in addition to their own.

“That’s the other consequence of things and we are suddenly back doing things we didn’t do for a while because we got somebody else to do them for us.” (NOS 002)

There was some frustration that the taking of some staff was not strictly necessary to the COVID effort. For example, NOS 005 explained that they willingly ‘donated’ all their junior staff to work in the adult COVID stream, with the consultants picking up their roles. However, they were disgruntled when they heard that one of the juniors had only been called on once because they were operating on a backup rota at home. Despite this, this particular paediatric team sometimes struggled to get their donated staff returned to them. In NHS Highland, community paediatricians completely took on looking after the child protection rotas, seven days a week for a period of time. They were also inducted and trained to help on the wards if they were needed. Several other interviewees described how members of staff were ‘readied’ for redeployment, should they be needed. For example:

In Shetland they “... offered up three health visitors to go to the acute wards in the hospital if they were needed. And they also had an orientation period and we made sure they had uniforms and things like that, but they actually hadn’t been called in. One of the school nurses has been on call for the respiratory care unit but again hasn’t actually been called in. But she has done some on-calls for them.” (NOS 001)

“Through the team there were a number of changes, so many of our neuro-disability, just referencing some of those wider groups of children, neuro-disability colleagues, community colleagues retrained and we went through some up-to-date training to make sure that we could be redeployed to the ward if we needed to be on an acute basis. So I did that.” (NE 013)

Some staff found they were increasingly contactable by service users outside of their usual working hours. Some participants in NENC mentioned that their role changed focus, sometimes with an increased role in supporting or training others.

All participants in NENC and many in NOS discussed further impacts on their roles, including increased administrative and people management tasks, and new/different communications. One quite extreme example of an expansion in role was described in the NOS CAMHS in-patient unit, where an Occupational Therapist stepped in (following the ruling that teachers could no longer come in) to provide a version of home-schooling for a period of eight weeks.

Impact on service users

Interviewees talked about how the changes in the way they were delivering services made them more ‘person-centred’. For example, by delivering a comparable service but without paediatric patients having to travel to hospital, or by personalising the means of communication and for example offering remote consultations in the evening, or by offering support services on-line so people could access

them from home. The provision of some services to everyone online, regardless of location, had the added benefit of reducing geographical inequity.

Staff reflected that some parents and carers and some children have been able to enjoy being at home and having family time, and some children (such as those with cystic fibrosis) have maintained good health due to a reduced risk of general infections. CAMHS professionals in particular noted that some CYP have coped better with their mental health being out of school.

“I mean, it’s interesting, I think it’s had a positive impact on a lot of our [CAMHS service] kids’ mental health not being in school as well and not feeling that pressure or that competition around peer relationships and so forth.” (NE 003)

On the negative side, however, staff pointed to the fact that the cessation in some services, the unwillingness of some parents/carers to access health services during the pandemic response, or delays in service delivery will have implications that are as yet unknown. Added to that, even where CYP were ‘seen’ (either face-to-face or remotely) there was some loss of communication, interaction and personal contact which may have had an impact on clinical decision making and/or the effectiveness of certain services (this was particularly noted in relation to the delivery of psychological therapy online).

More broadly, many of the interviewees highlighted their concern about CYP’s social, educational and mental wellbeing, the implications for child protection, and the impact of the family burden, particularly for some population groups.

“Obviously there is a safeguarding dimension to it as well, not seeing as many children as we have done in the past is something we have to be very sort of mindful of, I think”. (NE 009)

Impact on services and the healthcare system

The reduction in clinics and clinical work offered staff some fresh opportunities to do work that often becomes squeezed out by the pressure of day-to-day service provision. As one interviewee said:

“It was actually really nice at the beginning of the pandemic when there wasn’t as many meetings. I felt I could really get on with work” (NOS 001).

The new paediatric assessment area that was set up in Tayside, for example, is something that staff had been talking about for a while before COVID-19 arrived. However,

“Essentially we have stopped running between clinics. So that gave us that clinical time to go out and do that ... The COVID experience just let us test it” (NOS 005).

In Orkney, an interviewee explained that given a little bit of space from the pressures of service delivery, they had made a lot of progress on looking at premature baby follow-up and had linked in by videoconference to the pre-natal network which they previously hadn’t been involved in. In addition,

“all of the teams have taken the opportunity to review practices and update their processes and things like that. For the Looked after Children assessments they have just developed a whole new process a whole new recording system.” (NOS 021)

Staff were managing to do these things whilst at the same time keeping the clinical contact (albeit remotely) with their service users. In Grampian, an OT told us:

“we have updated our resources, we have updated the websites and the videos that we would signpost people to ... we have got some nice outcomes there.” (NOS 016)

This same interviewee commented that “it has been good to have time” to “reflect and look at how our service delivery was going to be”. Even within the Grampian children’s hospital pharmacy department, an interviewee explained that they had the opportunity to become “a bit more proactive rather than reactive”, in terms of helping to reduce medication errors (NOS 022). In NENC, participants also commented that having some time and headspace allowed them to reflect on practices, improve and be innovative. For example, anaesthetic trolleys were prepared differently and more comprehensively, they were age-coordinated, with laminated cards ready for use. Having more time also allowed them to do their jobs more thoroughly.

“Now I feel like I am actually doing the things that I was supposed to be doing before, because I've got time to do those things, which includes background work, includes like holistic care, like you know, letters to GPs to check physical health for some reason, or ... I don't know if I'm making sense, but the workload I had before was totally unrealistic.” (NE 006)

In Grampian, the paediatric oncology team made a decision to clear the backlog of cancer patients who had not successfully met the government targets for treatment time by the end of June 2020. The interviewee reflected that they were able to do this because “lots of stuff has been mandated to be stopped” but cancer work was allowed to continue (NOS 004).

A significant theme in the data related to positive impact was improved efficiencies, particularly gained by working differently (e.g., fewer or shorter meetings), travelling less, and having fewer non-attendees to appointments. The shift to new technologies and remote working also prompted other changes in communicating and information sharing that introduced efficiencies in the system. For example, a paediatrician in Tayside described a new way of communicating between secondary care and primary care using an IT tool that was traditionally used for prescribing but which was expanded to become a letter. This meant staff no longer dictated letters but rather typed a letter in the time of the clinic. As a result, the letter was shorter, the admin burden was reduced, and communications reached primary care faster.

Two interviewees (in Grampian and Highland) said that the switch to online and remote working has solved a perennial problem with accommodation and clinic space. In Grampian, the move to holding epilepsy nurse clinics via Near Me “actually frees up rooms in outpatients” where “they are always fighting for space, for those people who need to be physically seen” (NOS 018). Improvements in efficiency were also discussed in relation to novel uses of technology. For example, one of the GPs in NENC South mentioned how the coroner’s office and death certification process adapted quickly to the new use of technology:

“... we were able to confirm deaths on the consultation, we were able to certify deaths without having to see bodies ... we could in some of the cremation homes we were able to do a video consultation and just confirm that that’s the body” (NE 015).

On the negative side, the cessation of some services meant an inevitable build-up of waiting lists. For example, we heard about waiting lists building up for CAMHS in Highland, for Occupational Therapy assessments and epilepsy assessments in Grampian, and for speech and language therapy in Orkney.

A paediatrician in Grampian (NOS 004) was concerned about GPs taking a “precautionary approach and submitting a two week wait referral which might be cancer”, though “it is usually non-cancerous lumps and bumps” which if the GP had been able to see the patient, they would have known and dismissed. Whilst there is not a huge volume of these referrals, the interviewee said that it is “qualitatively noticeably different; it’s a type of referral that we don’t historically normally get” (NOS

004). This has to be set alongside the concern about missed diagnoses and referrals discussed in the previous section. One of the paediatricians in NENC Central also mentioned that when clinics did start up again, they were inevitably much slower than before due to infection control measures. On the other hand, the telephone consultations necessitated by the pandemic sometimes allowed teams in NENC Cumbria to get on top of waiting lists, becoming compliant with national standards for 'referral to treat time' for the first time in two years.

In Grampian and Western Isles, three interviewees mentioned the negative impact on students and trainees in the service. In some areas they have not been able to offer student placements, and existing trainees haven't been able to observe consultations and "they haven't been able to do lots of things that they would normally [have done]" (NOS 019).

The table below summarises positive and negative impacts across the three most dominant themes in the data: changes to working practices; freedoms and opportunities for staff-driven change; and impact on service users and families.

Table 3: Perceived positive and negative impacts of early Covid-19 response on Paediatric services in North of Scotland and North of England

Theme	Positive impacts	Drawbacks
Vast changes to working practices including online & remote working	<ul style="list-style-type: none"> - Rapid roll out of new technology - Less travel for staff, including for attending regional meetings - Disruption to 'presenteeism' culture - Fewer and shorter meetings, and increased attendance at some - Greater training opportunities - especially for those in remote areas 	<ul style="list-style-type: none"> - Loss of personal contact with children and families - Work being less enjoyable - Decreased team cohesion - Inequity in technology access & lack of equipment - Reduced training opportunities - Staff wellbeing difficulties & staffing concerns
Freedom for staff and opportunity for staff-driven change	<ul style="list-style-type: none"> - Reduced bureaucracy stifling innovation - Decision makers listening to frontline staff - Space to try out new things - Staff feeling more flexible - less rigid approaches to work - Ability to personalise services for child and family needs - Increased collaboration, integrated working between professionals and across geographies - Staff going 'above and beyond' 	<ul style="list-style-type: none"> - Change fatigue - Increased workload
Perceived impact on children & families	<ul style="list-style-type: none"> - Less travel for children and families - Can reduce geographical inequity - Opportunity to increase self-care - Reduced wasted appointments and increased (online) access to children 	<ul style="list-style-type: none"> - Reduced effectiveness of online working for some elements of care - Services stopping leading to missed diagnoses, poorer care, building up of waiting lists - Major concerns re CYP wellbeing and hearing CYP voices - Difficulties of only one accompanying adult per child - Concerns around privacy for online consultations - Concerns re parental wellbeing

What were the incentives/drivers of change?

The main drivers for changes in services were the need to control the risk of infection and thereby keep staff and patients safe and protect the hospitals (adult services) from becoming overwhelmed. Participants specifically discussed protecting patients by keeping them away from hospital or clinic environments.

“So it has to be, the hospital must run” (NOS 003)

“We switched to a service that was trying to keep everyone out of hospital” (NOS 009)

“That was about safety. Every decision was made on what was going to be safe.” (NOS 010)

“We need to protect these kids and keep them at home” (NE 010)

In NENC, staff talked about planning for scenarios where large numbers of staff could be off sick due to Covid-19. And in NOS, a paediatrician and a specialist nurse talked about making changes to protect the viability of their own service, which had to adjust to significantly reduced staffing. A specialist nurse said that some changes had to be implemented to ensure the sickest patients could still be looked after, despite the restrictions. Staff wellbeing was also an important related factor, with decisions (e.g. on PPE or home-based working) being made to help manage staff anxiety and to try to make them feel safe.

How were decisions made?

The swift move into pandemic response changed the ways in which decisions were made. Decisions at a local level were responding, often very rapidly, to top-down commands.

“There was very much a command and control.” (NOS 008)

Whilst these directives were reportedly clear, they were also very changeable, so staff were reacting to directives on a weekly basis. Interviewees recognised the need for this top-down decision-making process, and some liked the speed and efficiency with which many decisions were now being taken; historic obstacles and bureaucracy were seen to melt away:

“I think that the [decision making] processes were significantly reduced and things where we’d have had to have a business case for various things are just done because it’s the right thing to do.” (NE 006)

Comments were made about the usual frustrations associated with decision making (particularly around spending), and that this experience had highlighted the opportunity to change this. One interviewee in NENC South, for example, talked about how the tight control over budgets in the short-term had previously prevented strategic changes from being implemented if there was an immediate cost involved, even if those changes would improve efficiencies and/or save money in the longer term. In the interviewee’s words:

“... that’s where you struggle as a clinician trying to do a management role; you’ve got to rob Peter to pay Paul ... no-one can see the bigger picture and I think that’s the problem is that it’s a four-year cycle isn’t it? Although there’s a ten-year plan, it’s really a government four-year cycle. I’ve realised that. So I think that’s hopefully they will see how much money they have saved in the changing the way that they work, even though they’ve spent a lot of money, you know, on other things” (NE 006)

However, other interviewees were uncomfortable with this top-down decision making. One GP in NENC South in particular expressed concern about the governance of these quickly made decisions

and felt she and her colleague should have been included/consulted on the decision for example to integrate retired GPs in NHS111, which she felt was not managed well.

As time went on, some element of local 'common sense' was employed in the response to central directives, and several interviewees justified the finding of some 'leeway' and "doing what we thought was the right thing to do" (NOS 010). For example, clinicians found ways, if they had the time, to carry on with some routine work. Several NOS interviewees described the risk assessment processes they used to determine what was or wasn't 'urgent' and which cases needed to be seen face-to-face and which were appropriate for either telephone or Near Me consultations. In the NOS CAMHS in-patient unit, staff argued at the early stage of the pandemic for some limited and carefully controlled visiting for young mental health in-patients. In one NOS Board, where the central directive was that all NHS staff should come into work, one interviewee described a bottom-up response of flexible and remote working that went "under the radar".

Some participants noted that there was a positive change in the decision-making processes such that the voices of frontline staff were heard and listened to in a way that did not usually happen.

"I really liked it because normally what would happen is that someone somewhere on the top of the management thinks that this needs to be improved, they come with some sort of ideal approaches, and this is kind of implemented in the department without even discussing with people who are supposed to follow them. So, and that has changed during Covid because, I think partially because the high, like top managers can't really understand everything that's going on in the frontline, so they actually had to listen, they needed the clinicians to actually help to find the solutions. So that was very good and I'm hoping this trend will continue, because that was amazing, that was a great transformation of the whole hospital or Trust, if you want." (NE 007)

"Before, even just, doing something online you had to ask for permission. There was all this red tape around everything and all of a sudden, things were opened up. You know what I think has been really good, it has allowed people to be creative. All of a sudden you were getting permission and the red tape was taken away." (NOS 009)

However, in general, child health service staff felt 'side-lined' or overlooked during what was essentially an adult pandemic. This prompted some defensiveness and some determined action in order to protect staff and make bottom-up decisions related to child health services.

At a clinical level, one interviewee (NOS 001) talked about the many ethical dilemmas clinicians were faced with in terms of balancing different risks and benefits. This same interviewee mentioned advice given by unions to support their decision making. Later in the pandemic response, ethical groups were established by Boards in NOS to support clinicians in resolving some of these dilemmas.

What were the barriers and enablers to change?

In both regions, the most mentioned barrier/enabler to rapid change was technology and software. Some staff talked enthusiastically about the increased availability of laptops, mobile phones and VPN tokens (to enable off-site log-in), the roll-out of Microsoft Teams and the rapid uptake of 'Near Me'/Attend Anywhere which enabled remote working and remote consultations to become the default. However, there were some staff who were still left behind. In NHS Grampian, an AHP explained that in their team of 5, they have 2 laptops. This had a "huge impact on our service delivery". In NHS Highland, one interviewee explained that CAMHS staff still did not have their own NHS mobile phones or laptops. In fact, during the response those who did have them "were told to surrender them so that they could be reallocated to people whose need was judged to be the highest" (NOS 011).

It was notable that several interviewees (including community staff from the Highlands and Islands) reported having asked for equipment like laptops and mobile phones to facilitate remote working for a long time, without them ever materialising.

“I could ask for IT equipment because all of a sudden people had to make it available. The Board had to say actually ‘Yes, you do need to get people working from home. Here you go have a few laptops’. Before that it would be like pulling teeth.” (NOS 009)

“The kit I needed was a mobile phone, a laptop and PPE. I had all of that within a couple of days.” (NOS 011)

“Even just having laptops, we didn’t have them, and we didn’t feel we were going to get them and ... suddenly all of these were purchased. We now all have dedicated laptops which has made an enormous difference.” (NOS 013)

“Things just sort of appeared like your Attend Anywhere ... rather than having to fight to get them. So yeah, I think that the processes were significantly reduced.” (NE 006)

Digital readiness was perceived as an enabling factor and some participants shared that they felt the initial transition to moving virtually was significantly eased by their efforts in this arena prior to the pandemic. For example, one participant described that their Trust had gone paperless in the previous year (NE 001). Remote and patient/parent self-management was further enabled by the ability (through Government COVID-19 funds) to purchase additional specialised equipment for example to monitor lung function, and other equipment to support families at home (such as thermometers and pulse oximeters). Other changes mentioned as enablers included the opening up of TURAS to social care and education as well as health care professionals, and advances in Trak Care. In Highland and in Orkney, the lack of electronic notes was described as a significant barrier and as a key concern related to working from home and governance.

Limitations in technology/software availability, functionality and quality were mentioned as significant barriers. In Shetland, the fact that the Education Department did not use Microsoft Teams was cited as a barrier to integrated working. In Orkney too, poor communication between education and NHS was mentioned as a barrier. Finding appropriate spaces in which to have remote consultations was difficult in the context of changed workplaces; spaces were not always conducive to using technology or appropriate for maintaining confidentiality with service users.

Interviewees in both regions talked about limitations to phone and video consultations, particularly noting poor signal strength and difficulties connecting, but also lamenting the loss of face-to-face contact and the lack of enjoyment for staff. However, even where face-to-face interaction could occur, staff noted that face masks and other PPE could be a significant barrier to communication. One participant in CAMHS also questioned whether the wearing of face coverings could impact on young children’s development (NE 016). The issue of safeguarding children in communication via technology was mentioned as an important barrier to adopting this change, with difficulties for instance in ensuring young people were either properly supported or given the privacy to speak openly with a professional.

“I think one of the challenges has been that, particularly children, obviously it isn’t the child on the phone, it’s the parent. And sometimes, seeing the child can give you a slightly different impression to hearing the account from the parent.” (NE 009)

“There’s a reduction in facial expression that can be seen, so, again, that distance is, which is, which is a downside. Erm... and, so I’d say that the, and the same for communicating with

colleagues, especially if you're in full PPE, that makes communication difficult because you have to shout through these masks, you're wearing visors, er... you get less cues, so you have to be really alert in communicating with each other." (NE 012)

Communication with other services and colleagues was generally seen as either an enabler, or as a barrier which could lead to difficult processes resulting in lack of integration, impacting on service users, as this interviewee explains:

"I only needed to refer one child to outpatients, and that was a really difficult process, it didn't go very well, child ended up at the wrong place so we basically, I ended up managing the child myself in the community without sending them, and it all worked out very well but we found it very difficult because obviously there was hot sites, cold sites, nobody quite knew what was happening, we didn't really get any feedback from the secondary care to tell us where to send people, so from a primary care point of view it was quite difficult." (NE 010)

In Highland, a paediatrician described one systemic barrier as being the fact that child protection nurse advisors are employed by the Council as opposed to the Health Board, which consequently limits their access to health information. This was a barrier that was well known, but COVID-19 emphasised how important it was that these nurses were still able to access the relevant information.

Several interviewees highlighted the support provided by members of the armed forces and the influence of their very different approach to making change happen. For example, NOS 004 commented that it was really interesting to see the very 'goal-focused' way of working of the two senior officers in the royal logistics core. This enabled them to achieve change (particularly with regards to re-arranging the entire footprint of the hospital) that they didn't think was possible.

The resilience of staff and their flexibility and ability to adapt to change was described as a really important enabler. There were many examples of staff 'going above and beyond', including NHS staff in their own teams, other services or the third sector organisations. However, not all staff responded in the same way. Four interviewees in Scotland described both personal and 'cultural' barriers in terms of personal unwillingness to change, old-fashioned medical beliefs, and inability to conceptualise something different.

A number of interviewees in NENC (and the meeting minutes) mentioned the initial lack of PPE as well as lack of, or concern about, equipment such as drug supply, oxygen and ventilators.

What have we learned?

New ways of doing

There were rapid changes in the ways individuals communicated with each other, and in the ways practitioners consulted with their service users. Some of this involved using technology that people had not used before. Clinical consultations were increasingly offered in a new flexible and hybrid way, sometimes taking a form of escalation with the consultation starting by phone, then possibly leading to a virtual consultation (on Near Me/Attend Anywhere), then where necessary leading to a face-to-face consultation. Factors influencing this hybrid approach included not just clinical need (i.e. whether or not a physical examination or face-to-face discussion was important), but also the service users' preferences and the type of conversation being had. Some conversations, for example, were deemed too tricky or sensitive to be had in any mode other than face-to-face. For many cases though, this represented a new type of triaging so that no-one walked into a care environment (particularly in an acute setting), without having had a remote clinical assessment beforehand. This was sometimes practiced before COVID-19 but was certainly accelerated during the period of the pandemic response.

Perspectives from interviewees regarding the digital solutions have been largely positive, which is reflected in the existing literature where it is described how prior scepticism among some practitioners has been shifted by their experience in the pandemic (Lewis *et al.*, 2020; Powis and Hassell, 2020). However, the webinar discussion prompted an important discussion about the limitations of online consultations, including the issues of privacy and CYP/family preferences, as well as issues with the 'digital divide' (People's Health Trust, 2021). This highlighted that there is much we don't know about, in terms of potentially unequal benefits and unintended consequences.

Practitioners were also communicating and working with each *other* in different ways. The rapid roll-out of Microsoft Teams meant that many meetings moved online. This in turn affected participation, with some people much more able/likely to attend remote meetings. This can particularly influence the ability to network and communicate outside of the practitioner's local area. It also affected the way in which some work was done, since an online meeting does not mimic an in-person meeting; there may be subtly different rules and conventions, and different tolerance for longer or less-focused meetings. New ways of communicating also extended to other aspects of information sharing and working together, for example with some traditional processes (e.g., the dictation of letters) changed, and with joint working (e.g., on a policy) improved through easier file sharing within Teams. This finding is in line with a report from The Health Foundation which reviewed changes to service delivery in COVID-19 and discussed how digitization offered many benefits to GPs, including the ability to share documents safely with service users (Lewis *et al.*, 2020) and acceleration of Electronic Prescribing Services in General practice (Powis and Hassell, 2020).

Alongside the changes in ways of communicating was a shift towards the promotion of self-care. New ways of doing this were identified, for example through social media, training videos, and podcasts. This represented a shift in the balance of care towards parents/carers, who were sometimes asked to take on additional roles, such as monitoring conditions at home using new technology. This patient-supported self-care and empowerment of service users was also described in a brief preliminary report of a survey with 1600 frontline healthcare professionals (Powis and Hassell, 2020) and in the Health Foundation report. The Health Foundation report highlighted that digital solutions could be convenient as well as empowering for service users, although the report also highlighted the importance of ensuring options for service users who do not believe digital consultations are appropriate to them (Lewis *et al.*, 2020).

The use of a hybrid approach to communication/consultation can certainly offer benefits to the service user, the practitioner and the system as a whole. It is more efficient, cost-effective and more environmentally friendly, for example, to have fewer people being asked to travel for conversations that could be had remotely – especially within a remote and rural geography where the distances people travel for services is considerable and where public transport is limited. It may also suit service users' preferences, particularly if they would otherwise have to travel and potentially wait around for long periods of time with small children. There are instances where it might be beneficial from a clinical point of view too; for example, some service users might feel more comfortable opening up to a practitioner when they're in a familiar setting. And there are potential knock-on effects in terms of reduced call on limited clinical assessment space, fewer DNAs (Did Not Attend), and more rapid progression through a patient list. However, we know that these benefits cannot be assumed and are not universally felt. Concerns around digital exclusion and the potential increase in inequalities have been raised in the literature (e.g., Watts, 2020; Lewis *et al.*, 2020). There are also potential costs, particularly where the technology is unreliable (which would quickly lead to frustration and wasted time), and in terms of the quality of conversations and relationships which are hard to match using remote rather than face-to-face methods. Linked to this is a potential decrease in quality of working-

life for practitioners, spending increasing amounts of time on a screen and not interacting face-to-face with their patients and/or colleagues. This was a prominent theme in the webinar discussion and is supported in the Health Foundation report (Lewis *et al.*, 2020).

New ways of organising

The pandemic response saw considerable flexibility introduced to ways of organising. Staff were deployed and tasked in different, more fluid and more flexible ways. Some staff were moved to undertake very different roles. Some stayed where they were but took on the roles of others who were either off sick, shielding or had been redeployed. They sometimes organised their day differently, or worked different hours, particularly to accommodate different ways of working, or to minimise the risk of spreading or catching COVID-19. Teams were sometimes organised differently, for example to make best use of clinical staff who were shielding, or to work more closely alongside or to support other teams, either in the same or in different organisations. Given the rapid change in the situation and resulting directives 'from above', individuals and teams needed to be very agile as well as flexible.

There is a sense that the meta-system (or the systemic level above the team/unit/organisation) became more in focus during the pandemic response: individuals and teams were galvanised around a more pressing shared purpose (to contain the spread of the virus) and so were thinking about capacity and need across entire organisations, and across localities and regions, rather than within their own usual silo. People expressed this in terms of 'pulling together', and numerous examples of collaboration, shared learning and mutual support illustrated this in practice. Some individuals 'stepped up', perhaps attending strategic meetings they didn't previously attend, or getting involved in decision making in a new or different way, giving them insights into the meta-system that they might not have had before. It was clear that, for a while at least, there were fewer barriers to getting the support required within other systems/support structures, such as IT, human resources and finance.

There is no doubt that governance altered during the response; many rules and norms were changed, new processes and systems were created 'on the hoof', accountabilities shifted. In some cases, this was a refreshing experience for staff – they saw change happen much more quickly than usual. However, others pointed to what was missing, particularly in terms of involvement, consultation and nuanced decision making. This new empowering 'bottom-up' way of working, which meant a culture shift and relief of 'bureaucratic barriers' was also found in the literature. For example, the Health Foundation report discussed the same 'can do' attitude as described here, as well as a breaking through of what was sometimes described "organisational inertia" (Lewis *et al.*, 2020).

New ways of relating

The pandemic response altered social relationships in a number of ways. As discussed above, many people were relating more across a 'whole system', blurring traditional divisional boundaries, optimising relationships and making new connections. Some of the innovations that emerged reflected this understanding of the interdependent relationships between different teams/parts of the system, and what can be done in one part, for example, to relieve pressure in another. This new way of relating and an acceleration in collaborative and integrated methods of working is supported by the existing literature. Participants in the webinar said they wanted to retain this new way of relating to others; however, the Health Foundation Report highlights that more work remains to be done in order to sustain this change (Lewis *et al.*, 2020; Powis and Hassell, 2020).

Relationships between colleagues and service users inevitably shifted as a consequence of new ways of doing and new ways of organising. There were considerable barriers introduced in the forms of PPE and technology, but at the same time a new and potentially helpful sense of informality, and greater

accessibility for many. There was, for some, a shift in the balance of responsibility (e.g. from practitioners to parents/carers), but with that came new ways of relating, perhaps with additional support being offered and parents/carers and practitioners working together in different ways.

Relationships certainly provided the energy required to keep going through a very stressful period of time. Maintaining and developing these relationships online was more challenging than face-to-face, and the findings highlighted the importance of regular, frequent meetings and quick check-ins. Practitioners, like the general public, were innovative in the way they used a variety of platforms to attempt to replicate the informal social interaction they would have had prior to the pandemic.

New ways of framing

It was clear in the conversations with practitioners that challenging situations were framed as opportunities for change. There was a remarkable positivity coming through the findings, despite the stress and anxiety many staff were feeling. A notable opportunity was in challenging pre-existing mindsets and 'normal' ways of doing things. For some, the focus on 'the way we have always worked' was shifted. This then allowed people to review services and ways of working through a new lens and allowed interviewees to see pre-existing problems more clearly. The data highlighted that some priorities changed, not just because of the changing situation, but also because of the changing perspectives on the situation. Some staff, for example, thought about how to use their time differently, and had a renewed sense of how to approach the future. The dynamic atmosphere created during the pandemic response, which seemed to allow a focus on doing and removed some of the traditional bureaucratic barriers, was something that practitioners wanted to retain. It encompassed a new-found trust and provided a degree of freedom to work in different ways, which was empowering – particularly to interviewees in NENC. This culture shift and empowerment of staff was also reported by the NHS (Powis and Hassell, 2020) and incorporated in the developing 'People Plan' (NHS England, 2020). As noted in Lewis et al. (2020), NHS staff are sometimes portrayed as being 'the stumbling block to change'; the pandemic response has helped to demonstrate that they can indeed lead radical change, if they are trusted and empowered to do so. In the webinar discussion, however, participants shared that they believed systemic barriers were already re-appearing and that the 'honeymoon' was over.

New ways of knowing

Through new ways of relating, doing and organising, practitioners made new discoveries and gained new insights. Given the novelty of the virus, and the rapidly changing situation, they had to face up to some important unknowns which sometimes sat uncomfortably with their position as evidence-based professionals. In a practical sense, practitioners have learned a great deal about what can and can't be done well via phone or video consultation. Some of this has challenged their expectations and prior assumptions, which was also found in other studies (Lewis *et al.*, 2020). For example, some difficult conversations *can* take place just as effectively on a screen. Some individuals engage *better* with certain services when it is delivered remotely. It has also highlighted areas where further inquiry is needed, for example in relation to ensuring (remote) consultation spaces are safe, suitable and confidential for the service user. Video consultation technology is now both more widely available, and more widely accepted by professionals and public (thanks to enforced use). However, we know from our findings that there is a cost to working this way, in terms of staff morale and wellbeing, and possibly in terms of staff/service-user relationships.

Practitioners also know more, as a result of this experience, about what is/isn't possible more generally. Some decisions or approaches were noted to be counter-intuitive in hindsight. For example, whilst it seemed obvious at the start to strengthen and protect acute and adult services, the

importance of building and sustaining community and child services became clear later. A complementary study exploring social innovations within the families of unwell children might identify further valuable new ways of doing, organising, relating, framing and knowing.

Conclusion

In both the North of Scotland and North East and North Cumbria, child health services were facing significant challenges prior to the pandemic. Service providers will now face the added pressure of catching up on services that were paused or hindered by the pandemic response, and of supporting a potentially increased burden of (particularly mental) ill-health related directly or indirectly to COVID-19. Innovations highlighted in this report and elsewhere, particularly in relation to using remote and digital technologies, more flexible working, and pro-actively supporting self-care and self-management, might offer considerable value in meeting that challenge.

In the North of Scotland in particular, where practitioners are often isolated and where distances from services can be considerable, the roll-out of technology required and the new learning developed in relation to delivering services and clinician support remotely is of great importance. More isolated staff have much to gain from being more digitally connected to others outside of their area. Similarly, the whole system has much to gain from the new ways of supporting patient/family self-management that we have seen emerge during the COVID-19 response.

In both regions, the emphasis on collaboration and integrated ways of working, the pooling of resources, the greater flexibility in staff roles and the cross-fertilisation of ideas seen during the pandemic response can help to deliver more effective, efficient and sustainable services. The changes we evidenced in this report illustrated the start of a potential move to more whole systems approaches. However, our webinar discussion highlighted the considerable challenges practitioners face in maintaining some of these new ways of working beyond the crisis period.

The new values and cultural shift that were seen to emerge, and the dynamic environment that created and supported opportunities for change, were especially valued by staff in the North East and North Cumbria. Decision making was felt to be more inclusive, practitioners felt trusted in new ways and pre-existing barriers to change were removed. This enabled the flexibility, agility and collaboration seen during the pandemic response, which was empowering and positive for staff. The new level of trust, freedom and space to innovate would be valuable to sustain in the future.

This report has highlighted important changes in child health services in North of Scotland and North East and North Cumbria that have been accelerated by the COVID-19 response. Sustaining the positive impacts of these changes to benefit patient outcomes, service delivery, and staff will be vital for a healthier, more sustainable future.

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