

## INTEGRATED CARE Back to the future? Lessons from the history of integrated child health services in England

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### ABSTRACT

The UK has a long history of attempts to integrate child health services to improve outcomes, an ambition renewed in the recent *The NHS Long Term Plan*. It's therefore timely to review the history of integration to inform future initiatives. Key milestones include the Platt report (1959), Court report (1976), Sure Start (1999), *National service framework* (2004) and *Facing the future* report (2015). These stand against a backdrop of national NHS policy changes, with a myriad of local integration initiatives and research efforts in parallel.

We suggest lessons for future integration initiatives: integration may support the quadruple aim; integration depends on addressing divides between primary and secondary care; workforce and funding challenges need to be resolved before integration can thrive; high-quality research and evaluation of integrated interventions is required; strong relationships between professional groups are key to integration; and integration can help address health inequalities.

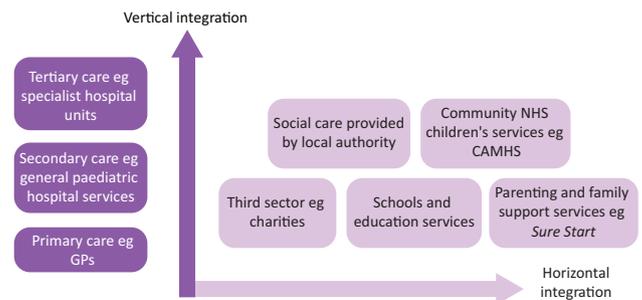
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### Introduction

The UK has relatively poor child health outcomes compared with other high-income countries, and integration of health services for children and young people (CYP) has been proposed as part of the solution.<sup>1,2</sup> Vertical integration occurs when providers in the same sector but at different levels, such as primary and secondary healthcare, jointly deliver services.<sup>3</sup> Horizontal integration happens when providers in different sectors but at the same level work closely together, such as community NHS and social care services (Fig 1).<sup>3</sup> The healthcare landscape for CYP in England is complex,

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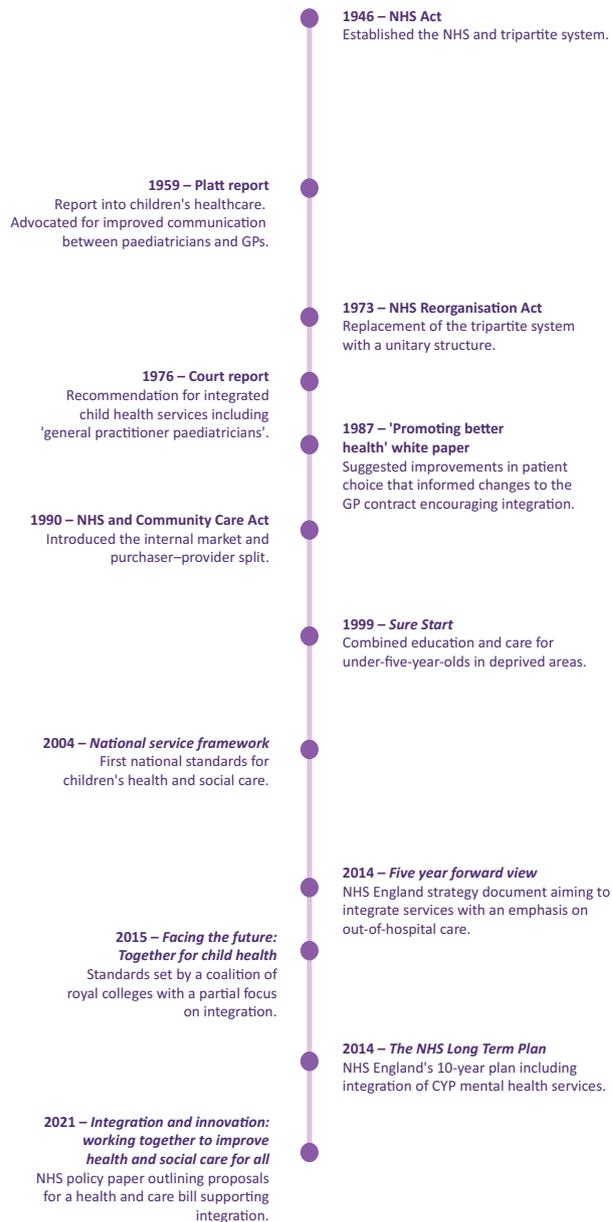


**Fig 1. Vertical and horizontal paediatric integration.** CAMHS = Child and Adolescent Mental Health Services.

but key providers include the general practice multidisciplinary team in primary care; hospital-based paediatricians and associated professionals in secondary care; and community paediatricians based outside the hospital, who work with colleagues to provide specialised care for children with issues such as disabilities and complex health needs. There is a long history of efforts to integrate child health services in England (Fig 2), and the NHS recently articulated a renewed desire for this.<sup>4</sup> It is therefore timely to review the history of integrated care and draw lessons to inform future initiatives.

### Tracing the history of integrated child health services

The 1946 National Health Service Act established a tripartite system, with three parts managed separately: hospitals; primary care providers, such as general practitioners (GPs); and local authorities providing services including immunisations and maternity care.<sup>5,6</sup> This led to a void of communication between hospital and community services, resulting in pressure to unify the structure catalysed by the belief that community-based care could be cheaper in the face of escalating costs.<sup>7–9</sup> In parallel, the 1959 Platt report into children's healthcare advocated for improved communication between paediatricians and GPs and was supportive of services caring for sick children at home.<sup>10</sup> Following this, the 1962 Porritt report recommended unifying services under local 'Area Health Boards'.<sup>11</sup> This created momentum culminating in the 1973 NHS Reorganisation Act, which integrated the tripartite structures into unitary regional health authorities.<sup>12</sup> This was broadly viewed as unsuccessful and responsible for a



**Fig 2. Timeline of milestones in paediatric integration.** CYP = children and young people.

decline in public health and community services.<sup>13</sup> However, it created the opportunity to review child health services, resulting in the 1976 Court report. This recommended the development of an integrated child health service, staffed by community paediatricians and new 'general practitioner paediatricians': GPs partly specialising in paediatrics.<sup>14</sup> While other recommendations were successful, such as integrating child psychiatry services, the main call for an integrated child health service wasn't delivered. This was due to the cost of reorganising the system and differences within and between professional groups resulting in a lack of consensus about the best approach.<sup>14</sup> However, there

were concurrent examples of local progress in integration, such as an initiative in Sheffield that reduced hospital visits and was particularly effective in deprived areas.<sup>15</sup>

Attempts to improve coordination continued with the 1981 Acheson report on primary care in London, requiring hospital reconfiguration to take primary care into account.<sup>16</sup> Subsequently, the 1990 GP contract expanded the scope of general practice, creating more fertile ground for the integration of child health services. The 1990 National Health Service and Community Care Act was the next wholesale reorganisation, introducing the internal market and purchaser-provider split, with the establishment of GP fundholders offering the chance to create more unified hospital and community paediatric services.<sup>14,17</sup> However, this did not materialise as the legislation's competitive philosophy encouraged community providers to become separate trusts, fearing asset-stripping if merged with hospitals.<sup>18</sup> This led to 'unseemly rivalry between trusts who should be cooperating'.<sup>14</sup>

The Health Act 1999 heralded a shift from competition to collaboration.<sup>19</sup> The act also supported horizontal integration between the NHS and social care through pooled budgets and joint delivery of services. Horizontal integration gained further momentum with *Sure Start*, which combined 'education and care for the under-fives' in deprived areas by providing services across schools, local authorities and voluntary groups.<sup>20</sup> The initiative was supported by the 1998 Acheson *Independent inquiry into inequalities in health*, highlighting how child health was shaped by socioeconomic factors.<sup>21</sup>

In 2004, the Department of Health published the first national standards for children's care, the *National service framework (NSF)*.<sup>22</sup> The NSF aimed to change NHS culture to recognise that children have unique needs requiring bespoke services.<sup>23</sup> Integration was part of this, with a commitment to 'high quality services which are co-ordinated around [the individual]'.<sup>22</sup> The subsequent development of children's trusts by local authorities offered a path to this by aiming to integrate local health, social care and education services.<sup>24</sup> Two-thirds of trusts achieved integration by pooling budgets at least partially.<sup>24</sup>

In 2007, Lord Darzi's report, *Healthcare for London: A framework for action*, was published emphasising that patients should be cared for as close to home if possible, reflecting later research that children and families supported this.<sup>25,26</sup>

The government's 2012 Health and Social Care Act introduced strategic clinical networks working across commissioners, providers and voluntary organisations, but also concerns about service fragmentation due to market liberalisation and commissioning changes.<sup>27,28</sup> 2014 saw the introduction of personal health budgets, giving CYP with complex needs more choice about how to use funding to support their health and wellbeing.<sup>29</sup> The initiative also contained a duty for clinical commissioning groups and local authorities to work together to develop services for children with special educational needs or disability, thus facilitating horizontal integration.<sup>30</sup> The *Five year forward view*, a landmark NHS strategy document also released in 2014, changed the tone to focus on integration and collaboration, envisioning more out-of-hospital child healthcare and primary-secondary integration.<sup>31</sup> This was reinforced by *Facing the future: Together for child health*, a report by a coalition of royal colleges in 2015 that included aspirational standards, such as immediate telephone access for GPs to paediatricians, which research has shown can reduce hospital referrals.<sup>32,33</sup>

Parallel to formal policies, local initiatives and research continued. In north-west London, Connecting Care for Children hubs, where paediatricians run joint clinics with GPs, led to positive outcomes including up to 39% fewer new hospital appointments.<sup>34</sup> Similar services were subsequently developed nationally in areas including Birmingham, Leeds and Newcastle.<sup>35</sup> In south London, the Children and Young People's Health Partnership (CYPHP) was developed. This is a 'clinical academic partnership for health system strengthening' that aims to foster collaboration between organisations across the healthcare system to deliver co-produced, patient-centred care to CYP closer to their homes, as well as delivering health promotion with the aim of preventing illness.<sup>36</sup> Early outcomes were promising, suggesting reduced emergency department attendances with accompanying cost savings, and empowerment of families.<sup>36</sup> Additionally, a training initiative in north, west and south London placing GP and paediatric registrars in 'learning together clinics' improved trainee experience and reduced hospital utilisation.<sup>37</sup>

The 2019 *The NHS Long Term Plan* reaffirmed the commitment to vertical and horizontal integration of CYP services.<sup>4</sup> This included a new cross-sector model for CYP mental health services, taking inspiration from the i-THRIVE programme. i-THRIVE uses a needs-led approach to provide mental healthcare to CYP and their families, grouping patients into five categories and emphasising shared decision making and prevention.<sup>38</sup> Initial qualitative evaluation was generally positive, although it did highlight challenges relating to funding and collaboration between organisations.<sup>39</sup> *The NHS Long Term Plan* also described a desire for greater integration between health services, local authorities and the Department for Education to support children with learning disabilities and autism.<sup>4</sup> Most recently, the *Integration and innovation* white paper proposed new laws to support integration by reducing competition and increasing local autonomy.<sup>40</sup>

## Lessons from the past

There are several lessons from the history of integrated child health services. The first is that integration generally appears to deliver positive outcomes for patients, staff and the wider system, and therefore helps to deliver the quadruple aim of better health outcomes, improved patient experience, improved staff experience and lower costs. Patients and families are satisfied with integrated child health services, with satisfaction stemming from seeing a specialist closer to home, better communication between clinicians, being seen in a familiar environment and improved quality of life.<sup>2,15,34,41</sup> Professional satisfaction relates to strengthening relationships between clinicians, increased access to specialist support and mutual education.<sup>15,34</sup> System benefits include decreased secondary care utilisation, fewer diagnostic tests and decreased costs, although one meta-analysis of integrated care for CYP did not find a reduction in emergency department visits specifically.<sup>2,15,34,37,42</sup> These benefits are generally echoed by the literature on integrated care for adults, except for costs that are increased.<sup>37,43,44,45</sup> However, it should be noted that integrated child health research is not always of high quality, and so we cannot be more than tentatively certain of these conclusions. We discuss this issue in more detail later.

The second lesson is that the ongoing organisational and cultural divide between primary and secondary care impedes integration. The organisational divide was illustrated by failed

integration attempts following the 1990 purchaser-provider split because purchasers, often GP fundholders, feared that community services would be diminished if integrated with hospitals.<sup>18</sup> The cultural divide was exemplified by GP resistance to Court's proposal for GP paediatricians (GPPs) due to concerns that it might dilute their commitment to generalist care of the whole family.<sup>14</sup> Moreover, some paediatricians have reported reservations about community working, due to loss of 'prestige' of being in a hospital, as well as more practical misgivings about a 'lack of specialist equipment and facilities' in the community and the risk involved with community care.<sup>26,46</sup> In contrast, others preferred the 'more peaceful' environment of community clinics.<sup>26</sup>

The third is about the human and financial resources needed to initiate and sustain integrated services. Such services are often driven by individual champions, but their sustainability is vulnerable to wider factors, such as funding and workforce pressures.<sup>26</sup> For example, a 2017 audit of the *Facing the future* report recommendations found that, during peak hours, there weren't enough consultant paediatricians for hospital services, let alone community integration, and 80% of GP telephone hotlines were unfunded.<sup>47</sup> Meaningful integration is likely to remain aspirational until structural organisational and financial issues are addressed.<sup>48</sup>

Fourth, a consistent, long-term approach to research and evaluation of integrated interventions is needed to support improvement and enhance credibility. Current evidence is largely supportive but is primarily observational, small scale and of variable quality, limiting reliability.<sup>2</sup> Researching integrated care is challenging due to the heterogeneity of interventions and outcomes, and the multitude of confounding factors. The use of logic models and robust theoretical frameworks can partially mitigate this, but isn't common.<sup>2</sup> However, well-designed studies using robust methods, such as cluster randomised controlled trial and systematic review, are currently underway and should provide more definitive evidence.<sup>49,50</sup> A planned process evaluation to accompany one of these studies may also offer valuable insights for future interventions about the practical implementation of integrated care for CYP.<sup>51</sup>

The fifth lesson is that effective integration depends on strong relationships and trust between professional groups.<sup>15,46</sup> For example, case studies of integration of community children's nurses with urgent care found that success was predicated on trust between professionals.<sup>52</sup> Strong professional relationships encompass both formal interactions and informal contact, such as ad hoc communication via telephone or email, with both supporting integration.<sup>15</sup> Nurturing relationships requires collaborative service models that draw on the respective strengths of hospital and community care, not 'drag and drop' replicas of hospital clinics in the community.<sup>26</sup>

Finally, integration may be particularly effective in deprived areas by enhancing access for underserved populations, primarily through outreach clinics that bring paediatricians closer to deprived communities, reducing travel time and cost for patients.<sup>15,42</sup> This finding is also supported by research in adult integrated care.<sup>43,44</sup> In an era of widening health inequalities where the 'inverse care law' still rings true, integration may be a powerful tool to address the gap.<sup>53,54</sup> However, this requires a deliberate focus on integration of services in deprived areas, and not just of high-performing services that are early adopters, regardless of location.

## The future of integrated child health services

These lessons are pertinent during this time of rapid evolution for the NHS, driven by internal factors (such as policy shifts towards integration) and external factors (such as COVID-19).

In terms of the organisational divide between primary and secondary care, the NHS is attempting to address adversarial contracting relationships by making providers financially co-dependent within integrated care systems.<sup>55</sup> Primary care networks, another recent innovation that groups practices together to care for 30,000–50,000 patients, may have the scale to make a role analogous to Court's GPPs feasible.<sup>56</sup> This could be delivered via the Royal College of General Practitioners' recent 'general practitioner with extended role' framework.<sup>57</sup>

Workforce challenges in paediatrics and general practice remain deep seated.<sup>58,59</sup> Increasing digitisation, catalysed by the COVID-19 pandemic, may provide a partial solution by making participation for professionals in integrated services more efficient by eliminating travel time. Technology may also facilitate more interaction between primary and secondary care, avoiding the scenario of integrated care simply being 'drag and drop' of existing secondary care clinics. For example, technology may allow delivery of virtual clinics; rapid collaboration between professionals via email, phone or the e-referral system; easy participation in virtual multidisciplinary team meetings; and collaborative case finding via population level data streams such as the Whole Systems Integrated Care (WSIC) platform in north-west London.<sup>60</sup> However, efficiency gains from technology will be incremental, and no substitute for addressing the systemic workforce shortages described earlier.

More broadly, integrated care is key to ensuring that CYP services are responsive to the needs of modern children. In the post-war period, efforts in child health focused largely on community prevention (such as undernutrition, dentistry and immunisation) or acute illness (such as infection or trauma). However, as environmental factors have evolved and medical advances have delivered longer lifespans for children with complex illnesses, the system now needs to respond to the needs of children with long-term conditions such as mental illness, obesity and chronic disease. This demands a vertically and horizontally integrated response. Concurrently, there is regression or stagnation in important areas relating to the social determinants of health, such as immunisation rates and dental health.<sup>61,62</sup> There is increasing belief that it is no longer sufficient to simply highlight and attempt to mitigate these causes, but that the system needs to holistically address the social determinants. The social paediatrics approach, where the child is viewed within their social context and collaboration facilitates care, has much to offer.<sup>63</sup> Embedding this philosophy within an integrated system that uses population-level data streams shared between providers may be an important approach to addressing the aforesaid challenges.<sup>63</sup>

## Conclusion

Integrated care for CYP in England has progressed in fits and starts over the last 70 years. Although improvements have been made, the picture is of oscillation between periods of advancement and stagnation, illustrated by Spencer's 1993 quote 'integration is on everybody's lips' that sounds eerily familiar decades later.<sup>15</sup> Recent policy shifts have created fertile ground for integration, but fully capitalising on this opportunity will require us to draw on

the lessons of history to ensure that we make the most of scarce resources to deliver better healthcare for our children. ■

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## References

- 1 Maile EJ, Hargreaves DS. The UK's global standing in child and young people's health and how GPs can help. *Br J Gen Pract* 2020;70:156–7.
- 2 Wolfe I, Satherley RM, Scotney E et al. Integrated care models and child health: a meta-analysis. *Pediatrics* 2020;145:e20183747.
- 3 Wolfe I, Mandeville K, Harrison K et al. Child survival in England: Strengthening governance for health. *Health Policy* 2017;121:1131–8.
- 4 NHS England. *The NHS Long Term Plan*. NHS, 2019.
- 5 *National Health Service Act 1946* (UK).
- 6 Cabinet Papers. *Origins of the NHS*. The National Archives. www.nationalarchives.gov.uk/cabinetpapers/alevelstudies/origins-nhs.htm [Accessed 16 December 2020].
- 7 Begley P, Sheard S, McKinsey and the 'Tripartite monster': The role of management consultants in the 1974 NHS reorganisation. *Medical History* 2019;63:390–410.
- 8 Brown RGS. *Reorganizing the National Health Service: Case Study of Administrative Change*. Wiley-Blackwell, 1979.
- 9 Battistella RM, Chester TE. Reorganization of the National Health Service: background and issues in England's quest for a comprehensive integrated planning and delivery system. *Milbank Q*. 1973;51:489–530.
- 10 Platt H. The welfare of children in hospital. *Br Med J* 1959;1:166–9.
- 11 The Health Foundation. *The Porritt Review*. The Health Foundation, 1962. <https://navigator.health.org.uk/theme/porritt-review> [Accessed 8 February 2021].
- 12 *National Health Service Reorganisation Act 1973* (UK).
- 13 UK Parliament. *Child Health Services*. UK Parliament, 1977. <https://hansard.parliament.uk/Lords/1977-02-16/debates/e82b04d2-3c2c-495f-a199-2df2998c29f8/ChildHealthServices?highlight=donald+court+fit+future#contribution-9e0b528d-6ead-473f-a456-bbc0221498f1> [Accessed 3 September 2020].
- 14 Hall DMB. Are we 'Fit for the future' now? *Arch Dis Child* 1996;75:534–8.
- 15 Spencer NJ. Consultant paediatric outreach clinics—a practical step in integration. *Arch Dis Child* 1993;68:496–500.
- 16 Nuffield Trust. *Health & social care explained: NHS reform timeline*. Nuffield Trust, 2019. www.nuffieldtrust.org.uk/health-and-social-care-explained/nhs-reform-timeline [Accessed 08 February 2021].
- 17 *National Health Service and Community Care Act 1990* (UK).
- 18 Greengross P, Grant K, Collini E. *The history and development of the UK National Health Service 1948 - 1999*. Department for International Development, 1999.
- 19 *Health Act 1999* (UK).
- 20 Bate A, Foster D. *SureStart (England): Briefing Paper: Number 7257*. House of Commons Library, 2017.
- 21 Department of Health and Social Care. *Independent inquiry into inequalities in health*. The Stationery Office, 1998.
- 22 Department of Health and Social Care. *National service framework for children, young people and maternity services: Core standards*. DHSC, 2004.

- 23 Lachman P, Vickers D. The national service framework for children. *Br Med J* 2004;329:693–4.
- 24 Bachmann MO, Reading R, Husbands C *et al.* What are children's trusts? Early findings from a national survey. *Child Care Health Dev* 2006;32:137–46.
- 25 Healthcare for London. *A framework for action*. NHS London, 2007.
- 26 Heath G, Cameron E, Cummins C *et al.* Paediatric 'care closer to home': Stakeholder views and barriers to implementation. *Health Place* 2012;18:1068–73.
- 27 NHS Commissioning Board. *The way forward: Strategic clinical networks*. NHS, 2012.
- 28 Ham C, Baird B, Gregory G, Jabbar J, Alderwick H. *The NHS under the coalition government: Part one: NHS reform*. The King's Fund, 2015.
- 29 NHS. *What are personal health budgets (PHBs)?* NHS. www.england.nhs.uk/personal-health-budgets/what-are-personal-health-budgets-phbs [Accessed 8 September 2021].
- 30 Department for Education, Department of Health and Social Care. *Special educational needs and disability code of practice: 0 to 25 years*. Department for Education, 2015.
- 31 NHS England. *Five year forward view*. NHS, 2014.
- 32 Royal College of Paediatrics and Child Health, Royal College of General Practitioners, Royal College of Nursing. *Facing the future: Together for child health*. RCPCH, 2015.
- 33 Watson M, Klaber R, Haynes C *et al.* Paediatric consultant GP-hotline audit. *Br J Gen Pract* 2013;63:348.
- 34 Montgomery-Taylor S, Watson M, Klaber R. Child health general practice hubs: A service evaluation. *Arch Dis Child* 2016;101:333–7.
- 35 Connecting Care for Children. *National map*. CC4C, 2020. www.cc4c.imperial.nhs.uk/our-experience/national-map [Accessed 13 September 2021].
- 36 Wolfe I, Lemer C, Heys M *et al.* G346 CYPHP Evelina London new care model to improve health, healthcare quality, and patterns of service use among children and young people. *Arch Dis Child* 2019;104:A141.
- 37 Macaulay C, Sherwood E, Riches W *et al.* G175 "learning together": do integrated child health clinics educate and improve outcomes? *Arch Dis Child* 2015;100:A74–5.
- 38 Wolpert M, Harris R, Hodges S *et al.* *THRIVE framework for system change*. CAMHS Press, 2019.
- 39 Farr J, Moore A, Bruffell H *et al.* The impact of a needs-based model of care on accessibility and quality of care within children's mental health services: A qualitative investigation of the UK i-THRIVE Programme. *Child Care Health Dev* 2021;47:442–50.
- 40 Department of Health and Social Care. *Integration and innovation: working together to improve health and social care for all*. DHSC, 2021.
- 41 Satherley RM, Lingam R, Green J *et al.* Integrated health Services for Children: a qualitative study of family perspectives. *BMC Health Serv Res* 2021;21:167.
- 42 Gruen RL, Weeramanthri TS, Knight SE *et al.* Specialist outreach clinics in primary care and rural hospital settings. *Cochrane Database Syst Rev* 2004;CD003798.
- 43 Bond M, Bowling A, Abery A *et al.* Evaluation of outreach clinics held by specialists in general practice in England. *J Epidemiol Community Health* 2000;54:149–56.
- 44 Bowling A, Bond M. A national evaluation of specialists' clinics in primary care settings. *Br J Gen Pract* 2001;51:264–9.
- 45 Powell J. Systematic review of outreach clinics in primary care in the UK. *J Health Serv Res Policy* 2002;7:177–83.
- 46 Maile EJ, Machen S, D'Lima D *et al.* G505 Vertical integration in NHS paediatric care: a qualitative exploration of barriers and enablers. *Arch Dis Child* 2020;105:A180.
- 47 Shortland D, Ashe M, Williams D. *Facing the future audit 2017*. Royal College of Paediatrics and Child Health, 2018.
- 48 Raus K, Mortier E, Eeckloo K. Challenges in turning a great idea into great health policy: the case of integrated care. *BMC Health Serv Res* 2020;20:130.
- 49 Newham JJ, Forman J, Heys M *et al.* Children and Young People's Health Partnership (CYPHP) Evelina London model of care: protocol for an opportunistic cluster randomised controlled trial (cRCT) to assess child health outcomes, healthcare quality and health service use. *BMJ Open* 2019;9:e027301.
- 50 NIHR School for Public Health Research. *Child health system evaluation project: Integrated Care Systems and Sustainability and Transformation Partnerships*. NIHR School for Public Health Research, 2020. https://sphr.nihr.ac.uk/research/child-health-system-evaluation-project-integrated-care-systems-and-sustainability-and-transformation-partnerships [Accessed 17 February 2021].
- 51 Satherley RM, Green J, Sevdalis N *et al.* The Children and Young People's Health Partnership Evelina London Model of Care: process evaluation protocol. *BMJ Open* 2019;9:e027302.
- 52 Kyle RG, Banks M, Kirk S *et al.* Integrating community children's nursing in urgent and emergency care: A qualitative comparison of two teams in North West England. *BMC Pediatr* 2012;12:101.
- 53 QualityWatch. *Quality and inequality*. Nuffield Trust, 2020. https://www.nuffieldtrust.org.uk/public/files/2020-01/quality\_inequality/v2 [Accessed 6 February 2021].
- 54 Hart JT. The inverse care law. *Lancet* 1971;297:405–12.
- 55 NHS England. *What are integrated care systems?* NHS, 2021. www.england.nhs.uk/integratedcare/integrated-care-systems/ [Accessed 8 February 2021].
- 56 NHS England. *Primary care networks*. NHS. www.england.nhs.uk/primary-care/primary-care-networks [Accessed 9 November 2020].
- 57 Royal College of General Practitioners. *RCGP framework to support the governance of General Practitioners with Extended Roles*. RCGP, 2018.
- 58 Royal College of Paediatrics and Child Health. *Shortage of consultant paediatricians in the UK*. RCPCH, 2019.
- 59 British Medical Association. *Pressures in general practice*. BMA, 2020. www.bma.org.uk/advice-and-support/nhs-delivery-and-workforce/pressures-in-general-practice [Accessed 17 February 2021].
- 60 Hassanzadeh R, Klaber R, Watson M *et al.* Data-driven, integrated primary and secondary care for children: moving from policy to practice. *J R Soc Med* 2021;114:63–8.
- 61 Royal College of Paediatrics and Child Health. *Immunisations*. RCPCH, 2020. https://stateofchildhealth.rcpch.ac.uk/evidence/prevention-of-ill-health/immunisations [Accessed 8 February 2021].
- 62 National Dental Public Health Team. *National Dental Epidemiology Programme for England: oral health survey of 5-year-olds 2019*. Public Health England, 2020.
- 63 Spencer N, Colomer C, Alperstein G *et al.* Social paediatrics. *J Epidemiol Community Health* 2005;59:106–8.

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