

Institution: University of Northampton		
Unit of Assessment: 2 - Public Health, Health Services and Primary Care		
Title of case study: Creating new public health tools and guidance regarding acute illness in young children		
Period when the underpinning research was undertaken: 2013-2019		
Details of staff conducting the underpinning research from the submitting unit:		
Name(s):	Role(s) (e.g. job title):	Period(s) employed by submitting HEI:
Sarah Neill	Associate Professor	2005 - 1 September 2019
Period when the claimed impact occurred: 2014-2020		
Is this case study continued from a case study submitted in 2014? No		

1. Summary of the impact

ASK-SNIFF (Acutely Sick Kid Safety-Netting Interventions for Families) is a national research programme led by **Sarah Neill**, with colleagues from Universities of Oxford, Leicester and University College London (UCL). ASK-SNIFF was co-developed with multidisciplinary researchers, clinicians, public health practitioners, and parent/carer groups who identified major gaps in guidance/practice for families experiencing acute childhood illness. In this context, ASK-SNIFF has:

- developed new audio-visual tools which have been employed in national/regional public health interventions, supporting parents/carers to identify/triage acute childhood illnesses;
- constituted new evidence-based guidance for public health strategy/practice, shaping sector-wide policy within the National Health Service (NHS), Royal College of Nursing (RCN) and Royal College of Paediatrics and Child Health (RCPCH);
- supported participating healthcare organisations to transition to more family-focused modes of service-delivery/consultation.

2. Underpinning research

ASK-SNIFF brings together multidisciplinary research, clinical and public health expertise from UCL and Universities of Northampton, Oxford and Leicester. ASK-SNIFF addresses concerns that more children die of preventable causes (e.g. meningitis and sepsis) in the United Kingdom (UK) than elsewhere in Europe, and mounting evidence that safety-netting guidance/support for parents/carers could be significantly enhanced. Within the ASK-SNIFF collaboration, **Neill** led three successive phases of underpinning research:

Systematic review (funded by University of Leicester).

A systematic review was undertaken of published research and evidence about safety-netting and acute childhood illness. **Neill** and colleagues assessed the efficacy of public health resources designed to help parents/carers know when to seek medical care for acutely sick children aged 5 or under [3.1]. The team also analysed the concept of safety-netting as currently used in UK healthcare contexts [3.2]. The systematic review found existing safety-netting resources were inconsistent in quality and typically of limited efficacy [3.1]. The review evidenced a clear need for new user-friendly safety-netting resources for parents/carers in relation to acute childhood illness. Efficacy of safety-netting was greater where public health resources were co-produced with parents/carers and presented in visual formats useable in parents/carers' homes [3.1].

Theory-building with parents/carers and professionals (part-funded by National Institute for Health Research ((NIHR) Programme Grant)).

A qualitative study explored how parents/carers and health professionals use information in contemporary UK contexts of acute childhood illness [3.3, 3.4, 3.5]. Neill and colleagues undertook focus groups and interviews with diverse parents/carers (in private childcare, Children's Centres, South Asian community groups and Gypsy/Travelling communities) and clinicians ((from General Practitioner (GP) surgeries, out-of-hours services and emergency departments)) in the East Midlands, UK. The study explored how public health resources around critical childhood illness could be more accessible and user-friendly for parents/carers. Key findings were that parents/carers often found it difficult to determine whether or not their child requires medical care: parents/carers identified a clear need for 'relevant', 'easy to access', professionally-validated 'simple messages' signposting detailed information about childhood illnesses [3.3]. Audiovisual materials and internet-/phone- based resources were highlighted as a priority need by parents/carers from diverse backgrounds [3.5]. Parents/carers and practitioners identified a need for more collaborative, inclusive, consultative and family-friendly approaches to public health and healthcare delivery in relation to acute childhood illnesses [3.4].

Co-developing public health resources/tools (funded by WellChild the national charity for sick children <https://www.wellchild.org.uk/about-us>).

Through focus groups, participatory workshops and online consultation, Neill and colleagues worked with participating parents/carers, practitioners and stakeholder organisations to develop a specification for enhanced public health resources, and their presentation, delivery and dissemination [3.6, 3.2]. The process mapped national guidelines in relation to critical childhood illness, and culminated in the co-development of a detailed specification for safety-netting resources to better support parents'/carers' and practitioners' needs in relation to six common symptoms of acute childhood illnesses. The process evidenced a need for wider organisational and strategic change towards more family-friendly modes of public health practice [3.6], to support parents/carers to communicate with practitioners and make early, optimal decisions in relation to acute childhood illnesses which are too-often missed, with significant morbidity, mortality, financial and NHS-capacity issues [3.2].

3. References to the research

[3.1] Neill, S., Roland, D., Jones, C. H. D., Thompson, M., & Lakhanpaul, M. (2015). Information resources to aid parental decision-making on when to seek medical care for their acutely sick child: a narrative systematic review. *BMJ Open*, 5(12), 1-15. <https://doi.org/10.1136/bmjopen-2015-008280>

[3.2] Roland, D., Jones, C., Neill, S., Thompson, M., & Lakhanpaul, M. (2013). Safety netting in healthcare settings: What it means, and for whom? *Archives of Disease in Childhood: Education and Practice Edition*, 99(2), 48-53. <https://doi.org/10.1136/archdischild-2012-303056>

[3.3] Neill, S., Jones, C. H. D., Lakhanpaul, M., Roland, D. T., & Thompson, M. J. (2015). Parent's information seeking in acute childhood illness: what helps and what hinders decision making? *Health Expectations*, 18(6), 3044-3056. <https://doi.org/10.1111/hex.12289>

[3.4] Neill, S., Jones, C. H. D., Lakhanpaul, M., Roland, D. T., & Thompson, M. J. (2016). Parents' help-seeking behaviours during acute childhood illness at home: a

contribution to explanatory theory. *Journal of Child Health Care*, 20(1), 77-86. <https://doi.org/10.1177/1367493514551309>

[3.5] Jones, C. H. D., Neill, S., Lakhanpaul, M., Roland, D., Singlehurst, H., & Thompson, M. (2014). Information needs of parents for acute childhood illness: determining 'what, how, where and when' of safety netting using qualitative exploration with parents and clinicians. *BMJ Open*, 4, [e003874]. <https://doi.org/10.1136/bmjopen-2013-003874>

[3.6] Jones, C. H. D., Neill, S., Lakhanpaul, M., Roland, D., Singlehurst-Mooney, H., & Thompson, M. (2013). The safety netting behaviour of first contact clinicians: A qualitative study. *BMC Family Practice*, [140]. <https://doi.org/10.1186/1471-2296-14-140>

4. Details of the impact

From the outset, ASK-SNIFF was designed to co-develop research-led impacts with the programme's steering group (includes Directors of NHS Trusts and Public Health teams), national partners (includes national charities for parents/carers, healthcare training providers, NHS England Children & Young People's Patient Safety Group, NHS Deterioration in Children Advisory Group), and parent/carer panel. Sustained work with these stakeholders has enabled three key lines of impact:

New audio-visual tools for parents/carers

Through the theory-building and co-development process, Neill and colleagues have developed new, accessible audio-visual tools which help parents/carers diagnose acute illnesses early and identify whether/when to seek emergency or GP care. The tools have been widely employed in national and regional public health interventions. For example:

- ASK-SNIFF audio-visual resources were embedded in NHS and Health Innovation Network public health messaging on 'Caring for children with fever at home' **[5.1]**: viewed by 11,838 people] and 'Spotting sepsis in under 5's' **[5.2]**: viewed by 40,970 people], with media coverage testifying to the impact of these videos as key in prompting parents/carers to seek immediate medical attention, which has been crucial in saving children's lives **[5.3]**.
- The NHS/RCPCH 'Healthier Together' initiative has embedded ten ASK-SNIFF resources on irregular breathing as part of its national online webpages for parents/carers **[5.4]**. Healthier Together has also employed ASK-SNIFF resources in more targeted and regional public health interventions supporting parents/carers with 'Child under 3 months with breathing difficulty' and 'Child over 3 months with cough/cold' **[5.4]**.
- Neill led on NHS England's Children and Young People's Patient Safety Group and Deterioration in Children Advisory Group to develop focused content on enhancing public health communication with parents/carers. Consequently, ASK-SNIFF audio-visual resources were featured as exemplars on the NHS England Improvement website **[5.3]**: viewed by 3,894 people], with accompanying webinars/commentaries on enhancing healthcare and public health communications with parents/carers **[5.5]**: viewed by 1,608 people].
- During COVID-19 lockdown, the RCPCH embedded ASK-SNIFF videos into its 'Information for Parents' website **[5.6]**: viewed by 'over 5,000' people] and social media releases **[5.7]**.

Testimonies from a range of public health organisations evidences how the ASK-SNIFF resources have been 'innovative and important', 'clear' and 'impactful' [5.4], 'significantly increasing public awareness' of acute childhood illnesses [5.8], and 'filling an important gap in regard to safety-netting protocols' as the 'first' 'accessible' videos showing 'real symptoms in real children' and 'providing clear guidance to parents about signs necessitating urgent review by a healthcare professional' [5.1, 5.2, 5.5, 5.4]. The NHS/RCPCH 'Healthier Together' initiative reports that 'this impact has been particularly important and timely for us because significant concerns about delayed presentation were raised during the COVID-19 pandemic' [5.4]: a significant spike in views of ASK-SNIFF resources (200-400 daily views during first UK COVID-19 lockdown), suggests that the resources have met a significant need during this period [5.4].

New guidance for public health strategy/practice

ASK-SNIFF research has shaped new national guidance on safety-netting and communication with parents/carers in the UK. RCPCH, Royal College of General Practitioners (RCGP) and RCN use ASK-SNIFF as an exemplar of best practice in recent guidelines for child healthcare. For example, ASK-SNIFF explicitly underpins RCPCH/RCGP/RCN's 2015 Standard 8, which calls for sector-wide evidence-based, consultative approach to enhancing and evaluating safety-netting in relation to child illnesses, citing ASK-SNIFF as a practice example [5.9]. Neill has also served as advisor to the RCN, and ASK-SNIFF's mapping of national health guidelines informed the RCN's 'Standards for Assessing, Measuring and Monitoring Vital Signs in Infants, Children and Young People' [5.10], which uses ASK-SNIFF data to evidence the importance of, and quality criteria for, safety-netting advice to families.

Transitioning healthcare organisations to family-focused delivery

In practice ASK-SNIFF has supported a range of organisations and service-providers to transition to more family-focused modes of public health delivery and consultation. For example, testimony from Leicester Royal Infirmary evidences how engagement with ASK-SNIFF has had 'marked and important' impacts on organisational culture and service-delivery 'because it engaged doctors and nursing staff in understanding the impact of parental concern on their clinical practice' [5.8]. This major focus on 'parental concern' has prompted sustained work to develop 'collaborative and patient-centred' approaches to work with families and acutely-ill children. 'As a direct result of this research' the organisation has implemented multiple new interventions based on 'understanding diverse needs of parents/carers'. Hospital-wide innovations resulting from ASK-SNIFF include use of video screens in waiting areas to share family-friendly information about hospital processes, development of more accessible and inclusive patient and family information leaflets, and structural interventions to enable 'internal pathways for closer collaboration between paediatric colleagues and Children's Emergency Department' [5.8]. Sharing these kinds of transformative case studies for impact in other organisations will continue to be a focus for the ASK-SNIFF team going forward.

5. Sources to corroborate the impact

[5.1] 'Caring for children with fever', NHS website, available at: <https://www.nhs.uk/video/Pages/caring-for-children-with-fever-at-home.aspx> (archive version: <https://web.archive.org/web/20201022080739/https://www.nhs.uk/video/Pages/caring-for-children-with-fever-at-home.aspx?searchtype=Tag&searchterm=Children>)

[5.2] 'Spotting sepsis in under 5's', NHS Website, available at: https://www.youtube.com/watch?v=FifBm_08RkA

[5.3] "Health Awareness Video Is Praised for Helping Spot Sepsis | Northamptonshire Chamber." Available at: <https://www.northants-chamber.co.uk/news/health-awareness-video-is-praised-for-helping-spot-sepsis>

[5.4] Testimonial from Consultant in Paediatric Infectious Diseases, Southampton Children's Hospital and Project Lead, Healthier Together

[5.5] Re-ACT- the Respond to Ailing Children Tool, available at:
<https://improvement.nhs.uk/resources/re-act-respond-ailing-children-tool/>
<https://www.youtube.com/watch?v=YTxfv0Kyx2I&list=PL6IQwMACXkj1jaPoRVmEQaruL13sBINok&index=5>
<https://www.youtube.com/watch?v=eXZUHQsv3kE&list=PL6IQwMACXkj1jaPoRVmEQaruL13sBINok>

[5.6] Email from Director of Healthier Together and Web Stats

[5.7] RCPCH 2020 poster: Advice for parents during coronavirus

[5.8] Testimonial from Leicester Royal Infirmary

[5.9] Royal College of Paediatrics & Child Health (2015) *Facing the Future: Together for Child Healthcare*, pp.31-33.
https://www.rcpch.ac.uk/sites/default/files/Facing_the_Future_Together_for_Child_Health.pdf

[5.10] Royal College of Nursing (2015) *Standards for Assessing, Measuring and Monitoring Vital Signs in Infants, Children and Young People*, p.13.
<https://www.rcn.org.uk/-/media/royal-college-of-nursing/documents/publications/2017/may/pub-005942.pdf?la=en>