Exploring the implementation of key nursing roles in children’s cardiac services

Kerry Louise Gaskin, Lynda Shaughnessy and Amanda Daniels

Abstract

Background Children’s cardiac nursing roles have changed over the past decade. Royal College of Nursing (RCN) guidance and NHS England standards have been published with the aim of standardising and enhancing nursing care for children and young people with congenital heart disease (CHD) and their families.

Aim To explore the breadth of implementation of key nursing roles in children’s cardiac services across the UK and Ireland and to determine whether the roles met the RCN guidance and the NHS England standards.

Method A cross-sectional survey design was used. The 150 members of the Congenital Cardiac Nurses Association (CCNA) were invited via email to participate and were sent a link to an online survey.

Findings Of the 150 potential respondents, 31 completed the survey. Overall, respondents believed that the RCN guidance had been implemented effectively and that children’s cardiac nursing roles matched the RCN’s example job descriptions. Respondents’ comments suggested that implementation of the NHS England standards had been challenging and that progress in setting up key roles such as lead nurse, cardiac nurse educator and children’s cardiac nurse specialist had been slow. Respondents felt that political and financial factors adversely affected recruitment.

Conclusion Since publication of the NHS England standards there has been some progress in the implementation, in children’s cardiac services, of key nursing roles such as lead nurse and innovative nursing roles such as advance nurse practitioner and research nurse. The findings of this study have informed the latest edition of the RCN guidance, which now includes the role of senior research nurse.

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Keywords
cardiology, cardiorespiratory, career development, child health, clinical, heart diseases, nursing roles, professional, professional development, professional issues, role development, workforce
cardiac nursing (RCN 2011). The guidance, which was informed by a Department of Health (2006) report on modernising nursing careers, aimed to standardise and enhance nursing care for children and young people with congenital heart disease (CHD) and their families. It was updated in 2014 (RCN 2014).

In 2016, following a review of CHD services in England, NHS England published standards and specifications for the care of adults and children across CHD networks and care levels, from the point of diagnosis to the end of life (NHS England 2016). Draft CHD standards for consultation have been published in Scotland (Healthcare Improvement Scotland 2023) while an all-island CHD network has been created in Ireland and Northern Ireland (North-South Inter-Parliamentary Association 2015).

The NHS England (2016) standards described key nursing roles, which had been informed by the RCN (2014) guidance. These key nursing roles include:

- Lead nurse – a role designed to provide clinical and professional leadership for the nursing workforce in a CHD network.
- Children’s cardiac nurse specialist – these specialists may be, for example, fetal nurse specialists or transition nurse specialists.
- Cardiac nurse educator – a role designed to deliver competency-based education programmes to nurses in a CHD network.

In 2019, the CCNA committee decided to explore the breadth of implementation of these key nursing roles in children’s cardiac services and determine whether the roles met the RCN (2014) guidance and NHS England (2016) standards. A study was undertaken by the authors of this article and its findings have informed the third edition of the RCN guidance, published in 2021 (RCN 2021). This article reports and discusses the study’s findings.

Aim
To explore the breadth of implementation of key nursing roles in children’s cardiac services across the UK and Ireland and to determine whether the roles meet the RCN (2014) guidance and the NHS England (2016) standards.

Secondary objectives were to explore:

- The consistency of descriptions for three key nursing roles – lead nurse, children’s cardiac nurse specialist and cardiac nurse educator.
- The implementation of advanced clinical practice and/or nurse consultant roles and of research nurse roles.
- Nurses’ perceptions of their roles.

Method
A cross-sectional online survey design was used to answer the research question, which was: ‘Have key nursing roles been implemented in children’s cardiac services across the UK and Ireland in line with the RCN (2014) guidance and NHS England (2016) standards?’. The study population was children’s cardiac nurses in the UK and Ireland.

Data collection
In August 2019 an invitation to participate in the study, along with a link to a survey created with an online survey tool, was sent via email to the CCNA membership distribution list (n=150), which comprises members in the UK and Ireland. An email was also sent to lead nurses and children’s cardiac nurse specialists known to the authors for circulation to CCNA member colleagues. Furthermore, the survey link was made available on the CCNA website (www.ccn-a.co.uk) and Twitter (now X) account (@CongenitalCNA). A reminder email was sent to CCNA members at the end of September 2019. Delegates at the November 2019 CCNA conference were informed of the survey and how to access it. The survey closed at the end of November 2019.

The survey questions had been developed by the authors and other CCNA committee members based on the roles described in the RCN (2014) guidance and NHS England (2016) standards. Questions were split into 11 sections (Table 1). Most questions were quantitative, with some open-ended questions to enable respondents to add comments.

The survey was piloted with three children’s cardiac nurses to test ease of access, speed and convenience. Following the pilot, the survey was modified to include instructions for respondents to skip the sections that were not relevant to them. For sections 3-5, respondents were directed to the section that aligned with the type of cardiology centre they worked in. For sections 7-11, respondents were directed to the section that aligned with their role.

Data analysis
The quantitative data were analysed using descriptive statistics. The comments in response to open-ended questions were analysed thematically using Braun and Clarke’s (2006) framework.

Ethical considerations
Ethical approval was obtained from the Health, Life and Environmental Sciences research ethics panel at the University of Worcester.

Implications for practice
- Congenital heart disease (CHD) networks need to focus on implementing key nursing roles such as lead nurse, cardiac nurse educator and nurse consultant.
- A capability document similar to that developed for advanced practice in paediatric haematology and oncology could be used to structure advanced practice in children’s cardiology.
- Research nurse roles and reader or professor roles need to be developed to enhance evidence-based nursing practice in children’s cardiology.
- Nursing teams need to focus on developing collaborative working to ensure children’s cardiac services are more integrated and coordinated.
In section 2 of the survey, after having read information about the study in section 1, respondents were asked to give their consent to participate and a positive response was required to continue the survey. The survey was anonymous, which meant that the researchers would have been unable to contact the relevant trust if respondents had reported any potentially serious issues in their replies. Respondents were made aware of that and advised to report any potentially serious issues as per their local policy.

**Findings**
A total of 31 out of 150 CCNA members responded, giving a response rate of 21%. This is lower than the average response rate to online surveys, which is 44% (Wu et al. 2022).

**Respondents' demographics**
Table 2 shows respondents’ demographics. Twenty-one (65%) respondents indicated that they worked in a specialist cardiac surgical centre, but 30 (97%) respondents answered the questions in section 3 (meant to be completed only by those working in a specialist cardiac surgical centre). Four (13%) respondents indicated that they worked in a specialist children’s cardiology centre, but 21 (68%) respondents answered the questions in section 4 (meant to be completed only by those working in a specialist children’s cardiology centre). No respondent indicated that they worked in a local children’s cardiology centre, but 11 (35%) respondents answered the questions in section 5 (meant to be completed only by those working in a local children’s cardiology centre).

No respondent said that they worked as a cardiac nurse educator and there were no responses to the questions in section 9 (meant to be completed by cardiac nurse educators). Among the six respondents who described their role as children’s cardiac nurse specialist, three were fetal nurse specialists and three were transition nurse specialists. Among the four respondents who described their role as nurse, *One respondent described their role using two job titles, so the numbers of respondents in the ‘Role’ field add up to 32. However, percentages have been calculated on the total number of respondents (n=31).

Table 2. Respondents’ demographics (n=31)

<table>
<thead>
<tr>
<th>Demographic</th>
<th>Number (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Years working in children's cardiology</td>
<td></td>
</tr>
<tr>
<td>0-1</td>
<td>2 (6)</td>
</tr>
<tr>
<td>1-3</td>
<td>6 (19)</td>
</tr>
<tr>
<td>3-5</td>
<td>5 (16)</td>
</tr>
<tr>
<td>5-10</td>
<td>4 (13)</td>
</tr>
<tr>
<td>&gt;10</td>
<td>14 (45)</td>
</tr>
<tr>
<td>Academic level</td>
<td></td>
</tr>
<tr>
<td>Diploma</td>
<td>7 (23)</td>
</tr>
<tr>
<td>Bachelor’s degree</td>
<td>1 (3)</td>
</tr>
<tr>
<td>Bachelor’s degree (honours)</td>
<td>10 (32)</td>
</tr>
<tr>
<td>Post-graduate certificate</td>
<td>2 (6)</td>
</tr>
<tr>
<td>Post-graduate diploma</td>
<td>2 (6)</td>
</tr>
<tr>
<td>Master’s degree</td>
<td>7 (23)</td>
</tr>
<tr>
<td>PhD</td>
<td>2 (6)</td>
</tr>
<tr>
<td>Type of cardiology centre</td>
<td></td>
</tr>
<tr>
<td>Specialist cardiac surgical centre</td>
<td>21 (65)</td>
</tr>
<tr>
<td>Specialist cardiac surgical centre and specialist children’s cardiology centre</td>
<td>4 (13)</td>
</tr>
<tr>
<td>Specialist children’s cardiology centre</td>
<td>4 (13)</td>
</tr>
<tr>
<td>Local children’s cardiology centre</td>
<td>0 (0)</td>
</tr>
<tr>
<td>Other (university)</td>
<td>2 (6)</td>
</tr>
<tr>
<td>Role*</td>
<td></td>
</tr>
<tr>
<td>Lead nurse</td>
<td>1 (3)</td>
</tr>
<tr>
<td>Children’s cardiac nurse specialist</td>
<td>6 (19)</td>
</tr>
<tr>
<td>Cardiac advanced nurse practitioner</td>
<td>2 (6)</td>
</tr>
<tr>
<td>Research nurse</td>
<td>3 (10)</td>
</tr>
<tr>
<td>Reader/professor</td>
<td>1 (3)</td>
</tr>
<tr>
<td>Senior academic role</td>
<td>2 (6)</td>
</tr>
<tr>
<td>Ward nurse</td>
<td>13 (42)</td>
</tr>
<tr>
<td>Nurse</td>
<td>4 (13)</td>
</tr>
</tbody>
</table>

*One respondent described their role using two job titles, so the numbers of respondents in the ‘Role’ field add up to 32. However, percentages have been calculated on the total number of respondents (n=31).
three worked in a children’s intensive care unit and one worked in the community.

**Responses to sections 3-5**
In sections 3-5, respondents were asked about the educational opportunities available to them, the implementation of the RCN (2014) guidance and the implementation of the NHS England (2016) standards.

**Educational opportunities**
Respondents identified three types of educational opportunities available to them: in-house or locally available programmes; university courses or national programmes; and national and international conferences (Box 1).

**Implementation of RCN (2014) guidance**
Respondents believed that the RCN (2014) guidance was implemented effectively in their CHD network and in terms of their role, and that it was used to underpin role descriptions, education and competence development. Respondents’ comments about the RCN guidance included the following:

‘They are well implemented; we have a pathway for every role. From new to the ward, to band 6, ECMO [extracorporeal membrane oxygenation] then band 7 pathways’. (Respondent 3)

‘We have developed a cardiac competency book at level 1 and level 2 congenital from the RCN competences’. (Respondent 21)

‘They are frequently referred to as a gold standard in education and service delivery’. (Respondent 29)

**Implementation of NHS England (2016) standards**
The NHS England (2016) standards stated that each CHD network would have to have a lead nurse, as well as a sufficient number of cardiac nurse educators to deliver competency-based education programmes across the network, within six months of the standards’ publication. Additionally, the standards stated that children’s cardiac nurse specialist teams would have to include one fetal nurse specialist and one transition nurse specialist, and that these roles would have to be in place, within one year of publication.

Overall, respondents’ comments suggested that the implementation of the NHS England (2016) standards had been challenging. Respondents commented on the lack of recruitment of, or slow progress in setting up, key nursing roles and believed that political and financial factors adversely affected recruitment and retention:

‘After three years no network lead nurse. Level 2 and 3 centre training variable. Not enough staff to meet demands’. (Respondent 5)

‘[The standards are] well implemented but challenges of nursing recruitment, and political and financial challenges affect retention.’ (Respondent 8)

‘There is slow progress in setting up the network leads’. (Respondent 9)

‘Quite well but we don’t have enough cardiac nurse specialists in a network, no lead nurse present yet and [cardiac nurse] educator does not work in a network’. (Respondent 21)

‘CHD standards for cardiac nurse specialists have been implemented in my area just this year. Before this we did not meet the required standard for fetal nurse specialist and transition nurse specialist’. (Respondent 27)

**Responses to sections 7-11**
In sections 7-11, respondents were asked about their role, how long they had been in that role, who they were accountable to, whether their role descriptor matched the RCN guidance, what they are responsible for, whether they were the nominated safeguarding lead, and their perception and experiences of their role.

**Section 7 – Lead nurse**
Section 7 of the survey was completed by one lead nurse. The respondent had started in their role 14 months after publication of the NHS England (2016) standards, which could suggest that the target of the CHD network having a lead nurse within six months of the standards’ publication had not been met.

**Box 1. Types of educational opportunities available to respondents**

| In-house or locally available programmes – for example: |
| Study days |
| Short learning ‘bursts’ delivered by the clinical nurse specialist team |
| Education and training provided by the practice educators |
| Foundation course |
| Competency document |

| University courses or national programmes, for example: |
| Cardiology modules |
| Advanced cardiology modules |
| High-dependency care |
| Intensive care |
| Extracorporeal membrane oxygenation and ventricular assist device |
| Introduction to congenital heart disease |

| National and international conferences – which could be: |
| Self-funded |
| Financed through an educational fund |
The respondent said their role description matched the RCN’s (2014) example job description for lead nurse, apart from the recommendation that the post holder should spend 20% of their time in clinical practice.

Section 8 – Children’s cardiac nurse specialists
Section 8 of the survey was completed by six children’s cardiac nurse specialists, three of whom were fetal nurse specialists and three of whom were transition nurse specialists. Four respondents had started in their role before the publication of the NHS England (2016) standards and two had started in their role about two years after publication. Four of the six respondents said their role description matched the RCN’s (2014) example job description.

One NHS England (2016) standard pertaining to specialist cardiac surgical centres stipulates that these centres must have a children’s cardiac nurse specialist available ‘to provide support and advice to nursing staff in intensive care, high dependency care and inpatient wards’. All six respondents said that their role matched that description of the role of children’s cardiac nurse specialist.

One NHS England (2016) standard pertaining to local children’s cardiology centres stipulates that the CHD network’s team of children’s cardiac nurse specialists must ‘provide support, education and a link to the outpatient and ward nursing staff at the Local Children’s Cardiology Centre’. Four respondents said that their role matched that description of the role of children’s cardiac nurse specialist; however, one of these four respondents commented that provision was minimal due to a lack of resources. The same standard further stipulates that ‘a local link nurse will be identified who …’. The replies of five out of six respondents indicated that local link nurses were not always in place.

The respondents stated that their role, and those of their colleagues on the team, involved leadership responsibility for the following:

» Pre-admission.
» Elective admission pathway.
» Patients with a single ventricle.
» Young people’s clinic.
» Education.
» Parent and patient information.
» Anti-coagulation therapies.
» Palivizumab administration.
» Home monitoring programme.
» Palliative care.
» Bereavement support.

Additional training undertaken by the six respondents included advanced health assessment, independent and supplementary prescribing, counselling and immunisation. This additional training fits with the RCN’s (2014) example job description for lead children’s cardiac nurse specialist (level 8a).

The NHS England (2016) standards stipulate that there must be sufficient numbers of cardiac nurse educators to deliver competency-based education programmes to nursing staff across a CHD network and that education must ‘focus on the acquisition of knowledge and skills such as clinical examination, assessment, diagnostic reasoning, treatment, facilitating and evaluating care, evidence-based practice and communication’. The responses to the survey did not allow the authors to determine whether there were cardiac nurse educators present in sufficient numbers.

However, the additional training received by the six children’s cardiac nurse specialists who responded to the survey fits with NHS England’s (2016) description of the education staff must receive.

The main pressures on their role and workload identified by the six respondents were capacity, complexity and geographical pressures:

‘Workload just keeps getting bigger, numbers, more complex cases, more nurse-led services’. (Respondent 28)

‘Understaffing, developing the service with no time available […]. Too many patients and not enough nurses, geographical pressures, being unable to attend our peripheral clinics because we just can’t get there. Transition patients not getting an equal service because of this.’ (Respondent 30)

Section 10 – Cardiac advanced nurse practitioners
Section 10 of the survey was completed by two cardiac advanced nurse practitioners (ANPs). Both stated that their role descriptions matched the RCN’s (2014) example job description for ANP. One respondent said their role also matched the Multi-professional Framework for Advanced Clinical Practice in England (Health Education England et al 2017).

The two respondents mentioned positive changes since the publication of the NHS England (2016) standards, for example:

‘Focus on discharges, which are of high quality and link in with the larger network. Consultant and nurse-led discharge ward round. A robust warfarin service.’ (Respondent 9)
‘Bridging medical and nursing roles. Excellent clinical pathway for nursing. Well received by children, young people and families.’ (Respondent 8)

Respondent 8 described their role as ‘innovative and visionary’, commenting that it entailed ‘more than the four pillars of practice’ and saying:

‘The role is a way to develop new services, deliver new models of care and change care delivery for the better.’ (Respondent 8)

The two respondents described three main pressures on their role and workload: political and financial pressures, capacity issues (for example, case load size and volume and nature of work) and lack of time (for example, lack of time for follow-up with families or for medical supervision).

Section 11 – Research nurses and people in senior academic roles
Section 11 of the survey was completed by three research nurses, one reader/professor and two people in senior academic roles. The roles of reader, associate professor and professor in children’s cardiac nursing feature in the RCN (2014) guidance, but the role of research nurse does not.

The two respondents working in senior academic roles had been in their role for four years. Although their role did not directly match the RCN’s (2014) example job descriptions for reader or professor, both were participating in, and leading, research in a specialist cardiac surgical centre. These two respondents commented that the NHS England (2016) standards had not directly affected their roles, although both were developing national and international research portfolios:

‘There is not currently a drive to support this role within networks or nationally, any progression in a research capacity needs to be self-driven.’ (Respondent 31)

Discussion
Overall, the findings of this study suggest that the RCN (2014) guidance had been used to inform respondents’ roles and underpin their education and training. However, the findings also suggest that the implementation of the NHS England (2016) standards had been challenging. Only one lead nurse responded to the survey, so the survey did not allow the authors to determine whether clinical and professional leadership was being provided across CHD networks at the time of the study. A lead nurse should have been in place in every CHD network within six months of publication of the NHS England (2016) standards, since the role is regarded as critical for shaping the network’s vision, developing services and driving innovation across care levels.

Innovative nursing roles
Overall, the findings suggest that some progress had been made in terms of implementing innovative cardiac nursing roles such as ANP and research nurse. ANPs are required to demonstrate knowledge and skills matching the four pillars underpinning their level of practice – clinical practice, management and leadership, education, and research – as set out in the Multi-professional Framework for Advanced Clinical Practice in England (Health Education England et al 2017).

No cardiac nurse consultants responded to the survey. Since the study was undertaken, a role of nurse consultant in electrophysiology and inherited cardiac conditions has been created in London. This could pave the way for the implementation of other nurse consultant roles specialising in, for example, cardiac surgery, heart transplant, arrhythmias or cardiac intensive care. The structuring of advanced clinical practice in children’s cardiology could be informed by the ‘capability document’ that has been developed for advanced clinical practice in paediatric haematology and oncology (Woodman and Spencer 2022).

Based on the findings of this study, the role of senior research nurse has been introduced in the third edition of the RCN (2021) guidance on roles, career pathways and competency development in children and young people’s cardiac nursing. It was important to include that role in the RCN (2021) guidance, since the NHS England (2016) standards stipulate that specialist children’s surgical centres must participate in research and that every CHD network must develop close links with academic departments in higher education institutions. Research nurse roles need to be further developed in response to the Chief Nursing Officer for England’s strategic plan for research (NHS England and NHS Improvement 2021).

The recent development of cardiac research nurse roles demonstrates a commitment to clinical research and is a positive step for nursing careers. Developing the roles of reader, associate professor and professor in children’s cardiac nursing would increase the collaboration between the NHS and the academic world, advance nursing research into the children’s CHD specialty and
enhance evidence-based nursing practice in children’s CHD networks.

**Education, training and development**

Although the authors know anecdotally that there were some cardiac nurse educators in post at the time of the study, no nurses in such a role responded to the survey. This could indicate an overall lack of cardiac nurse educators in CHD networks at the time of the study. Education and training of staff is a fundamental requirement of the NHS England (2016) standards, which stipulate that ‘all healthcare professionals must take part in a programme of continuing professional development’ and that this programme should include specialist education and training and more general training.

Survey respondents indicated that there were educational opportunities available to them but gave limited information about these opportunities. Their responses suggested that there was an emphasis on in-house and locally delivered training and education. There were no indications of a sharing of education and training between CHD networks or nationally. It was unclear whether this was because there were no cardiac nurse educators in post or whether nurses in these roles focused on delivering training locally.

One of the key actions in the Interim People Plan (NHS 2019b) is to review ‘how to increase national and local investment in continuing professional development (CPD) and workforce development’ to restore ‘previous funding levels for CPD’. Investment in CPD, alongside a wide range of options for career progression, is crucial to support nurses to develop their careers (NHS 2019a). The third edition of the RCN (2021) guidance sets out opportunities for progression both academically and professionally for all nurses working in children’s cardiac services.

**New service models**

The needs of infants, children and young people are at the forefront of the NHS Long Term Plan, with the development of a Children and Young People’s Transformation Programme and a Maternity Transformation Programme (NHS 2019a). In the future, children’s cardiac services will be provided through integrated care management and delivery. By 2028 the aim is to move to person-centred and age-appropriate service models – including a selective ‘0-25 years’ service model – to improve children’s experiences, outcomes and continuity of care (NHS 2019a). Therefore, nursing teams must focus on developing collaborative working to ensure children’s cardiac services are more integrated and coordinated and to break down ‘traditional barriers between care institutions, teams and funding streams’ (NHS 2019a).

These new ways of working and service models will require nursing teams in children’s cardiac services to develop relevant skills and competencies (NHS England 2016). Different roles require different levels of competence. The third edition of the RCN (2021) guidance features nursing roles spanning levels 5-9 of the career pathway (Department of Health 2004, 2006, 2007, Skills for Health 2010, RCN 2017) and provides a competency framework that reflects the key roles set out in the NHS England (2016) standards, in which children’s nurses can work while adhering to the principles of nursing practice (RCN 2023) and nurses’ professional standards (Nursing and Midwifery Council 2018).

**Limitations**

This study has several limitations. There was no existing validated tool that could have been used to explore the topic (Latour and Tame 2021) so a survey had to be developed for the study.

The response rate was lower than average for online surveys (Wu et al 2022). Additionally, a large majority of respondents (65%, n=21) worked in one type of cardiology centre – that is, specialist cardiac surgical centres – and there were no responses from nurses working in local children’s cardiology centres.

Due to the relatively small number of key nursing roles in the children’s CHD specialty, respondents were not asked to indicate their geographical location to preserve their anonymity. However, despite that precaution, some nurses may have felt that they would be easily identified if they responded to the survey and therefore decided not to participate. Knowing the geographical location of respondents would have provided a more precise picture of the breadth of implementation of key nursing roles in children’s CHD networks across the UK and Ireland.

Following the pilot, the survey had been modified to include ‘skip to’ instructions so that respondents would only answer questions in sections relevant to them. However, some respondents answered questions in sections that were not relevant to them, which suggests that they may have found the survey difficult to navigate. This, in turn, may have deterred some of their colleagues from participating.
Conclusion

This study explored the implementation of key nursing roles in children's cardiac services. The findings suggest that the 2014 RCN guidance has been used to inform the roles of children's cardiac nurses and underpin their education and training. They provide evidence that innovative roles, such as ANPs and research nurses, are in place in some CHD networks. However, they also suggest that other key roles – such as lead nurse, cardiac nurse educator and nurse consultant – still need to be more widely implemented. Such roles are crucial for shaping CHD networks’ vision, developing services, driving innovation and developing staff education and training. The findings of this study have informed the third edition of the RCN guidance, which aims to provide children’s cardiac nurses with career pathways and competences that reflect the changing needs of children and young people with CHD and their families.

References


