



Neonatal Resuscitation Training Programme

BASELINE REPORT

Published August 2021

Citation for this report:

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on behalf of the National Women and Infants Health Programme

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LIST OF ABBREVIATIONS AND ACRONYMS

AAP	American Academy of Pediatrics
AHA	American Heart Association
ANP	Advanced Nurse Practitioner
CSF	Clinical Skills Facilitator
DOM	Director Of Midwifery
ECG	Electrocardiography
HSE	Health Service Executive
ILCOR	International Liaison Committee On Resuscitation
MDT	Multidisciplinary Team
NCHD	Non-Consultant Hospital Doctor
NER	National Employment Record
NRP	Neonatal Resuscitation Programme
NNRTC	National Neonatal Resuscitation Training Coordinator
NWIHP	National Women And Infants Health Programme
PPARS	Personnel, Payroll And Related Systems Software
Q-Pulse	Quality Management System Software
TH	Therapeutic Hypothermia



CHAPTER 1

INTRODUCTION

1.1 | BACKGROUND

The National Women and Infant's Health Programme (NWIHP) is tasked with implementation of Ireland's first *National Maternity Strategy, Creating a Better Future Together, 2016-2026*¹, a strategic framework which identifies "that babies get the best start in life" as a priority and maps how neonatal care can be safe, standardised and of high quality. The Model of Care for Neonatal Services in Ireland² defined that a need exists for a standardised approach to neonatal care nationally including neonatal resuscitation, so that newly born infants get the right care, at the right time, in the right place, all by the right staff.

It is estimated that approximately 10% of newly-born infants need help to begin breathing at birth and approximately 1% need intensive resuscitative measures to restore cardio-respiratory function. The inability of newly-born infants to establish and sustain adequate or spontaneous respiration contributes significantly to early deaths and to the burden of adverse neurodevelopmental outcomes among survivors. Effective and timely resuscitation at birth improves neonatal outcomes but depends on critical actions that must occur in rapid succession to maximise the chances of survival. Three essential components for good neonatal outcomes have been identified:

1. Guidelines based on sound resuscitation science;
2. Effective education of resuscitation providers; and
3. Implementation of effective and timely resuscitation. (*Pediatrics*, 2021³)

It is important that staff in maternity services have the appropriate skills to deal with a deteriorating baby.

In the recently published *Neonatal Therapeutic Hypothermia in Ireland Annual Report 2019*⁴, one of the key recommendations is for all staff engaged in the delivery and care of new born infants to have up-to-date certification in neonatal resuscitation training. It indicated intensive neonatal resuscitation was frequent in infants that subsequently required therapeutic hypothermia. The report recommended the establishment of national governance structures for the provision of Neonatal Resuscitation Programme (NRP) training and the development of a National Neonatal Resuscitation Training Co-Ordinator (NNRTC) post to support and develop same.

In October 2020, the NWIHP announced the appointment of a National Neonatal Resuscitation Programme Co-Ordinator. A National Neonatal Resuscitation Training Governance Committee was formed to provide strategic support to the NNRTC.

NRP Instructor and Provider Programmes will be reviewed so as to ensure that they are in line with International Liaison Committee on Resuscitation (ILCOR), American Academy of Pediatrics (AAP) and American Heart Association (AHA) recommendations. This is to ensure paediatric doctors, midwives and nurses have the necessary skills and competencies appropriate to their role, to deliver safe high-quality care to infants in every maternity service in Ireland in line with the Health Information and Quality Authority *National Standards for Safer Better Maternity Services, 2016, Standard 6.3⁵*. This is a key enabler for the coordination of consistent high quality and up to date multidisciplinary training in NRP.

The key data and information gathered during this exercise is presented in Chapter Two under 13 separate areas. The purpose of this exercise is to inform and guide the next steps and work programmes to be undertaken by the NNRTC and as such no comment or opinion is offered as to the specific findings identified.

1.2 | METHODOLOGY

Maternity units and neonatal services were requested to populate a specifically designed baseline data questionnaire. Data was requested regarding current practise with regard to neonatal resuscitation education and training. A nominated NRP Link in each of the nineteen sites completed the data questionnaire and each response was signed off by the relevant Director of Midwifery and Neonatal Clinical Lead and returned to the NNRTC.

NWIHP would like to take this opportunity to acknowledge with gratitude and appreciation the time and input of Neonatal Clinical Leads, Directors of Midwifery, NRP Links and their teams in all maternity services for supporting the NNRTC in the compilation of baseline data for this Report.

CHAPTER 2

KEY FINDINGS

2.1 | INSTRUCTOR TRAINING BASELINE DATA

Eligibility criteria for NRP Instructor training includes having experience in the hospital care of new-born infants, ongoing experience in the delivery room, current clinical responsibility within a Hospital setting or maternal-child education (AAP, 2020⁶).

As of November, 2020, one hundred and twenty three NRP instructors provided NRP training within the previous year across the 19 maternity sites and units. The majority of instructors are neonatal based (80) and delivery ward/suite based (32) whilst eleven instructors are in midwifery/nursing education and clinical skills facilitation. A further 17 staff were requesting NRP Instructor Training.

To maintain NRP Instructor status, Instructors must teach/co-teach at least two NRP Provider courses during the two year renewal period, review Instructor course content and pass the Instructor exam (AAP, 2020⁶). Forty Instructors did not provide NRP training within the previous year but maintenance criteria requires the aforementioned two courses per two year timeframe.

A finding in the baseline data questionnaire was that the frequency of practical NRP training in Hospital Groups is determined on the availability of NRP Instructors with wide variation in relation to same being identified across the 19 maternity services.

2.2 | SUPPORTS

NRP Instructors have time protected to deliver NRP training on maternity sites. They are supported and released to attend off-site training to maintain their skills and competencies as NRP Trainers in the majority of sites.

Centres of Nursing and Midwifery Education provide administration support to NRP Instructors in Hospitals in five Hospital Groups. In maternity sites that have no dedicated clerical support for NRP, the co-ordination of NRP administration is by NRP Instructors/Resuscitation Training/Higher Diploma (Midwifery) Co-ordinators, Clinical Skills Facilitators, Clinical Midwife/Nurse Managers, Assistant Directors of Midwifery and Directors of Midwifery.

2.3 | GOVERNANCE

At the time of the baseline data collection, governance arrangements in the context of neonatal resuscitation in maternity services varied from site to site. In some sites, NRP Instructors reported to Neonatal/Paediatric Governance Groups or Executive Management Boards, while on other sites, governance is overseen by named Consultant Neonatologists/Paediatricians, Midwifery Practice Development and Directors of Midwifery.

2.4 | ELIGIBILITY CRITERIA

Existing and new clinical midwifery/nursing staff who work directly with new-born infants and paediatric medical staff are eligible to attend NRP training on proof of e-learning exam completion.

Eligibility for off-site medical, midwifery and nursing staff attendance is assessed on a case by case basis by the 19 maternity sites, with decision makers in this regard including the site specific NRP Coordinators, ANPs, DOMs and Consultant Neonatologists/Paediatricians.

Medical, midwifery and nursing staff including self-employed community midwives who provide the HSE Homebirth service are facilitated to attend practical NRP training in at least one site in each Hospital Group depending on availability of a training place. Where possible, NCHDs are prioritised by sites before rotation. Student Midwives are trained in NRP before midwifery training completion.

2.5 | EQUIPMENT

Resuscitaires with blended medical gas supply and T-Piece resuscitation devices are available to NRP instructors for practical NRP training in all sites but availability for training depends on clinical activity in the Delivery Ward/Suite in most sites. There are alternative locations available for NRP Practical training on the majority of sites. Sites suggested dedicated training skills rooms with piped, blended Medical Gases and for storage of training equipment would benefit each Hospital Group. Manikin Dolls with Airway (for endotracheal intubation) and chest lift demonstration are available to NRP Instructors.

2.6 | CAPACITY

Best practice recommends the facilitation of training in the clinical area where resuscitation is likely to be required. Clinical activity can and does challenge the availability of training areas especially in busy Delivery Wards and Suites.

Each maternity site can facilitate training of at least four candidates at a time, with some sites having the capacity to facilitate eight or more candidates.

The *COVID-19* pandemic affected NRP practical training especially in early 2020 when some sites postponed NRP training for two to four months.

As per *The NRP Provider Course: strategies for teaching during COVID-19*, AAP interim guidance to 31.12.2020⁷, most sites resumed with reduced numbers in pods of three candidates per Instructor, increased usage of personal protective equipment, cleaning of training equipment between learner pods, increased course frequency and use of larger venues where possible.

The length of time it takes to complete practical training sessions in the majority of sites was four hours. A minority of sites provided up to seven hours (for NCHDs before rotation). Time returned to staff for e-learning was four hours. In combination with practical training 7.8 hours was returned in the majority of sites.

2.7 | FREQUENCY

NRP Co-ordinators determine the frequency of practical NRP training dates in some sites, whereas in other sites, it is determined by a range of personnel and structures including DOMs, ANPs, CSFs and Neonatal Clinical Governance Groups.

Factors that determined frequency of NRP practical training included staffing and the availability of a training venue. Since the COVID-19 pandemic, the majority of sites increased frequency and reduced class numbers. The majority of maternity services provide NRP training monthly with the remainder varying from fortnightly to quarterly.

The cohort of staff prioritised on NRP practical training waiting lists are incoming Consultant Neonatologists/Paediatricians, Midwives, Nurses, Paediatric Registrars, Senior House Officers, and Staff due to renew their two yearly NRP re-certification. Staff dealing with new-born infants whose role may require NRP are included and priority clinical areas are delivery, neonatal, theatre, midwifery led units and post-natal.

Site challenges include (a) sites not being in a position to release front-line staff for NRP training, (b) clinical activity levels and (c) COVID-19 pandemic was another factor which challenged attendance numbers at practical training sessions.

2.8 | TRAINING AND RENEWAL

The Directors of Midwifery have responsibility for oversight of training records and training needs analysis for midwifery and nursing staff. All midwifery and nursing staff are informed of their training and two yearly renewal requirements for NRP e-learning and practical training by their respective line managers.

Practise Development, Clinical Skills Facilitators and NRP Co-ordinators are also involved in advising staff of renewal dates. New Midwives/Nurses/NCHDs are informed of NRP training requirement at Induction. NCHD training is monitored by Consultant Neonatologists and Consultant Paediatricians.

2.9 | COSTS

A small number of maternity sites charge staff a nominal fee for NRP electronic e-learning exams. In those small number of sites that apply a higher fee, these are remunerated to staff after course attendance on application. The purchase of hard copy paperback NRP Textbooks is funded by Hospitals in all sites unless NRP Instructors wish to purchase their own personal copy.

2.10 | BOOKING

The manner in which staff book or are booked onto a NRP training course varies from site to site, with some sites using HSE-Land and/or Classroom Management System.

Staff are advised that NRP e-learning completion is a requirement prior to application to attend practical training in all sites. Details are sent to staff on

- **Stage 1:** How to access the e-learning module and pre-learning requirements; and
- **Stage 2:** How to reserve a place on an Instructor led practical skills course to develop competencies

The e-learning website can be checked for exam completion or staff are requested to bring e-learning completion evidence prior to practical training. Some units require the NRP e-learning certificate prior to allocation of a place on the practical course.

For oversight and assurance of NRP competency, executive and clinical management advise staff pre-employment and on orientation that NRP training is a requirement. NRP training is included in a recruitment checklist for NCHD's in a minority of sites.

Prior to commencement of employment or rotation, NCHDs inform the NRP Co-ordinator if they require NRP training. They are advised to complete the NRP e-learning module and e-exam preferably before commencement and a timely practical training place is offered for the January/July rotation within the first week of their start date. The Neonatal/Paediatric Clinical Lead seeks to ensure NRP is completed by NCHDs before they take on neonatal resuscitation independently.

NCHDs upload their certification in NRP to the National Employment Record Integrated Management E-System which can then be accessed by site specific Human Resource personnel.

2.11 | CERTIFICATION

Staff are supported to complete the e-learning component prior to the practical component.

Certificates are given to candidates after attendance at NRP Practical Training in all sites unless a staff member does not meet required expectations on the practical course.

In circumstances whereby a candidate fails to meet required practical competency:

- Feedback is given to the candidate;
- Additional onsite opportunity for one to one skills training is facilitated;
- The clinical line manager is informed so that staff are supported to work under supervision;
- A new date is arranged to re-take practical session within a specified time frame;
- Attendance at onsite scenarios and skills and drills before the re-training;
- Re-assessment of practical competencies at re-take of scheduled practical course;
- Clinical Skills Facilitators, where available or present in their area of work are part of the follow up assessment; and
- A certificate is given when practical NRP skills are deemed satisfactory.

NRP Certificates include Health Service Executive and Hospital logos and some include logos from Nursing and Midwifery Board of Ireland Continuing Education Units. Certificates are signed by a range of personnel including Midwifery Nursing Practice Development/ NRP Co-ordinators/Clinical Skills Facilitators/Directors of Midwifery/Consultants and NRP Instructors. Some Certificates included projected forward six monthly dates up to the next two year renewal date and that recertification on a two yearly basis is recommended.

2.12 | RECORDS

Training records are maintained by DOMs for midwifery and nursing. The majority of NRP Instructors use software systems. Q-Pulse, PPARS, Classroom Management System, HSE-Land, Annual CME Prospectus and Midwifery and Nursing Training Databases are among the software systems used to maintain NRP training records. The latter are overseen by Directors of Midwifery and NRP training compliance rates are submitted to Directors of Midwifery two to four monthly.

NCHDs can access their e-Portfolio and submit their training records electronically to the on-line National Employment Record system which Medical Manpower Departments have direct access to.

The status of NRP training and compliance with the 2-yearly certification requirement is reviewed via various mechanisms across the 19 maternity sites including at NRP Instructor meetings and at Neonatal/Paediatric Governance Committees. The status of same is reported to Strategic Hospital Governance Group meetings.

2.13 | CHALLENGES

Challenges for NRP leads include:

- Lack of administration support;
- Access to clinical skills lab training rooms (with Resuscitaires) to mirror Delivery Ward/Suite for simulation and storage of training equipment;
- There is no national minimum training equipment list for realistic NRP training e.g. blenders, resuscitation devices (T-Piece) and manikins;
- The availability of Electrocardiography (ECG) cardiac monitors for use in Delivery Room or Theatre and vital sign simulation training equipment; and
- Ensuring timely reminders to relevant staff to update their NRP Training

CHAPTER 3

SUMMARY

3.1 | SUMMARY

The undertaking and compiling of this baseline, report regarding the provision of NRP training across the 19 maternity sites and services in Ireland has provided NWIHP with a wealth of information and insight as to the current structures, resources and processes in place. This in turn has informed greatly the next steps which need to be undertaken at national level to ensure that Ireland has a standardised approach at national, hospital group and local level to support the provision of quality NRP training and the uptake of that training. This exercise has highlighted the strong commitment in place across the 19 services to ensuring that front line staff are supported to be certified and competent in neonatal resuscitation. Next steps must focus on building on that commitment and ensuring that services are supported to continue to ensure that the training they provide is the most up-to-date, evidence based training available.

Whilst during the undertaking of this baseline variations were identified across the services regarding structures and processes in place regarding NRP training, areas and examples of best practice were identified that can be learned from in terms of supporting a consistent, robust approach to training.

In further developing a national strategy for the provision of NRP training in Ireland, building on learning from the baseline, the following three key next steps have been identified:

- Design and development of a governance structure for the provision of neonatal resuscitation that will ensure the most up-to-date, evidence based training is provided;
- In-depth audit of neonatal resuscitation training and educational aids across all 19 maternity services to ensure that all services have in place and have access to defined standard of equipment for training purposes; and
- Development of a suite of National Standards for NRP training, that can be used by Hospital Groups and individual sites to benchmark and self-audit against defined best practice in the provision of NRP training.

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4. *Neonatal Therapeutic Hypothermia in Ireland Annual Report 2019*, Health Service Executive, National Perinatal Epidemiology Centre, National Women & Infants Health Programme, National Clinical & Integrated Care Programmes
5. *National Standards for Safer Better Maternity Services*, 2016, Standard 6.3, Health Information and Quality Authority
6. *NRP 8th Edition Busy People Update*, 2020, December, AAP
7. *The NRP Provider Course: strategies for teaching during COVID-19*, AAP Interim guidance to 31.12.2020, American Academy of Pediatrics, Neonatal Resuscitation Programme Provider course

APPENDIX A

NRP DATA SUBMITTED BY NRP LINKS IN MATERNITY SITES

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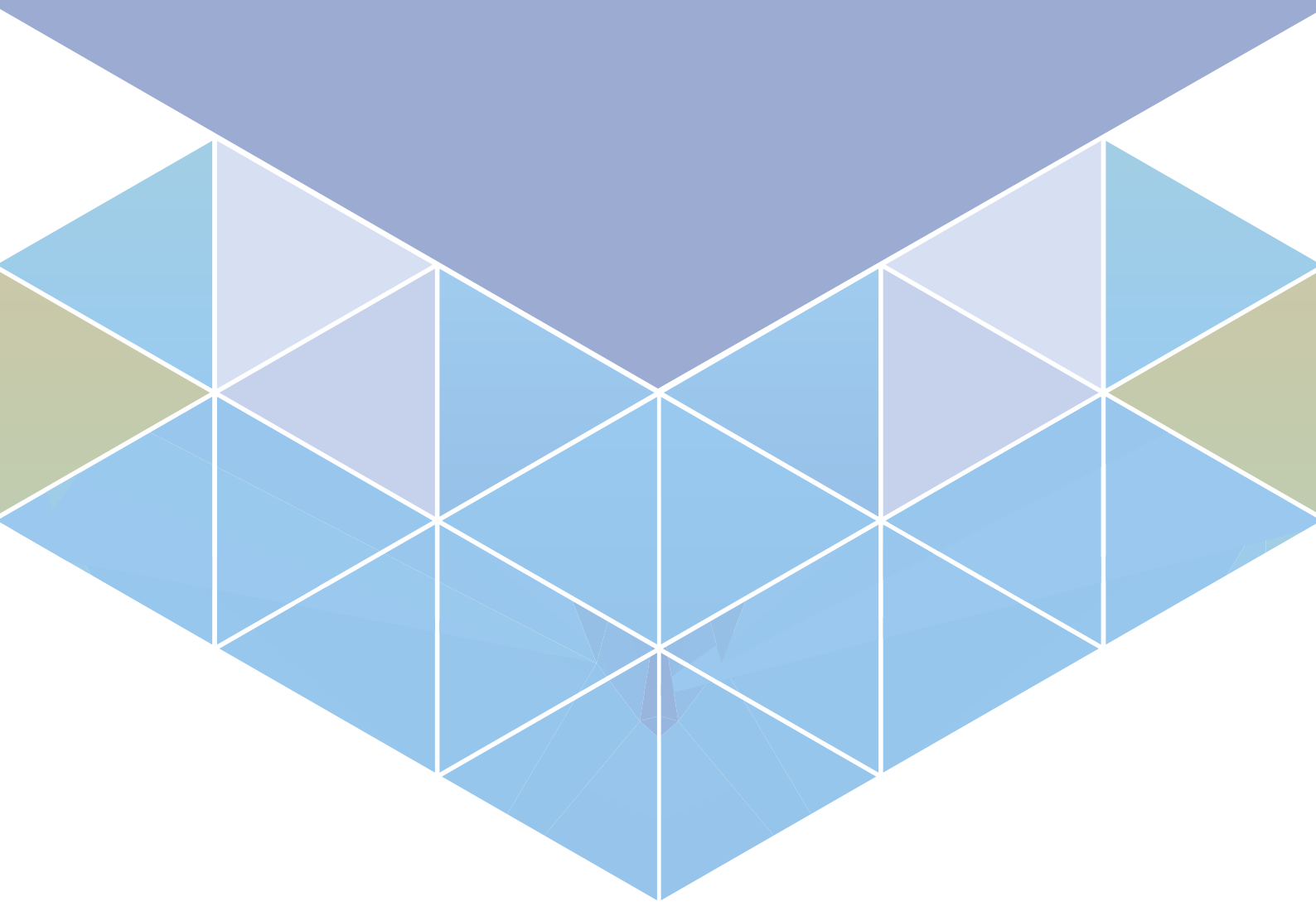
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