



Regional Review of Casting in Northern Ireland
August 2025



INVESTORS IN PEOPLE[®]
We invest in people Silver



Acknowledgements

NIPEC would like to thank the wide range of stakeholders who contributed to this review for their time, continued interest and commitment throughout the project. In particular, we would like to thank members of the task and finish group, the core group and those who attended the workshops. We would like to acknowledge the specific contribution of Ms Julie Craig, Orthopaedic Specialty Dr, Belfast Health and Social Care Trust. We would also like to thank colleagues from the Republic of Ireland (ROI) and Scotland who shared their expertise and experience around casting education and practice.

Contents

	Page
1.0 Introduction	1
2.0 Background	1
2.1 Strategic Context	1
2.2 Patient Safety Issues	2
2.3 The Requirement for Good Governance in Casting	3
3.0 Project Aim & Objectives	4
3.1 Aim	4
3.2 Objectives	4
4.0 Methodology	4
5.0 Findings	5
5.1 Section One - Scoping Exercise Findings	5
5.1.1 The Existing Model of Service Delivery in HSC Trusts and Further Afield	5
5.1.2 Education and Training Accessed by Nurses in NI	10
5.1.3 Current Funding	16
5.1.4 Challenges associated with Casting in NI	17
6.0 Section Two - Proposed Nursing Workforce Delivery Model and Associated Education and Training Programmes Moving Forward	20
6.1 Proposed Future Nursing Workforce Delivery Model	20
6.2 Proposed Future Model of Education and Training Programmes	21
6.2.1 Tier 1: 'Foundation' Education and Training	21
6.2.2 Tier 2: 'Mid-level' Education and Training	21
6.2.3 Tier 3: 'Advanced' Education and Training	22
6.3 Projected Education and Training Requirements	25
7.0 The Way Forward	26
7.1 Key Principles Moving Forward	26
7.1.1 Workforce/Workload Planning	26
7.1.2 Education and Training	26
7.1.3 Quality Assurance	27
7.1.4 Career Pathways	27
7.2 Proposed Recommendations and Education/Training Model Moving Forward	28
7.2.1 Key Recommendations	28
8. Conclusion	31
Glossary of Terms	32
Appendix 1 – Membership of the Task and Finish Group	33
Appendix 2 – Workshop Attendees (5 December 2024)	34
Appendix 3 – Membership of the Core Group	35
Appendix 4 – Workshop Attendees (20 March 2025)	36
Appendix 5 – Suggested Content of Foundation, Mid-Level and Advanced Education and Training	37

1.0 Introduction

In October 2024, the Chief Nurse Officer (CNO) commissioned the Northern Ireland Practice and Education Council (NIPEC) to lead on a regional review of Casting¹ education and training requirements for practitioners in Northern Ireland (NI), in addition to reviewing the workforce model. NIPEC undertook this important programme of work in partnership with Department of Health (DoH) and key stakeholders across the region.

This document sets out (1) the existing model of service delivery and associated education and training as regards casting, (2) a proposed, revised workforce delivery model and associated education and training programmes and (3) a number of key recommendations for consideration moving forward. The project commenced in October 2024 and was completed in August 2025.

2.0 Background

2.1 Strategic Context

The current 10-year roadmap ‘Health and Wellbeing 2026: Delivering Together’ (DoH, 2016), highlights the need to invest in healthcare staff to enable them to provide excellent, high quality care for the people of NI. It also identified the need for a workforce strategy that includes reskilling and upskilling the workforce. The associated [Health and Social Care Workforce Strategy 2026 – Delivering for our People](#) (DoH, 2018) highlights:

- the importance of high-quality training and development; and
- the need to recognise that staff training needs are necessarily dynamic and constantly need to be reviewed at a strategic level.

The NI Workforce Strategy clearly points out the need for an optimum workforce model with optimum numbers of appropriately skilled people, working in every setting and in every specialty. While the main emphasis of the NI [GIRFT Orthopaedic National Report](#) (2022) was elective surgery, Recommendation 18 noted that NI Department of Health (DoH) should ensure that existing workforce reviews consider orthopaedic specific issues, including a recruitment drive to recruit the appropriate level of nursing staff. Upskilling and effective utilisation of the current workforce was also recommended. The review of the current business model for commissioning and

¹ For the purposes of this report and associated work, a cast is defined as a rigid device used to provide support and protection following injury and/or surgery and for other musculoskeletal conditions that require immobilisation Newtown-Triggs *et al.* (2023) *Key Musculo Skeletal Interventions* 2nd Ed. In Clarke, S and Drozd, M (Eds) *Orthopaedic and Trauma Nurse*. UK: Wiley and Sons Ltd.

delivery of post registration education for nurses, midwives and AHPs in NI² noted that, post pandemic, there is an opportunity to further examine the way education is conceptualised, commissioned and delivered in NI. Ensuring value for money and future proofing the workforce are key drivers in mapping the way forward.

The delivery of safe and effective, person-centred care is central to the current CNO vision, 'Shaping our Future: a 5-year Vision for Nursing and Midwifery in Northern Ireland 2023-2028'. The vision ([DoH 2023](#)) focuses on maximising the potential of the healthcare workforce to ensure that everyone delivering nursing and midwifery services can provide high quality care to meet the population health needs of the people within NI. Four key areas are highlighted: Workforce/Workload Planning, Education and Training, Quality Assurance and Career Pathways. Alongside this vision is the strategic ambition that the right care should be provided at the right time, in the right place, by the right person with the right knowledge and skills. The [Nursing and Midwifery Task Group Report](#) (NMTG) (DoH 2020) highlighted the need to refocus on the fundamentals of practice to enable a positive experience for patients and families. This has significance for patients requiring trauma and orthopaedic (T&O) treatment across the lifespan.

There are approximately 6,000-10,000 referrals to fracture clinics per annum in NI with some seasonal variation³. Patients who require fracture care frequently undergo casting procedures.

2.2 Patient Safety Issues

Casting carries with it a degree of risk for patients across the age span and as such is recognised as a patient safety issue⁴. Substandard practices in casting can result in complications such as pain and discomfort, compartment syndrome (a medical emergency), skin compromise and the potential for ongoing mobility issues, all resulting in a potential impact on an individual's recovery and outcome. Education and training for healthcare professionals (registered and non-registered) is a core element of ensuring a safe and competent workforce.

The vast majority of casting procedures are conducted by registered nurses in NI. Datix figures from the five Trusts reveal instances of injury sustained by patients as a result of fitting or removal of a cast. Over a 3-year period (01.01.22 – 16.12.24), there were 5 recorded instances of related Serious Adverse Incidents (SAIs) and 186⁵ Adverse Incidents (AIs) (see Table 1 for further detail on AIs) across the region in fracture clinics and emergency departments.

² Maxwell (2022) Review of the current business model for commissioning and delivery of post registration education for nurses, midwives and allied health professionals in Northern Ireland.

³ J Craig Orthopaedic Specialty Dr.

⁴ To note the British Orthopaedic Association produced Casting Standards in 2015.

⁵ To note, this figure includes 10 AIs identified by BHSC that occurred in other Trusts.

Table 1
Datix Figures per Trust: Adverse Incidents

	Number of Adverse Incidents				
	Injury as a result of fitting of cast		Injury due to removal of cast by a saw		Other hospitals but discovered in BHSCT
HSC Trust	Fracture Clinic	ED	Fracture Clinic	ED	
BHSCT	21	44 (includes 3 from RBHSC)	3	15 (includes 3 from RBHSC)	10
NHSCT	6 AIs – method of injury or source detail not available				
SEHSCT	3	3	0	2	
SHSCT	12	24	0	0	
WHSCT	29	10	1	3	

Anecdotal evidence provided by those involved in this project suggests that the AIs are significantly under reported. Core group members highlighted that incidents or potential incidents related to casting were not always recorded on the Datix system but managed locally. It is also important to note that, occasionally, injury caused to patients was influenced by external factors. For example, long ambulance waiting times or patients cancelling and rescheduling their appointments. Nevertheless, this data highlights the importance of good governance in casting.

2.2 The Requirement for Good Governance in Casting

Organisations and individuals are accountable for continuously improving the quality of care for their patients, a key driver in the development of healthcare services. The delivery of safe and effective care for patients undergoing casting procedures in NI is vitally important as Table 1 demonstrates. Good governance involves creating a care environment that delivers excellence while managing risks to deliver the right care, at the right time in the right place⁶ (Donaldson, 2014). Key to this philosophy is the delivery of evidence based, safe and effective care and promoting a culture of continuous improvement and learning. Review of Trust policies around all aspects of practice is an important element of good governance. A regional approach to this would ensure equity of high quality, standardised service provision around casting.

⁶ The Right time, The Right Place (Donaldson report).

3.0 Project Aim & Objectives

3.1 Aim

To put forward a workforce delivery model and associated casting education/training programmes to support;

- (1) excellence in care delivery across the lifespan; and
- (2) ongoing staff development.

This included consideration of accredited and other courses along with in house training applicable for registered and non-registered staff. Specific areas of practice include Emergency Departments, Fracture Clinics, Theatres and Orthopaedic settings within Northern Ireland.

3.2 Objectives

The following objectives were agreed;

To scope;

- the existing model of service delivery around casting in HSC Trusts;
- current education and training accessed by practitioners in NI;
- the learning needs of staff⁷ undertaking casting; and
- to propose a service delivery model and associated casting education and training programmes moving forward.

4.0 Methodology

A Task and Finish Group was established to oversee and complete the project (see Appendix 1 for Membership). An associated project plan was developed and agreed to take the work forward. In order to inform the work, a workshop was convened with key stakeholders across the region on 5th December 2024 to discuss the current position and possible options for future delivery of casting within Northern Ireland. Workshop attendees are included in Appendix 2. Subsequently a core group (see Appendix 3) was established to explore and feedback to the wider group on a proposed nursing workforce delivery model and education and training programmes moving forward. A second workshop with key stakeholders was held on Thursday 20th March 2025 (see Appendix 4) to finalise the report and agree the proposed changes moving forward.

Where appropriate, information included within this report was also provided by other key stakeholders and colleagues across the UK and Ireland.

⁷ Staff applies only to Nurses and related non-registered support staff. Allied Health Professionals (AHPs) and Medical Staff are outside the scope of this report.

5.0 Findings

The findings of this report are presented in two Sections. Section One comprises information and associated data from the scoping exercises and Section Two presents the proposal around a revised nursing workforce delivery model and associated education and training programmes moving forward.

5.1 Section One - Scoping Exercise Findings

Scoping was conducted within the following areas;

- the existing model of service delivery in Health and Social Care (HSC) Trusts and further afield;
- education and training accessed by nurses in NI;
- current funding streams for education and training; and
- challenges associated with the existing model of service delivery and associated education and training to date.

5.1.1 The Existing Model of Service Delivery in HSC Trusts and Further Afield

The first part of the scoping exercise explored the settings where casting is carried out within NI, who is engaged in casting activity and casting in other jurisdictions. A number of challenges were identified by key stakeholders.

- **Settings where casting is carried out within HSC Trusts**

Casting procedures, including the application of casts and slabs, in NI, are primarily carried out in Emergency Departments (ED), Fracture Clinics and Minor Injury Units. The majority of casting takes place within fracture clinics. For example, patients diagnosed with a fracture in ED go to fracture clinic for their cast to be applied (to note, this service is not available out of hours when casts are applied in ED settings). The exception is NHSCT where all patients have their initial cast applied in ED and are later reviewed in Outpatient fracture clinics. Some casting takes place in the perioperative setting.

- **Registered Nursing Staff Involved in the Application and Removal of Casts**

The majority of casting in NI is carried out by registered nurses of varying bands. Table 2 below shows attendances at specific nurse led plaster clinics in BHSCT⁸, by way of example.

Table 2:
Attendances at Nurse Led Plaster Clinics RVH/MPH (Sept 2024 - March 2025)

	RVH POP/Dressing N/led Clinics			MPH Ortho Plaster N/Led Clinics			total both sites
	New	Review	TOTAL	New	Review	TOTAL	
Sep-24	51	254	305	N/A	42	42	347
Oct-24	39	281	320	N/A	74	74	394
Nov-24	51	216	267	N/A	58	58	325
Dec-24	45	307	352	N/A	65	65	417
Jan-25	51	261	312	N/A	61	61	373
Feb-25	35	272	307	N/A	70	70	377
Mar-25	39	314	353	N/A	67	67	420

However, in the perioperative setting⁹, not all nursing staff are trained in casting and it is often carried out by medical staff with occasional input from fracture clinic nursing staff as necessary.

- **Non-registered Staff involved in the Application and Removal of Casts**

Scoping of the current model of service delivery revealed some regional inconsistencies as regards the role of non-registered staff. While it was acknowledged that these staff members often have a vital supportive role when patients are undergoing casting, there is regional variation in the role of non-registered staff in actual casting procedures.

Table 3 shows the numbers of non-registered staff involved in the *application* of casts across Trusts. Non-registered staff apply casts in 3 Trusts, Northern Health and Social Care Trust (NHSCT) - ED only, South Eastern Health and Social Care Trust (SEHSCT) - ED only and Western Health and Social Care Trust, (WHSCT) - Fracture Clinic only although this does not always feature specifically in individuals' job descriptions (see Table 2). WHSCT are the only Trust to employ a Band 4 casting

⁸ Nurse-Led Fracture clinics are also held in SEHSCT – Ulster Hospital; SHSCT – Craigavon & Daisy Hill Hospitals; and WHSCT – Altnagelvin Hospital;

⁹ Some AHP staff also undertake casting in a variety of settings, however they are outside the scope of this report.



technician. In the Southern Health and Social Care Trust (SHSCT) and Belfast Health and Social Care Trust (BHSCT) all application of casts is undertaken by registered nurses Band 5 and above.

Table 3:
Numbers of Non-Registered Staff involved in the *Application* of Casts across Trusts

Trust	Total number of non-registered staff involved in the application of casts	Band 3 in Fracture Clinic		Band 4 in Fracture Clinic		Band 3 in ED		Band 4 in ED	
		Number of Band 3 in Fracture clinic involved in the application of casts	Application of casts included in employee's Job Description Yes/No (if yes please provide job title)	Number of Band 4 in Fracture Clinic involved in the application of casts	Application of casts included in employee's Job Description Yes/No (if yes please provide job title)	Number of Band 3 in ED involved in the application of casts	On employee's Job Description Yes/No (if yes please provide job title)	Number of Band 4 in ED involved in the application of casts	On employee's Job Description Yes/No (if yes please provide job title)
NHSCT	4	0	N/A	0	N/A	CWH x3 AAHx1	Yes on general JD Senior HC Assistant Not in JD	0	N/A
SEHSCT	3	1	No	0	N/A	2	No	0	N/A
WH SCT	8	2	No	2	Yes (Plaster technician)	4	No	0	N/A
BHSCT	0	0	N/A	0	N/A	0	N/A	0	N/A
SHSCT	0	0	N/A	0	N/A	0	N/A	0	N/A

Band 3's across the region are involved in removing casts and applying splints¹⁰. The non-registered staff in WHSCT Trust are provided with in-service training to enable them to *apply casts*¹¹.

- **Stakeholders Views about the Role of Non-Registered Staff**

Key stakeholders involved in this project voiced differences of opinion relating to non-registered staff engaging in the application of casts. There was some appetite for providing further opportunity for non-registered practitioners to apply casts in NI in EDs and some fracture clinics. Positive reports were provided by those Trusts who currently employ non-registered staff who apply casts. It was reported that these individuals' knowledge, experience and skills were notable and they often acted as role models to other staff.

It was suggested by those who were supportive of non-registered practitioners applying casts that completion of a BOA accredited course should be required prior to them undertaking casting. The rationale for this was that they would not have the underpinning knowledge and skills achieved as a result of undergraduate education and training. However, there were a number of concerns voiced in relation to the detrimental impact this would have on the nurse's role. Firstly, concerns were raised about the potential for inequity of opportunity between registered and non-registered staff to avail of these courses. Secondly, concerns were raised about the potential for diluting the role of registered nurses and the possible impact on progression to senior nursing roles, such as ENP, ANP etc. Thirdly, it was also identified that within a workforce model structure, a registered nurse should be available to oversee and where necessary carry out casting, trouble shoot or address any difficulties or issues raised by staff and or patients.

- **Casting in Other Jurisdictions**

In England, Scotland, Wales and the ROI both registered and non-registered staff carry out casting. There is variation in the job titles as regards the non-registered staff, for example, Orthopaedic Practitioners, Plaster Room Assistant, Plaster Technician or Casting Technician and they are remunerated at Band 3 or Band 4 or equivalent in the UK and ROI. Although casting is carried out by non-registered staff in ROI, the National Orthopaedic Hospital Cappagh (NOHC) do not provide training for this staff group; they travel to Stanmore for British Orthopaedic Association (BOA) accredited training specifically for non-registered staff. BOA provide separate training for registered and non-registered staff for the award of the British Casting Certificate, considered to be the gold standard education and training across the UK.

¹⁰ In NHSCT this practice ended in November 2024 with the launch of Encompass as part of changes to improve patient flow through their plaster/fracture rooms.

¹¹ These staff have not had BOA accredited training to date.

5.1.2 Education and Training Accessed by Nurses in NI

The second part of the scoping exercise explored the education and training accessed by nurses in NI. To date nursing staff have historically availed of casting education and training both within NI and further afield (see Figure 1).

Figure 1.
Sources of Education and Training by Nurses in Northern Ireland



Out of the 5 key sources of education and training in Figure 1, the first 3, are accredited by a professional body: the British Orthopaedic Association (BOA); Royal College of Surgeons in Ireland (RSCI); Nurse and Midwifery Board Ireland (NMBI) or Approved Academic Institution (Queen's University Belfast (QUB)). In addition, the QUB *Nursing across the Lifespan (Short course)* only provides an overview of casting and does not assure competence by the end of the session. Further detail on these and the other sources of education and training are detailed below.

- **In Service Training**

In service education and training is provided by each of the 5 Trusts, often as part of induction training.

Key stakeholders involved in this project confirmed that all registered nursing staff new to fracture clinic and ED are required to complete induction training on the application of casts and splints. In SEHSCT, ED staff do not receive this training until they have been in post for 1 year. In NHSCT, Band 5 nurses do not work in fractures until they have completed their CEC casting course.

The content of this training varied greatly across Trusts and settings. Key areas included the application of short and long arm casts, short and long leg casts (including slabs) and more specialised casts such as Scaphoid, Bennetts, Colles and Volar slabs etc depending on the setting.

In WHSCT in Altnagelvin Hospital ED, in service training is facilitated by a BOA accredited staff member alongside the clinical nurse educator. In service training in the South West Acute Hospital (SWAH) ED is facilitated by a Band 7 Emergency Nurse Practitioner (ENP). Fracture clinic staff in Altnagelvin Hospital facilitate training for outpatient staff in Omagh Hospital and Primary Care Complex (OHPCC) and the South West Acute Hospital (SWAH).

SEHSCT have funded a part time fracture specialist nurse in fracture clinic with an educational support role.

- **The Clinical Education Centre (CEC) Casting Education for Practitioners**

CEC provides a 5-day course that aims to assist registered nurse practitioners to develop the necessary knowledge and skills required for safe practice around the application and management of casts for patients with bony or soft tissue injury/trauma. The theoretical component of the course is provided online, each morning, by a CEC member of staff. The competency based, practical component of the programme is delivered face to face, each afternoon, by individual Trust nominated facilitators in practice who (where possible) have a BOA accredited qualification.

A total of sixty-nine staff have completed this commissioned programme over the past 5 years (NB this course is not currently running). Further detail per annum is provided below:

**Table 4:
Numbers of Staff Undertaking the CEC Casting Course over past 5 years**

Programme	Start/End Date	Completed full programme	Did not complete full programme
Casting Course (Theory)	2020/21 – Course did not run due to covid		
Casting Course (Theory)	2021/22 -- Course did not run due to covid.		
Casting Course (Theory)	08/03/22 - 26-04/22	10	1
Casting Course (CEC Theory Only)	05/12/22 - 13/01/23	12	5
Casting Course (CEC Theory Only)	06/02/24 - 26/02/24	24	1
Casting Course (CEC Theory Only)	09/10/24 - 25/10/24	23	0
Total		69	7

Seven staff did not complete the programme. Those who completed were relatively evenly represented across Trusts (see Table 5).

**Table 5:
Number of Staff Completing the CEC Casting Course across Trusts since 2020**

Organisation	Completed full programme
Belfast Health & Social Care Trust	16
Northern Health & Social Care Trust	14
South Eastern Health & Social Care Trust	12
Southern Health & Social Care Trust	12
Western Health & Social Care Trust	15
Total	69

- **QUB Orthopaedic/Trauma Nursing across the Lifespan (Short Course)**

This part time [short course](#) is currently delivered (at degree level) over the academic year. It addresses the needs of the patient across the life span presenting with either an orthopaedic condition or fracture trauma injury with theoretical and practical components, including basic casting (3-hour session includes practical skills without assessment of competence). Table 6 shows numbers of commissioned registered nurses who have completed the programme over the past 5 years.

**Table 6:
Number of Staff who Completed the Course over Past 5 years¹²**

Year	Completed the programme	Did not complete
2020/21	32	2
2021/22	12	3
2022/23	18	1
2023/24	17	3
2024/25	31 enrolled – yet to complete	
Total	110 (+31 yet to complete)	9¹³

¹² Data accurate at the time of writing.

¹³ To note this total does not include potential withdrawals in the current academic year.

- **Education and Training in the ROI**

Nurses from Northern Ireland have historically also availed of training in the ROI¹⁴. In addition to 1 and 2 day short courses, the National Orthopaedic Hospital Cappagh (NOHC) also provide a 24 day course accredited by the Royal College of Surgeons in Ireland (RSCI). This was developed to replace the BCC course. AHPs, for example, Physiotherapists, Occupational Therapists and Podiatrists are accepted onto these courses.

Galway University Hospitals (GUH) also run an ED Casting course accredited by the Nurse and Midwifery Board Ireland (NMBI) with a paediatric course under development.

- **British Orthopaedic Association (BOA) Accredited Education and Training**

The 'British Casting Certificate' (BCC) is awarded to registered and non-registered staff who have successfully completed a 5-6 week BOA programme at The Royal National Orthopaedic Hospital Stanmore or the day release (6 month) BOA approved programme in Bradford and Newport. This is considered to be the 'gold standard' in terms of casting education and training across the UK. The British Casting Certificate (formerly known as the BOA/RCN (SOTN) AOT Casting Techniques Certificate) has been the only nationally recognised qualification in casting since 1982 for those whose role¹⁵ includes casting and splinting.

In addition to the British Casting Certificate, practitioners in NI also travel to avail of the BOA accredited 3-day accident and emergency (A&E) casting course¹⁶.

¹⁴ Numbers of staff who have availed of this training is not available.

¹⁵ There is a separate course for those who are non-registered staff.

¹⁶ BOA also provide courses for non-registered staff, including the British Casting Certificate and ED programme.

Table 7 shows the number of staff in Northern Ireland with BOA accredited training.

Table 7
Number of Staff in NI with BOA Accredited Training¹⁷

Trust	BCC (registered staff)	BCC (non-registered staff)	BOA accredited A&E course (registered staff)	BOA accredited A&E course (non-registered staff)	Other BOA accredited course
BHSCT	5 + 3 awaiting certification (2025)	0	1+ 1 awaiting certification	0	0
NHSCT	2	0	0	0	0
SEHSCT	2	0	2	0	0
SHSCT	6	0	0	0	0
WHSCT	2	0	0	0	0

To note, BOA require successful BCC candidates to hold a teaching qualification to become an accredited BCC trainer.

A 1-day BOA accredited course is also delivered in Belfast Health and Social Care Trust (known as the 'Belfast Casting Course') by local medical and nursing staff, all of whom have previously completed a BOA accredited casting course. Attendees are junior doctors working almost exclusively in surgical specialties in the UK. The majority are core surgical trainees with some foundation trainees. Content includes fractures and casting of the upper and lower limb.

A previous scoping exercise in July 2023 in NI, on behalf of the Education Commissioning Group (DoH), found that the numbers of BOA accredited nurses in NI has decreased over time and there is regional variation in education and training across Trusts. It was therefore agreed that BHSCT would host a commissioned pilot in 2025. To this end, a member of BOA was invited to Belfast Trust to teach alongside HSC Trust staff who are already BCC accredited trainers using the existing 5-6 week model of training. As part of this pilot there are 6 students currently completing the BCC course, 2 from BHSCT, 1 from SEHSCT, SHSCT, NHSCT and WHSCT. The final examination will be in Stanmore at the end of October 2025. There are also 6 trainee trainers who already hold the BOA certificate for casting, 4 of whom are from BHSCT, 1 WHSCT and 1 SHSCT. This will assist with the in-service training of staff

¹⁷ Those currently attending BOA accredited courses not included as they had not yet completed at the time of writing.



within the Trusts¹⁸. It has been agreed that this programme should be recommissioned for 2026.

- **Concluding Comments about the sources of Education and Training for Nurses and Non-Registered Staff in NI**

Key stakeholders advised that the content of current education and training programmes met their learning needs. However, it was evident that there was no regional approach to the allocation of registered staff to these various courses in line with comprehensive learning needs analyses. Currently there is no formal commissioned casting education and training for non-registered staff in NI.

There was no evidence regarding the use of a learning and development matrix (as previously recommended in the regional review of the business model for education commissioning¹⁹). Such an approach may assist Trusts in their workforce planning to ensure the correct skill mix, enabling the right person with the right skills to carry out casting in the right place at the right time.

¹⁸ To note in order to be a BOA accredited trainer a teaching qualification is currently required.

¹⁹ Maxwell (2022) Review of the current business model for commissioning and delivery of post registration education for nurses, midwives and allied health professionals in Northern Ireland.

5.1.3 Current Funding

Historically in NI, casting education and training for registered nurses has been commissioned by CNO and also funded by the HSC Trusts.

Table 8 shows regional commissioning figures over the past 5 years. To note, it is not possible to provide detail of CEC funded commissioned education and training as this falls within the remit of the wider Service Level Agreement (SLA).

Table 8:
Commissioning Figures related to Casting and Associated Spend for past 5 years²⁰

Year	Education and Training Provider	Number of students/places commissioned	Cost
1 Apr 2019 - 31 Mar 2020	Glasgow Caledonian University (in partnership with QUB and BHSCT)	12	£36,000
1 Apr 2020 - 31 Mar 2021	N/A	0	0
1 Apr 2021 - 31 Mar 2022	Glasgow Caledonian University	5	£17,500
1 Apr 2022 - 31 Mar 2023	N/A	0	0
1 Apr 2023 - 31 Mar 2024	Stanmore University	5	£41,250

Ongoing [Academic accreditation](#) for the BCC has been challenging in recent years and has not been in place via Glasgow Caledonian University since 2023. Discussions are in progress between BOA and a different education provider regarding this with an outcome anticipated later this year²¹.

Information regarding the Trust funded spend on casting education and training over the past five years was difficult to obtain. Examples of the spend associated with non-commissioned casting education and training within the Trusts include the following:

- Funding in WHSCT for 1 place for the BCC in 2022/2023 at a total cost of £3,500 - £5532.12 for programme fees and £2032.12 for flights and accommodation;
- Part-time salary of a Band 7 fracture specialist nurse in fracture clinic with a teaching role including casting (1 Trust).

²⁰ Table provided by DoH 21/3/25.

²¹ Personal communication BOA National Casting Training Advisor 26/1/25.

5.1.4 Challenges Associated with Casting in NI

A number of challenges were identified during the course of this review – firstly in relation to the existing model of service delivery and secondly with existing education and training provision.

- **Challenges with the Existing Model of Service Delivery in Health and Social Care (HSC) Trusts**

Overall, the scoping exercise highlighted a lack of standardisation of care delivery models for people requiring application of casts in NI:

- There is inconsistency in skill mix across Trusts
- Not all Trusts provide the opportunity for new fracture patients (attending ED) to have their cast applied in a fracture clinic.
- Fracture clinics do not provide this service out of hours. During this time, casts are applied by staff in ED. On occasion, the only staff member who can apply a specialist cast is also in charge of ED.
- The role of non-registered staff varies across Trusts. In 3 out of 5 Trusts, non-registered staff are trained to apply casts.
- There were differences of opinion of staff who contributed to this review, as regards the role of non-registered staff in casting.
- There is no regionally agreed approach to building capacity/capability in the non-registered workforce as part of effective workforce/workload planning.

- **Challenges with Existing Education and Training Provision**

Those involved in this project agreed that the *content* of the current casting education and training courses available met their learning needs; however, it was the *model* of education and training that could be significantly improved. A number of challenges associated with the current model were identified by key stakeholders during the course of this project:

- Currently there is a lack of available training, to establish the required capability and capacity within our workforce to meet our population needs.

- In a recent report there was evidence that post registration education in NI is not formally linked to transformation/workforce²².
- This report also indicated that there are currently no formal links with strategic plans for regional education to support priority areas, such as the development of advanced practice as recommended in the regional review cited earlier.
- This report also indicated that there are currently no formal links with strategic plans for regional education to support priority areas, such as the development of advanced practice as recommended in the regional review cited earlier²³.
- There is currently no evidence of formal links to specific career pathways for nurses working in T&O services.
- Accessing appropriate training has been difficult in the absence of a robust model of education delivery for casting in NI, resulting in a lack of staff who are sufficiently qualified to deliver this training.
- Travel to England, Scotland or Wales for the BOA accredited programmes is costly and time consuming, particularly those courses that extend over 6 weeks or 6 months. In addition, many staff are reluctant to travel due to parenting/caring responsibilities.
- BCC applications must be supported by a recommendation from a Consultant Orthopaedic Surgeon, who is a Fellow of the British Orthopaedic Association.
- One Trust does not have a BOA accredited Orthopaedic Medical Consultant to support BCC students.
- CEC are currently not able to meet the demand for casting training due to difficulty recruiting appropriately trained and experienced teachers. Historically, teachers required to cover the theoretical parts of the course have been released from practice by one of the Trusts. While the CEC course is continuously in demand, the current online delivery model is also less than optimal. The joined-up approach with colleagues in practice to secure 'sign off' for the skills aspect has been problematic to achieve. The requirements for specific plumbing/sink facilities and the cost of casting materials has also been an issue, hence CEC have historically led on the theoretical component of the training only.
- It was evident that there was no regional approach to the allocation of staff to these various courses in line with comprehensive learning needs analyses

²² Maxwell (2022) Review of the current business model for commissioning and delivery of post registration education for nurses, midwives and allied health professionals in Northern Ireland.

²³ Maxwell (2022) Review of the current business model for commissioning and delivery of post registration education for nurses, midwives and allied health professionals in Northern Ireland.



against a learning and development matrix (as previously recommended in the regional review of the business model for education commissioning²⁴). Thus, it was clear that the 5 Trusts could be more effective in their workforce planning.

- At times, staff have repeated some elements of courses when progressing from one course to another. Inconsistency in training content and provision and accessibility across Trusts was highlighted as an issue.
- Currently there is no opportunity for micro-credentialing of education/training courses with local AEs.
- Formal education programmes have been primarily provided for registered staff only, not reflecting the potential for a more effective and efficient skill mix to meet population casting needs.

²⁴ Maxwell (2022) Review of the current business model for commissioning and delivery of post registration education for nurses, midwives and allied health professionals in Northern Ireland.

6.0 Section Two

Proposed Nursing Workforce Delivery Model and Associated Education and Training Programmes Moving Forward

Following the scoping exercises and workshop discussions, the following nursing workforce delivery model and associated education and training model were developed for all staff moving forward. It is anticipated that the proposed models set out below will address the challenges identified in the previous section.

6.1 Proposed Future Nursing Workforce Delivery Model

As highlighted earlier in this report, the CNO vision aims to focus on maximising the potential of the healthcare workforce to enable them to meet the population health needs of the people of NI. The proposed nursing workforce delivery model moving forward will also ensure that the right care is provided at the right time, in the right place, by the right person with the right casting knowledge and skills. It is anticipated that it will also promote stabilisation of the workforce and promote career opportunities and progression for staff at all levels (registered and non-registered). NIPEC's current work in NI sets out the expectations of roles at practice levels 2–9 for nurses, midwives and the related support roles. The levels are structured around four interconnected pillars of practice: Clinical Practice, Education and Learning, Leadership and Research and Development²⁵. This work will enable a standardised approach to design and delivery of models of nursing and midwifery roles across service provision to support delivery of safe and effective care.

There is opportunity for the current service delivery model to be further developed to enable a wider skill mix of staff to be involved in casting. While there were some concerns about involving non-registered staff in the application of casts as previously discussed, positive aspects of this practice were identified by individuals who attended the workshops. Additionally, this practice is evident in other parts of Ireland and the UK. This is not without challenges – in one case in England, non-registered staff are now doing all casting with no registered nurses currently trained to do so. It is important to recognise the importance of the registered nursing role in casting. For example, the registrant has in depth knowledge beyond the actual casting procedure in assessing and evaluating the individual patient throughout their journey and troubleshooting problems that may arise. Careful workforce planning is required in order to ensure robust governance and accountability for safe care delivery.

²⁵ For more information on NI career model see [Career Pathways | Nursing and Midwifery Careers NI](#)

6.2 Proposed Future Model of Education and Training Programmes

Whilst there are a range of excellent casting courses available for practitioners in NI, the existing model of casting education and training has been problematic for the reasons identified earlier in this report. Hence, a 'stacking' approach is recommended, to enable practitioners to progressively develop their knowledge and skills as appropriate. The rationale for this approach is twofold- firstly to reduce duplication of learning and avoid any potential gaps and secondly to align learning and development with individuals' roles, relevant levels of practice and chosen career pathways. This lends itself to a sustainable model which will increase workforce capability and capacity building over time.

There should be consistency regionally around the required level of education and training for all staff. There was agreement that not all staff who cast in Northern Ireland need casting education/training at an advanced level, accredited by BOA or an alternative accrediting body. Key stakeholders involved in this work identified and defined 3 'Tiers' of education/training for staff in NI moving forward. The education and training will be aligned to the relevant level of practice for individual roles reflected in the NI Career and Development Model. It was acknowledged that the education and training needs of staff working in EDs/MIUs and fracture clinics differ, hence the following sections reflect the uniqueness of these roles.

6.2.1 Tier 1: 'Foundation' Education and Training

It was agreed that Tier 1 would be aimed at all registered staff new to ED or minor injury unit (MIU) or Fracture Clinics registered and non-registered staff. Core elements of this training were identified as issues related to simple casting of the upper and lower limb, including revision of relevant anatomy and physiology and potential complications of fractures and casting. Types of casts, materials and the importance of accountability are also included here²⁶ (see Table 9 and Appendix 5 for further detail).

6.2.2 Tier 2: 'Mid-level' Education and Training

It should be noted that 'Mid-level' training can coincide with Tier 1 induction/ in-service training as the latter may take up to 6 months as staff need to have exposure to specify types of fractures that they may not see for some time. It was proposed that the 'Mid-level' of training for registered and non-registered would build on 'foundation' education and training²⁷ for staff and include core elements based on

²⁶ Tier 1 training is primarily aimed at staff in ED/Minor Injury Units as simple casting, such as backslabs are most commonly applied. Where more complex skills are needed, staff would avail of Tier 2 or 3 as appropriate.

²⁷ To note – completion of tier 1 may not be required if staff can provide evidence of prior education and training. For example, newly appointed staff coming with experience/training.

more complex fracture and casting. 'Mid-level' education and training could be commenced as soon as the staff member takes up post, depending on their previous experience, availability of the training and the needs of the service. Core elements include application of Thomas splint, care of Bennet's/Smiths/Equinus fractures and discharge advice (see Table 9 and Appendix 5 for further detail).

6.2.3 Tier 3: 'Advanced' Education and Training

The Tier 3 'Advanced' level comprises the BCC as the gold standard of education and training. The 'Advanced' level of training is primarily aimed at fracture clinic nursing staff, tertiary centre staff and senior designated ED/Minor injury staff such as specialist nurses, ENPs and ANPs. Non-registered staff with specialist requirements may also avail of this level of education and training. It was identified that this should be also based on individual service and learning needs. The content of the [BCC course](#) includes underpinning knowledge of anatomy and physiology, trauma, orthopaedic conditions, in addition to cast application techniques. Examples of content include the structure and development of bone, detailed anatomy of the upper and lower limbs, hip, pelvis, vertebral column and the nervous system. Types of fractures throughout the body and associated complications are included. Specialty areas include conditions such as talipes, types of arthritis, bone infection, hip dysplasia, perthes, osteoporosis and back pain. Advanced casting techniques include the full range of casts and slabs for above and below the elbow and knee and the use of lightweight casting. Specialist casts, for example, cylinder plasters, scaphoid, hip spicas etc are also included. Full assessment of the patient and troubleshooting issues are important elements of this course.

Table 9 and Appendix 5 include further detail on suggested attendees, source of education/training and content across these 3 Tiers.

Table 9:
Levels of Casting, Education and Training

	Tier 1 ('Foundation level') EDs, MIUs & Fracture Clinics	Tier 2 ('Mid-level') ED, MIUs & Fracture Clinics
Delivered By	Cascade training by Trust staff with BCC certification or equivalent.	Cascade training by Trust staff with BCC certification or equivalent in conjunction with education provider.
Target Audience	Staff (registered) and/or non-registered) in EDs, MIUs & Fracture Clinics	Staff (registered and/or non-registered) in ED and MIUs Fracture Clinics.
Suggested Source	Induction training/In service training ²⁸	Up to 5 day locally delivered course Can be undertaken alongside induction training.
Suggested Core Content	<p>'Foundation' education and training</p> <p><i>As a minimum:</i> Anatomy and physiology, common fractures, classification of fractures, application of slabs below knee and below elbow. Complications of fractures, safe removal, application of full casts above and below the knee and elbow²⁹, application Thomas's splint, aftercare/discharge advice.</p> <p>Types of casts, materials and the importance of accountability are also included at this level.</p> <p>Meeting the needs of individuals such as children, older people and people with a learning disability should be addressed here.</p>	<p>'Mid-level' education and training</p> <p>This includes core elements of 'Foundation' education training and additional core elements relating to more complex fractures and casting. Examples include application of Thomas splint, care of Bennet's/Smiths/Equinus fractures, problem solving and discharge advice for patients.</p>

²⁸ To note this training varies greatly in length as staff need exposure to a wide variety of casting skills in the various settings of EDs, MIUs and Fracture Clinics.

²⁹ To note [BCC Casting standards](#) require application of a cast by or under the direct supervision of someone who holds a current BCC.

Tier 3 ('Advanced level training' - BCC)	
Delivered By	BOA approved ³⁰ trainers or equivalent or/and HSC Trust staff with BCC-certification or equivalent
Target Audience	<p>Experienced registered nursing staff in relevant T and O services, such as Fracture clinic staff, EDs: Specialist nurses, ENPs, ANPs. Depends on the service needs and individual learning needs.</p> <p>Non-registered staff: determined by local departments based on the competencies required for their role i.e. their manager should decide what training they need based on what they are expected to do in their specific role, level of practice and commensurate with local service needs.</p> <p>Tertiary centre staff due to the specialist nature of their work</p>
Suggested Source	BCC delivered over 6 months day release by BOA approved staff/equivalent or Trust nursing staff with BCC-certification or equivalent. May be delivered alongside induction training
Suggested Core Content	<p>Advanced Education and training³¹</p> <p>'Advanced' education and training comprises the BCC³².</p> <p>The content of the course includes underpinning knowledge of anatomy and physiology, T&O, as well as casting techniques³³.</p> <p>Anatomy and Physiology Examples include structure and development of bone, the skeleton and joints, detailed anatomy of the upper and lower limbs, hip, pelvis, vertebral column, the nervous system.</p> <p>Trauma Examples include fractures and associated complications, trauma to the upper, lower arm and elbow, clavicle, shoulder, lower leg, knee and femur, pelvis and spine.</p> <p>Orthopaedic conditions Conditions such as talipes, types of arthritis, bone infection, hip dysplasia, perthes, osteoporosis and back pain.</p> <p>Casting techniques Advanced casting techniques include the full range of casts and slabs for above and below the elbow and knee and the use of lightweight casting. Specialist casts, for example, cylinder plasters, scaphoid, hip spicas etc are also included. Full assessment of the patient and troubleshooting issues are important elements of this course.</p>

³⁰ As in the current pilot BHSCT.

³¹ NB this training should be delivered separately for non-registered staff whose learning needs may differ in the absence of undergraduate nurse training programme.

³² See Appendix 6 for further detail re content.

6.3 Projected Education and Training Requirements

Key stakeholders involved in the project were asked to estimate education and training needs based on new starts/staff turnover. The data collated estimates that, at the time of writing, in Fracture Services and EDs/MIUs in NI there were approximately:

- 930 nurses with an annual turnover of approximately 12-19 Fracture services and 20-25 ED/MIU.
- 150 non-registered staff (130 EDI/MIU and 20 Fracture Clinics) with minimal turnover

Table 10 presents the estimated numbers for the 3 Tiers of education/training for registered and non-registered staff each year for the next 3 years.

Table 10:

Projected estimated education and training requirements per annum in NI.

Fracture Clinics		
Number <u>per year</u> needing Tier 1 ' Foundation level ' casting training	Number <u>per year</u> needing Tier 2 ' Mid-level ' casting training	Number <u>per year</u> needing Tier 3 ' Advanced level ' casting training
Non-Registered Staff 5 Registered Nurses 12-19	Non-Registered Staff 5 Registered Nurses 12-13	Non-Registered Staff 2 Registered Nurses 9-11
ED/MIUs		
Number <u>per year</u> needing Tier 1 ' Foundation level ' casting training	Number <u>per year</u> needing Tier 2 ' Mid-level ' casting training	Number <u>per year</u> needing Tier 3 ' Advanced level ' casting training
Non-Registered Staff 5-8 Registered Nurses 20-25	Non-Registered Staff 5-8 Registered Nurses 10-12	Non-Registered Staff 3 Registered Nurses 2-4

7.0 The Way Forward

This section sets out key principles underpinning the way forward along with a number of recommendations.

7.1 Key Principles Moving Forward

It is acknowledged that casting procedures carry a degree of risk. The following principles should underpin the nursing workforce delivery model and education/training of staff who are required to undertake safe and effective casting as part of their role.

The following key principles have been identified and mapped to the 4 areas of the CNO vision:

7.1.1 Workforce/Workload Planning

- The nursing workforce delivery model around casting should provide opportunities for stabilisation of the workforce and staff progression as appropriate;
- An appropriate skill mix should be in place in order to support a person-centred, safe, effective and efficient model of care provision for the people of NI.

7.1.2 Education and Training

- All staff involved in the application and removal of casts³⁴ require appropriate education and training to provide safe and effective care and minimise any risk to patients requiring T&O treatment across the life span in NI;
- As a general guide, front line practitioners, new to casting, working in ED/MIUs/Fracture Clinics should receive 'Foundation' education and training. This training may be cascaded by NI nursing staff with BCC-certification or equivalent³⁵;
- 'Mid-level' education and training should be available for all frontline practitioners who have a responsibility for casting, alongside the training that they receive on induction. Some departments within Trusts, for example Fracture Clinic/Orthopaedic Unit, BHSCT, may require a higher proportion of 'Advanced' training (ie the BCC course) due to the specialist nature of their work;
- Advanced Level - BCC accredited training requirements will be determined according to service need and/or individual learning and development needs;

³⁴ May also apply to splints.

³⁵ Throughout the document the use of the term equivalent denotes qualifications that staff may have completed in ROI or further afield that are considered to be of a similar standard.

- Education and training should follow a 'stacking' model to demonstrate clear progression and development of knowledge and skills and levels of practice, whilst avoiding duplication.

7.1.3 Quality assurance

- Where possible there should be at least 1 BCC/equivalent trained member of staff on duty in settings where casts are applied;
- All staff involved in casting should be supported with [reflective supervision](#) commensurate with their specific role, level of practice and in line with the continuum of lifelong learning and professional development as identified by NIPEC;
- An evaluation framework, incorporating education priorities, should explore processes and outcomes of casting education³⁶

7.1.4 Career pathways

- Education and training undertaken should align with the NI career model, levels of practice and learning and development framework for staff working in this area of practice.

³⁶ Maxwell (2022) Review of the current business model for commissioning and delivery of post registration education for nurses, midwives and allied health professionals in Northern Ireland.

7.2 Proposed Recommendations and Education/Training Model Moving Forward

The following recommendations are underpinned by the 4 key areas related to CNO vision as highlighted earlier in this report. Alongside this vision is the strategic ambition that the right care should be provided at the right time, in the right place, by the right person with the right knowledge and skills. The recommendations and education and training model below addresses these components in addition to the challenges set out earlier in this report. Essentially, what follows reflects a locally delivered and more structured, streamlined and cost-effective approach in order to meet the needs of the population of NI moving forward.

7.2.1 Key Recommendations:

Workforce/Workload Planning

- **Recommendation 1:**
It is recommended that a workforce skill mix exercise should be completed around casting in all Trusts with consideration given to the role of non-registered staff.
- **Recommendation 2:**
Post registration casting education and training in NI should be formally linked to workforce planning. The rest of the UK have arm's length education agencies to provide a strategic overview of this.
- **Recommendation 3:**
Where possible, a Consultant Orthopaedic Surgeon, who is a Fellow of the British Orthopaedic Association, should be available to support BCC applications in fracture clinics in HSC Trusts.

Education and Training

- **Recommendation 4:**
Eventually all casting education and training (including Train the BCC trainer) should be provided by staff in NI. A number of issues need to be considered– the availability of casting sinks and associated plumbing, training requirements for trainers, the training space, equipment and location/venues etc.
- **Recommendation 5:**
Further exploration is required to ensure staff who are to be trained by BOA to be *accredited* trainers have the qualifications required by BOA – for example, additional teaching qualification requirements.

- **Recommendation 6:**

Education and training requirements should be determined by local departments based on the competencies required for their role i.e. their manager should decide what education/training they need based on what they are expected to do in their specific role and commensurate with local service needs.
- **Recommendation 7:**

A regional approach is required to target attendees for courses, for example, by means of a learning and development matrix and learning needs analysis (as previously recommended in the regional review of the business model for education commissioning). This would facilitate planners' understanding of the knowledge and skills of the nursing workforce.
- **Recommendation 8:**

Individual learning needs analysis around casting should be carried out within Trusts in line with the regional Learning Needs Analysis (LNA) Guide and Tool (2025). The Guide provides a framework for carrying out an effective LNA that aligns with strategic policy, workforce planning, and service needs and the Tool is a practical resource designed to help managers at all levels, capture, organise, and prioritise the learning needs in a consistent and structured way.
- **Recommendation 9:**

Non-registered staff who apply and remove casts within their role should receive education and training commensurate with the patient groups and types of casts they can apply/remove.
- **Recommendation 10:**

Non-registered staff currently applying and removing casts should be given the opportunity to avail of BOA accredited training subject to individual learning needs analysis.
- **Recommendation 11:**

Consideration should be given to continued commissioning to bring over BOA staff to provide BCC training until workforce capacity for safe delivery of care is reached in NI (as per the current pilot BHSCT). The possibility of holding the exam in NI should also be explored.
- **Recommendation 12:**

Consideration should be given to continued commissioning to bring over BOA staff to 'train the BCC trainers' (Belfast BCC Course) until capacity is reached in NI to be self-sufficient in training our workforce (as per the current pilot BHSCT). A phased, transitional approach should be considered – for example, Year 1 (current year), NI trainee trainers have contributed to the theoretical content of the BCC Train the trainers course; Year 2 trainee trainers to additionally contribute to the

practical component of the course; Year 3 trainee trainers to run the course with support from BOA from a supervisory perspective. Year 4 – course run by NI colleagues exclusively. Again, the possibility of holding the exam in NI should also be explored.

Quality Assurance

- **Recommendation 13:**
Trusts should review their existing practices & governance of casting to ensure patient safety and that staff involved in casting are appropriately trained.
- **Recommendation 14:**
Trusts should meet collectively to review/update their policies on casting, and identify a regional position around learning needs analysis, procedures and supervision requirements.
- **Recommendation 15:**
There should be further exploration of the possibility of accreditation for NI run programmes from a professional body, for example, BOA, that in place in ROI or the Royal Colleges of Surgeons ROI/Edinburgh & BOA³⁷.
- **Recommendation 16:**
Three yearly casting updates should be mandated for all staff who cast regularly as part of their job role and who have received casting training.
- **Recommendation 17:**
Casting activities and adverse incidents should be audited on a regular basis as recommended in the report by Dr Elaine Maxwell in 2022.

Career Pathways

- **Recommendation 18:**
Future work should explore the possibility of micro-credentialing with a local Approved Education Institution to secure academic accreditation for “Mid-level” and ‘Advanced’ casting courses moving forward.

To note, some of these recommendations would require additionality in terms of further accredited training for non-registered staff where necessary, BCC training more registered staff until capacity is reached, continued support for the Belfast BCC Course (Train the trainer) until capacity is reached and regular updates for staff involved in casting.

³⁷ BOA have indicated that they would be willing to explore the possibility of accreditation of courses run in NI by appropriately trained, local practitioners.

8. Conclusion

This project aimed to put forward a sustainable workforce delivery model around casting and associated education/training programmes.

The delivery of safe and effective, person centred care alongside maximising the potential of the healthcare workforce in NI, has never been more important. This report, developed with key stakeholders across the region, has demonstrated that a revised workforce delivery and associated education/training model may be of value to support excellence in care delivery across the lifespan.

While the overall *content* of current casting courses has been beneficial for staff, this education and training has been problematic for the reasons highlighted in this report. Further challenges have been identified in terms of the practical issues of accessing education further afield and equity of access across the region. This report has summarised the current position and presents a number of key recommendations for the future. Essentially, it has proposed (1) a revised workforce delivery model and (2) a locally delivered, more structured, streamlined and cost-effective model of education and training for NI.

Glossary of Terms

British Casting Certificate (BCC)

The British Casting Certificate (formerly known as the BOA/RCN (SOTN) AOT Casting Techniques Certificate) has been the only nationally recognised qualification in Casting since 1982) for both the Orthopaedic Practitioner and Nurses whose role includes Casting and Splinting.

British Orthopaedic Association (BOA)

The British Orthopaedic Association (BOA) is the Surgical Specialty Association for T&O in the UK, promoting excellence in professional practice, Training and Education and Research.

Cast

A cast is defined as a rigid device used to provide support and protection following injury and/or surgery and for other musculoskeletal conditions that require immobilisation.

Children

This term includes neonates, infants, children and young people.

Clinical Education Centre (CEC)

The CEC delivers high quality education to Nurse, Midwifery and Allied Health Professions staff to facilitate the delivery of safe, effective and care to the people of Northern Ireland.

Trauma and Orthopaedic Service (T&O)

The T&O service provides a range of local and regional services that look after patients with injuries and conditions that affect the bones, joints, ligaments, tendons, muscles and nerves.

Appendix 1

Membership of the Task and Finish Group

Name	Title	Organisation
Barbara Burnside	Nurse Development Lead	BHSCT
Sharon Burnside	Nurse Officer	DoH
Joanne Canavan	Nurse Development Lead	BHSCT
Carol Chambers	Lead Nurse -Practice Education Co-ordinator	BHSCT
Judith Cinnamond	Sister Fracture Clinic	SEHSCT
Dr Sonya Clarke	Senior Lecturer	QUB
Mrs Julie Craig	Orthopaedic Specialty Dr	BHSCT
Cecilia Devlin	Sister Fracture Clinic	BHSCT
Danielle Duffin	Lead Nurse, ED, Ulster	SEHSCT
Darren Ferguson	Staff Nurse, ED, Ulster	SEHSCT
Joanne Fitzsimons	Practice Educator Facilitator	SEHSCT
Patrick Gallagher	Senior Education Manager	CEC
Stacey Hardy	Clinical Sister	SHSCT
Nicola Hodgen	Deputy Ward Sister	BHSCT
Shannon Kelly	Staff Nurse, ED, Ulster	SEHSCT
Emma Keenan	Paramedic Practice Educator	BHSCT
Emma Kinnaird	Sister, OPD MPH	BHSCT
Amanda Lewis	Deputy Sister Altnagelvin Fracture Clinic	WHST
Lisa McCullough	Clinical Educator	BHSCT
Cathy McCusker	Senior Professional Officer-Project Lead	NIPEC
Susanna McNally	RGN Band 5	BHSCT
Helen McNeilly	ANP ED Antrim	NHSCT
Frances McNicholl	Project Support Officer	NIPEC
Gina Mitchell	Fracture Specialist Nurse	SEHSCT
Pamela Moore	Nursing Development Lead	BHSCT
Laura Murphy	Clinical Sister	SHSCT
Veronica Roberts	Lead Consultant Orthopaedic Surgeon	SHSCT
Sarah Wilson	Trauma & Orthopaedics Service Manager	BHSCT

Appendix 2

Workshop Attendees 5th December 2024

Name	Organisation
Joanne Canavan	BHSCT
Carol Chambers	BHSCT
Dr Sonya Clarke	QUB
Mrs Julie Craig	BHSCT
Cecilia Devlin	BHSCT
Danielle Duffin	SEHSCT
Patrick Gallagher	CEC
Bridget Hendron	BHSCT
Nicola Hodgen	BHSCT
Emma Keenan	BHSCT
Elaine Kelly	BHSCT
Shannon Kelly	SEHSCT
Emma Kinnaird	BHSCT
Amanda Lewis	WHST
Cathy McCusker	NIPEC
Susanna McNally	BHSCT
Helen McNeilly	NHSCT
Frances McNicholl	NIPEC
Pamela Moore	BHSCT
Laura Murphy	SHSCT
Jenny Reynor	SEHSCT

Appendix 3

Membership of the Core Group

Name	Organisation
Miss Julie Craig	BHSCT (Orthopaedic Speciality Dr)
Amanda Lewis	WHSCT (Fracture Clinic)
Pamela Moore	BHSCT (Fracture Clinic)
Bridget Hendron	BHSCT (Fracture Clinic)
Carol Chambers	BHSCT (Lead Nurse – PEC)
Shannon Kelly	SEHSCT (ED)
Danielle Duffin	SEHSCT (ED)
Joanne Fitzsimons	SEHSCT (PEF)
Judith Cinnamond	SEHSCT (Fracture Clinic)
Gina Mitchell	SEHSCT (Fracture Clinic)
Laura Murphy	SHSCT (Fracture Clinic)
Stacey Hardy	SHSCT (ED)
Nicola Hodgen	BHSCT (RBHSC Fracture Clinic)
Cecilia Devlin	BHSCT (Fracture Clinic)
Helen McNeilly	NHSCT (ED)
Louis O'Connor	BHSCT (Physiotherapy)
Cathy McCusker	NIPEC

Appendix 4

Workshop attendees 20th March 2025

Name	Organisation
Sharon Burnside	Department of Health
Joanne Canavan	BHSCT
Carol Chambers	BHSCT
Judith Cinnamon	SEHSCT
Cecilia Devlin	BHSCT
Patrick Gallagher	CEC
Amanda Lewis	WHST
Patricia McNeilly	NIPEC
Barbara Burnside	BHSCT
Jenny Reynor	SEHSCT

Appendix 5

Suggested Content: 'Foundation', 'Mid-level' and 'Advanced' Education and Training

Tier 1 - Foundation Education and Training

It was agreed by key stakeholders that 'foundation' education and training should be largely based on the 3 Day BOA accredited A&E programme. Content as follows:

Joint movements, complications of casting and fractures, lower limb anatomy and physiology, below knee slabs, upper limb anatomy and physiology, use of cast cutter/shears, lower and upper limb trauma, below elbow slabs, Metacarpal and Gutter slabs, scaphoid slabs, above elbow slabs, accountability in casting, cast types/materials, problem solving and safe removal and U slabs

Tier 2 - 'Mid-level' Education and Training

This includes 'foundation' training in addition to the following areas:

Application/care of Thomas splint, application/care of braces and boots, correct use of materials, application/care of cylinder plasters, care of Bennet's/Smiths/Equinus fractures/conditions, discharge advice (MDT), skincare, pain management, specific issues for at risk patients/those with additional needs. For example, paediatrics/patients with dementia.

Tier 3 - 'Advanced' Education and Training

This reflects the content of the British Casting Certificate (BCC)

Core elements

1. Anatomy and Physiology

Anatomy and physiology, Skeleton review and joint movement, anatomy of the hand and wrist, anatomy of the elbow joint, radius and ulna, anatomy of shoulder girdle, shoulder joint and the humerus, anatomy of foot and ankle, anatomy of the knee joint and tibia/fibula, anatomy of the hip joint, femur and pelvis/innominate bone, anatomy of the vertebral column, important aspects of the nervous system.

2. Trauma

Trauma of hand, wrist and forearm, dislocation of elbow and supracondylar fractures of the humerus, trauma of upper and middle humerus, clavicle and shoulder, trauma of foot and ankle, trauma of tibia and fibula, trauma of knee and knee conditions, trauma of femur, trauma of pelvis, trauma of spine.

3. Orthopaedic conditions

Foot conditions, congenital talipes equino varus, osteoarthritis and rheumatoid arthritis, osteomyelitis, bone infections, tuberculosis, developmental dysplasia of the hip, perthes' disease and other osteochondritis conditions, low back pain, osteoporosis.

4. Casting Procedures

Assessment of the patient including relevant history, basic casting techniques, use of apparatus in the casting room, care of patients in casts, trimming and drying, windowing, checking or patients with casts, verbal and written advice for patients, communication skills. Complications of cast fixation -prevention, detection and treatment. Walking attachments for leg casts. Removal of casts and subsequent care.

Specific Areas Include:

Appropriate use of materials including plaster of paris and alternative casting materials, an understanding of how to use and create:

- Soft products and combi cast techniques.
- Producing the correct layers of resin-based materials and using products making use of their properties

Positions, extent of the cast and basic technique of the following:

- Plaster of Paris: Below elbow, bennett's type, above elbow, below knee, above knee, casts for clubfoot
- Slabs: Volar slab, below elbow, above elbow, below knee, 'U' Slab
- Casting using lightweight resin-based materials casts including: Below elbow, below elbow (FRC or Soft combi cast), thumb Spica, scaphoid, arm cylinder, above elbow, slipper, below knee, leg cylinder, above knee, sarmiento type
- Discuss care and troubleshoot any problems relating to the following: Corset/jacket, frog type, shoulder spica, hip, broomstick, minerva jacket (demonstration only), functional bracing of the humerus, femur & tibia, resting splints for limbs and negative casting.
- Understand the principles of orthopaedic bracing and be aware of the following applications: futura wrist brace, humeral brace, range of movement knee braces, tri-panel knee splint and walking boots.



For further Information, please contact

NIPEC

4th Floor, James House

Cromac Avenue

BELFAST

BT7 2JD

Tel: 0300 300 0066

August 2025