The Regulation and Quality Improvement Authority

GAIN
GUIDELINES AND AUDIT IMPLEMENTATION NETWORK

Guideline for Regional In-Utero Transfer of High Risk Women within Northern Ireland, (Including potential transfer outside Northern Ireland via air ambulance)

December 2016

www.rqia.org.uk/GAIN

Assurance, Challenge and Improvement in Health and Social Care

Contents

Introduction

Purpose of the Guideline

This clinical guideline has been developed using research evidence, expert opinion and professional consensus to provide the best available evidence-based practice for the regional transfer of mothers and babies *In-Utero* between hospitals and maternity units, including the potential transfer outside Northern Ireland (NI) by road/air ambulance.

As different teams of doctors and midwives are involved in the management of patients, this guideline is not prescriptive and should take into account individual variations and needs. The purpose is to provide a safe and efficient *In-Utero* Transfer service within the maternity network and applies to all obstetric units throughout Northern Ireland.

Scope of the Guideline

The guideline summarises best available evidence regarding *In-Utero* Transfer and details a transfer proforma to be completed with every patient and placed at the front of the Northern Ireland Maternity Handheld Record.

Objectives

- To provide a safe, efficient and cohesive *In-Utero* Transfer service which is generic across the Northern Ireland maternity network
- Improve clarity on all aspects of an emergency *In-Utero* Transfer
- Improve documentation before, during and after transfer
- Develop a Regional *In-Utero* Transfer proforma
- Facilitate easier transfer between units
- Promote patient safety during transfer
- Educate all staff involved in transfer on the importance of safe, efficient transfer which is well documented within patient notes.
- Initiate audit of the use of the GAIN guideline.

Roles and responsibilities

It is the responsibility of all staff involved in transferring mothers to familiarise themselves with the content of this guideline and the transfer proforma, promoting its use during every emergency transfer.

Policy Statement

To provide a framework for practice ensuring optimal safety during the emergency *In-Utero T*ransfer period.

Guideline Methodology

Who is the guideline intended for?

This guideline is relevant to all obstetricians, midwives, paediatricians, anaesthetists, patients and Northern Ireland Ambulance Service (NIAS) staff involved in the *In-Utero* Transfer of mothers across the Northern Ireland maternity network.

It will inform those involved within the maternity setting ensuring arrangements are in place to deliver appropriate care for mothers and babies who are undergoing *In-Utero* Transfer.

Involvement of Stakeholders

Key to the development of GAIN guidelines is the involvement of relevant professionals and patients (Appendix 3: Patient questionnaire into current *In-Utero* Transfer practices, Appendix 4: Snap shot of current practice and local patients' perspective). A list of the Guideline Development Group (GDG) members for the 'Guideline for Regional *In-Utero* Transfer of High Risk Women within Northern Ireland' (including potential transfer outside Northern Ireland via air ambulance)' can be found in Appendix 6.

Terms of Reference

The 'Management of Severe Pre-eclampsia and Eclampsia'[1] recommended that transfer protocols should be developed to ensure that patients are transferred with appropriate personnel and equipment. Further, transfer documentation also requires standardisation.

Needs Assessment

Transfer protocols were discussed in a GDG meeting. This highlighted the significant lack of appropriate documentation and clear protocols for the *In-Utero* Transfer of High Risk Obstetric Patients throughout NI and emphasised the need for guideline development.

Initial reviews conducted between April 2014 – Jan 2015 highlighted that there is a distinct lack of up-to-date information on practice across Northern Ireland. A background literature search was conducted to identify any existing guidelines on *In-Utero* Transfer, both locally and nationally. The literature review search looked at:

- Royal College of Obstetricians and Gynaecologists (RCOG),
- National Institute of Clinical Excellence (NICE) and
- British Association of Perinatal Medicine (BAPM) guidelines.

A PUBMED search restricted to '*In-Utero* Transfer' was conducted to obtain evidence from current literature and an internet-wide search conducted to ascertain current transfer activity, published by the National Audit Office and Department of Health.

A National Health Service (NHS)/DHSSPSNI search for '*In-Utero* Transfer' was used to identify best-practice recommendations. This search identified existing practice, current local and national guidelines and best-practice recommendations. An initial snapshot audit within one trust (Southern Health and Social Care Trust (SHSCT)) was undertaken to ascertain current practice and patient opinion on transfer (Appendix 4).

A summary of findings was presented to an expert committee of consultant obstetricians, anaesthetists and midwives, along with input from NIAS and a summary of key transfer requirements produced. A proforma for use during *In-Utero* Transfer was then developed, piloted and then revised again (page 14).

Guideline Development Group

The GDG comprised a team of healthcare professionals involved in *In-Utero* Transfer and was supported by GAIN (Appendix 6). The key steps in the development of this guideline were taken from the 'Key Steps in the Development of the Guideline' (Appendix 7).

Six GDG meetings were held between January 2014 and February 2016. During each meeting clinical questions were reviewed and assessed and recommendations formulated. Service-user concerns were identified through the patient questionnaire and snapshot audit (Appendix 3 & 4).

Patient/User Representatives

Patients did not directly participate on the GDG. However, the snapshot audit of current practice allowed patient representatives, who had undergone the transfer process, to voice their opinions through an anonymised questionnaire (see Appendix 3 and 4).

Guideline review by Expert Advisers

Following the development of the guideline GAIN undertook a consultation process of the guideline and the guideline was also reviewed by an expert external from the GDG. Areas for adjustment were identified and the guideline subsequently revised following approval of the GDG.

Updating the Guideline

In keeping with GAIN requirements these guidelines will be reviewed in 2019 or sooner in light of any emerging evidence.

Clinical Audit

Implementation and adherence of this guideline should be audited following a period of imbedding.

Funding

The GDG was commissioned by GAIN to develop this guideline.

Background and Current Practice

In recent decades, considerable developments have been made to improve the management of high risk obstetric patients at local, regional and national level.[1] There still remains the potential of an untoward or fatal outcome of either mother and/or baby during emergency *In-Utero* Transfer.

Emergency *In-Utero* Transfer, is defined as: *'the unplanned, acute transfer of a mother for specialist maternal or anticipated neonatal care which cannot be provided locally, either to other units in the network or to units outside the network, such as designated tertiary centres'.*[2]

This transfer practice is an inevitable occurrence in the current structure of maternity and neonatal networks and will continue to play a vital role in providing optimal care for mothers and babies.

Incidence

Unlike neonatal transfer between neonatal units, information regarding exact incidence of *In-Utero T*ransfer and neonatal outcomes in recent years is limited. The Perinatal Emergency Transfer Study conducted in 1999 recorded 309 mothers or infants transferred out of the 37 largest perinatal centres in the United Kingdom (UK) during a 3-month census which equates to 1,236 episodes per year.[3] Most perinatal centres were regularly unable to meet in-house demands for neonatal intensive care and there were a large number of inappropriate and unplanned neonatal transfers, mostly due to a '*lack of neonatal cots*'.[4] There was a wide geographical variation in the extent to which supply met demand.[4] The 2006 National Perinatal Epidemiology Unit Survey, involving over 2,500 women in England, reported that 0.5% of women experienced transfer from one hospital to another during labour, with 1.7% being transferred from separate birth centres or maternity units to hospitals.[5] Fenton et al reported a regional annual acute *In-Utero T*ransfer rate of 3.7 per 1000 deliveries with the primary indications being for fetal reasons.[6]

*In-Utero T*ransfer patterns over 10 years (1995 - 2004) recorded for babies <32 weeks' gestational age show a gradual decline from 2.1/1000 births to 1.8/1000 births with the overall average remaining at 2.1.[7] The average rate of *In-Utero* Transfer/1000 births <32 weeks gestation however was 87.8 over 10 years, highlighting the increased risk of transfer being associated with preterm delivery.[7]

Information regarding exact incidence of *In-Utero* Transfer within Northern Ireland is lacking. Northern Ireland Maternity Information Service (NIMATS) data from the Southern Health and Social Care Trust (SHSCT) 2013 – 2014 recorded 51 *In-Utero T*ransfers between hospitals.[8] This equated to 0.4% of births in Craigavon Area Hospital and 1.9% of births in Daisy Hill Hospital.[8] Based upon this data the main indications for transfer from Daisy Hill Hospital to another unit were preterm labour, antepartum haemorrhage and preterm rupture of membranes.[8]

Indications for transfer

Often the main indication for transfer is for the access to neonatal intensive care unit (NICU) and special care baby unit (SCBU) facilities for the neonate. The 2010 Bliss Baby Report, a patient-questionnaire based survey, recorded the primary indication for *In-Utero* transfer as lack of capacity of neonatal cots (43%).[9] One of the first regional publications looking at maternity/neonatal transfers in Northern Ireland found that the main maternal conditions requesting *In-Utero* transfer were pre-term labour and pre-eclampsia.[10]

Outcomes of transfer

Published data reported on population-based outcomes after acute antenatal transfer and had documented no adverse incidents during transfer with 24% of women remaining undelivered following transfer[6]. This data also highlighted the importance of undertaking routine audit of acute antenatal transfers.[6] Maternal outcomes following *In-Utero* transfer were recorded[11] - data included 258 *In-Utero* Transfers within 37 of the largest perinatal centres within the UK over 3 months (April – June 1999).[9] They found that 61% of mothers transferred delivered at the receiving hospital, with 12% being transferred to a third hospital.[11] One mother delivered during transfer and nine mothers delivered within one hour of arrival at the receiving unit.[11] Two mothers received a blood transfusion during transfer and 42% received tocolytics.[11] Eight percent of mothers received High Dependency Unit (HDU) or Intensive Care Unit (ICU) care following transfer, highlighting that these patients have a significant potential to become unwell during transfer and further emphasizing the need for accurate documentation during transfer.[11] Median journey time was 35 minutes.[11] It was also reported that 71% of infants transferred *In-Utero* were admitted to the NICU and in the study cohort, seven infants (2.7%) were stillborn and two early neonatal deaths (0.7%) were recorded.[11]

In comparison, the Northern Ireland Neonatal Intensive Care Outcomes Research and Evaluation (NICORE) Group reported an incidence of 6.9% of all live births receiving neonatal intensive care in 2009 (1769 infants) with a 97% survival to discharge from the neonatal unit rate.[12] This highlights the significantly increased incidence of neonatal intensive care unit admission and neonatal death for infants transferred *In-Utero*. These findings emphasise the importance of optimal care at all stages of the *In-Utero* transfer process for mothers and their babies.

Patients' Perspective

The National Perinatal Epidemiology Unit recorded women's experience of maternity care.[5] One woman referred to her information needs, stating:

"…we were transferred from one hospital to another. Hospital 1 had not told us what would be happening and Hospital 2 assumed they had".[3]

Furthermore, Bliss, a UK charity that helps care for premature and sick babies, conducted a survey into activity in 2006-2007 involving all UK hospitals with a neonatal unit and received a 92% response rate, with 500 questionnaires being completed by

parents with premature and unwell babies.[13] Twenty-four percent of patients reported being transferred *In-Utero*. One patient was quoted as saying:

"…the first hospital was chaotic and extremely disconcerting. No cots, no information. We spent eight hours waiting (in a waiting room or ambulance) for them to find a cot. Little info at this time very scared parents to be".[13]

Thirty-five percent of women report that their transfer was outside the local area.[13] Bliss conducted a similar survey three years later reporting that lack of capacity remained an issue, with 43% of mothers who were transferred to another hospital before giving birth reporting that this was due to lack of capacity.[14]

Current Obstacles

The London Emergency Bed Service and Ambulance Service survey report that an average of 240 minutes is spent contacting 6 - 8 units when attempting to arrange *In-Utero* transfer.[15] This ties staff up for long periods potentially impacting upon care provision and clinical safety within the acute setting.

Current Practice

In Northern Ireland, exact data on incidence of *In-Utero* transfer is limited. NIAS comment that there is no specific documentation used for *In-Utero* transfer. The incidence of *In-Utero* Transfers cannot be specifically obtained from their records. Only if treatment or intervention occurs during the transfer is the standardised NIAS Patient Report Form* used (Appendix 1). This Report form is generic for all ambulance service transfers and is not specific to maternity and *In-Utero* Transfer. Requests for transfer are made under the direction of ambulance control and no documentation is made in the maternity record regarding transfer duration, intervention, observations, or staff involved.

Development of proforma

As a consequence of the current practice and the lack of documentation for *In-Utero* Transfer of high risk women within Northern Ireland, a transfer proforma was developed.

Evidence for Recommendations

In 2011 the DHSSPSNI issued a summary of key learning themes from reported Serious Adverse Incidents (SAI's) and highlighted that *'trusts should develop and implement protocols for the emergency In-Utero transfer of high risk women, to include potential transfer outside Northern Ireland via air ambulance'*.[4] The protocol should also cover arrangements for the transfer of mother and baby back from units outside Northern Ireland.[2] The 2012 GAIN guideline on the Management of Pre-eclampsia and Severe Eclampsia further highlighted this, detailing that '*maternity units should consider developing transfer protocols using standardised documentation to ensure that patients are transferred with appropriate personnel and equipment'.*[1]

The Neonatal Taskforce, consisting of personnel from across the NHS neonatal community produced a Tool Kit for High Quality Neonatal Services for the Department of Health in 2009, earmarking transfer services as one of the seven key areas recommended for improvement.[2] The taskforce highlighted concerns raised by the National Audit Office Report in 2007 over the variation in transfer arrangements around England.[16] As a marker of good practice, they emphasised the need for network guidelines on *In-Utero* transfer. This would include:

- the referral process
- indications and contraindications for transfer
- documented discussion with parents in the use of steroids, tocolysis and fibronectin screening
- documented discussion between referring/receiving units.[2]

Further recommendations included a clear, documented referral process for all categories of transfer including a defined means of communication with other organisations and identified link personnel, the details of which should be circulated to all involved agencies.[2]

Records of communication must be clear, accurate and retrievable and in accordance with agreed standards.[2] Furthermore, good practice should involve clinical observation and record-keeping during transfer to the standard as that provided at any other time.[1]

The National Audit Office Report recommends that healthcare trusts undertake strategic needs assessments of the local population, taking into account and addressing the blockages in networks which prevent efficient *In-Utero* Transfers.[16]

Recommendations from NICE are detailed in a Quality Standard into specialist neonatal care and highlight the need for integration of *In-Utero* and postnatal transfers with the perinatal network.[17]

BAPM in the 2010 Report into Service Standards for neonatal care highlighted that '*when it is anticipated prior to delivery that a baby may require intensive or high dependency care, and this is not available locally, In-Utero Transfer should occur*

provided this does not jeopardise the mother's health or risk delivery on route. Each network must have clearly established arrangements to facilitate such transfers'.[18]

The RCOG in their Working Party report into standards for maternity care highlight that there should be agreed pathways of care and standardised protocols and guidelines for *In-Utero* transfer.[19] Records of time from decision to transfer to time the transfer takes place and reasons for delay should be recorded.[19] Furthermore, managed maternity and neonatal care networks should include effective arrangements for managing the prompt transfer and treatment of women and their babies experiencing problems and complications.[19]

Locally, the DHSSPSNI commented that units must have written guidelines for transfer with a formalised communication network to ensure timely and appropriate transfer.[20]

In 1996, it recommended that a regional transfer service be created and should be based at the regional centre – The Royal Maternity Hospital (RMH). [20]

In 2006 an audit was conducted into acute maternity services. It concluded that one trust within Northern Ireland did not have appropriate training for staff in transfer arrangements, and that such transfers were increasing with extended time frame to access transfer services, placing both mother and baby at risk.[21]

In 2006 the Clinical Resource Efficiency Support Team (CREST) devised a protocol for inter-hospital transfer of patients. This highlighted that a clinical summary should be prepared. A standardised proforma was developed but this lacked appropriate detail for obstetric transfer and could not be reproduced in the maternity setting.[22]

In 2012 DHSSPSNI issued a strategy for Maternity Care in Northern Ireland for 2012-2018.[23] It detailed the importance of good communication during transfers and engagement of Trusts with NIAS to develop clear protocols for requesting and performing transfers either between different units within the Trust, between trusts or from home.[23] Clear policies for transfer of care between lead professionals or units are highlighted through learning from Serious Adverse Incidents (SAIs).[23]

In 2008 BAPM issued a framework for practice which stated that management should involve consultant obstetric staff, senior midwifery staff at both referring and receiving units with final decision being made at consultant obstetric level.[24] Communication between units is critical and there must be a clear, agreed delineation as to who is responsible for care at each stage of the transfer process.[24] Maternal consent should be documented appropriately.[24]

Recommendations

1. During the process of emergency *In-Utero* Transfer of a mother, the *In-Utero* Transfer proforma (page 14) should be used and placed at the front of the Northern Ireland Maternity Handheld Record.

2. A copy of the proforma should be retained at the referring hospital for audit purposes.

3. The need for *In-Utero* Transfer must be discussed with the mother and consent obtained and documented.

4. Once a neonatal cot has been identified, prior to arranging transport, the referring obstetric team must establish arrangements for transfer and acceptance with the receiving obstetric team.

5. The referring hospital remains responsible for the mother until handover at the receiving hospital. Ideally, all staff being asked to escort mothers should have undertaken training/familiarisation in an ambulance environment, either covered by their local base unit or regional/national courses, e.g. NAPSTaR [25]

6. Appropriately trained staff should accompany the mother – this depends on the clinical situation and the urgency of the transfer. Equipment and medication required during the transfer must be individualized to each mother and is the responsibility of the referring unit.

7. Both the maternal and fetal condition should be monitored safely during transfer. At no point should staff be unrestrained in the back of a moving ambulance.

8. Maternal observations should be recorded using the Regional Obstetric Early Warning Score (OEWS) chart.

9. Observations should be recorded every 15 minutes or more frequently depending on the clinical situation.

10. On arrival at the receiving hospital, a formal handover should take place with the obstetric team – medical and midwifery.

11. Formal handover at receiving hospital should be documented in the transfer proforma. Only then, does the mother become the responsibility of the receiving hospital.

12. The referring trust must ensure that staff and equipment are enabled to return to their base unit after completion of the transfer process.

13. All maternity units should have a designated ‘Transfer Lead’ who would evaluate each transfer and assess ‘what went well, what could be improved’.

14. A regional database of all *In-Utero* Transfers should be established.

15. The regional database information should be audited to improve consistency of the transfer process and promote patient safety during transfer. Given that there is no regional mechanism at present for this, audit should at present be carried out at Trust level.

16. GAIN should be involved in the development of regional audit methodology.

In-Utero Transfer Proforma

The Regulation and Quality Improvement Authority

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TRANSFER SUMMARY
TO BE PLACED AT FRONT OF MATERNITY CHART

Patient details (addressograph):
Name:
H&C No.
Hospital No.
DOB:
Address:

Gestation: ___+ ___weeks EDC: __/___/___

No. of fetuses: 1 2 Other: ____

Patient history:

Parity: _____

Previous modes of delivery (incl. year):

_____
_____
_____

Contraindications to vaginal delivery: Yes / No

Previous obstetric complications (PET/Preterm labour/PPH):

_____
_____
_____

Past medical /surgical history:

_____
_____
_____

Current medications:

_____
_____

Allergy Status:
Allergic to:
_____
Nature of reaction:
_____
_____
Or

NO Known Allergies

Infection Status:
(Including GBS carriage)
_____
_____
_____

Or

NO Known Infections

Transferring Hospital Information:

Date: ___/___/___

Time: ___:___ Day: _____

Name of referring unit:

_____

Contact No. of referring unit: _____

Referring Dr: _____

Grade: _____ Bleep/Contact No.: _____

Named consultant/consultant on-call:

_____

Indication for transfer: (see within for details)

_____

Next of kin:

Name: _____

Relationship:

_____

Contact No.: _____

Receiving Hospital Information:

Hospital Name: _____

Destination within hospital: _____

Contact No. of receiving unit: _____

Obstetric Doctor accepting transfer: **Yes / No**
Dr. _____

Grade: _____ Bleep/Contact No.: _____

Named consultant / consultant on-call:

_____

Consultant agrees to accept transfer: **Yes / No**

Signatures:

Referring Dr: _____

Referring midwife: _____

In-Utero Transfer Proforma

Stage 1 – Prior to Transfer

Indication for transfer:

_____

_____

Maternal observations: Time: ___: ___

HR: _____ RR: ____ Temp: _____

BP ___ /___ Sats: ____ EWS: _____

Membranes ruptured? :

Yes No

Date: ___ / ___ / ___ Time: ___ : ___

Liquor: _____

Ultrasound findings: Date: ___ /___ /___

	Fetus 1	Fetus 2 (if applicable)
Presentation		
Placental location		
Liquor volume		
EFW (grams)		
Umbilical Artery Doppler EDF		

Multiple gestations (if applicable):

No. of fetuses: _____

Chronicity: _____

Presentation: _____

Examination: Time: ___: ___

Contracting (freq /strength): _____

VE findings: _____ _____

Speculum findings: _____

Investigations:

Blood group: _____

Bloods sent (and results if available):

_____

_____

_____

_____

Urinalysis: _____

Fetal fibronectin:

Positive/Negative /Not performed

fFN value: _____

CTG: Time: ___: ___

Normal Suspicious Pathological

Findings: _____

Treatment:

Anti-hypertensives (dose and time):

_____

MgSO4 (dose and time):

_____

Tocolytics (dose and time):

_____

Steroids (dose and time):

_____

Analgesia (dose and time):

_____

Antibiotics (dose and time):

_____

Discussed with consultant on call prior to transfer:

Yes/No Time: ____: ____

Time decision made for transfer: ____: ____

Comments: _____

_____

In-Utero Transfer Proforma

Stage 2 - Transfer

1st Hospital contacted:

_____

Contact number: _____

Time contacted: _____:_____

Discussed with Dr _____ Grade: ____

Discussed with neonatal unit: **Yes/No**

Transfer accepted: **Yes/No**

Indication for not accepting transfer:

_____

2nd Hospital contacted (if applicable):

_____

Contact number: _____

Time contacted: _____:_____

Discussed with Dr _____ Grade: ____

Discussed with neonatal unit: **Yes/No**

Transfer accepted: **Yes/No**

Indication for not accepting transfer:

_____

3rd Hospital contacted (if applicable):

_____

Contact number: _____

Time contacted: ____:_____

Discussed with Dr _____ Grade: ____

Discussed with neonatal unit: **Yes/No**

Transfer accepted: **Yes/No**

Indication for not accepting transfer:

_____

Indication for not accepting transfer:

_____

4th Hospital contacted (if applicable):

_____

Contact number: _____

Time contacted: _____:_____

Discussed with Dr _____ Grade: ____

Discussed with neonatal unit: **Yes/No**

Transfer accepted: **Yes/No**

Indication for not accepting transfer:

_____

5th Hospital contacted (if applicable):

_____

Contact number: _____

Time contacted: _____:_____

Discussed with Dr _____ Grade: ____

Discussed with neonatal unit: **Yes/No**

Transfer accepted: **Yes/No**

Indication for not accepting transfer:

_____

Final Receiving Hospital (front page also):

Hospital Name: _____

Contact number: _____

Obstetric Doctor accepting transfer: Yes / No

Dr _____ **Grade:** _____

Time contacted: _____: _____

Neonatal unit contacted time: _____: _____

Time patient left unit: _____: _____

Accepting Unit Informed of time of departure:

Time: _____:_____

In-Utero Transfer Proforma

Stage 2 – Transfer (continued)

Patient Consent:

Verbal Consent Received: **Yes/No**

_____

If No, please explain concerns:

_____

_____

_____

Maternal observations: Time: ___: ___

HR: _____ RR: ____ Temp: _____

BP ___ /___ Sats: ____ EWS: _____

TRANSFER CHECKLIST:

From (exact location): _____

To (exact location): _____

Midwife chaperone: _____

Ambulance staff: _____

_____

Equipment for transfer:

Delivery pack ☐ Maternity Chart ☐

Neonatal resus ☐ IV access ☐

Catheter (if applicable) ☐

Time left referring unit: ___: ___

Intervention during transfer (additional notes):

_____

_____

_____

_____

Time (24hrs)	___:___	___:___	___:___	___:___	___:___	___:___	___:___	___:___	___:___
FH (bpm)	bpm	bpm	bpm	bpm	bpm	bpm	bpm	bpm	bpm

Other Observations: Time: ___: __

_____

_____

_____

Use the regional **chart to record maternal observations OEWS every 15 minutes during transfer depending on clinical situation.**

In-Utero Transfer Proforma

Stage 3 – Following Transfer

Handover **Arrival time: ___:___** **Handover Time: ___: ___**

Team members from referring unit / chaperones

Name: _____Signature: _____Designation: _____

Name: _____Signature: _____Designation: _____

Team members from receiving unit:

Name: _____Signature: _____Designation: _____

Name: _____Signature: _____Designation: _____

Name: _____Signature: _____Designation: _____

For further details of care following transfer refer to Maternity chart

Please complete section below when patient being discharged

Outcome of transfer:

_____

_____

_____

Discharge from receiving unit: Date: _____ / _____ / _____

Arrangements for follow up (including ANC review):

_____

_____

Referring unit informed of discharge and arrangement for follow up **Yes / No**

NAME of staff member informed:_____

NAME of Midwife Discharging Patient: _____

SIGNATURE of Midwife Discharging Patient: _____

References

1. GAIN guideline. Management of pre-eclampsia and severe eclampsia. March 2012

2. Department of Health – Tool Kit for High Quality Neonatal Services (Nov 2009) Available from URL:

   http://webarchive.nationalarchives.gov.uk/20130107105354/http:/www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_107845

3. Paramanum J, Field D, Rennie J *et al.* National census for the availability of neonatal intensive care. British association for Perinatal Medicine. *BMJ* 2000; 321: 727-9.

4. Supporting Safer Services: A summary of key themes and learning from Serious Adverse Incidents reported to DHSSPSNI between 1 April 2007 and 30 April 2010. DHSSPSNI. Sept 2011

5. National Perinatal Epidemiology Unit. Recorded delivery: a national survey of women's experience of maternity care 2006 Oxford University Press

6. Fenton AC, Ainsworth SB, Sturgiss SN. Population-based outcomes after acute antenatal transfer. *Paed Perinatal Epid* 2002; 16 (3) 278-285.

7. Cusack J, Field D, Manktelow B. Impact of service changes on neonatal transfer patterns over 10 years. *Arch Dis Child Fetal Neonatal Ed* 2007; 92: 181-184

8. NIMATS Annual perinatal statistics, Southern Health and Social Care Trust 2013-2014.

9. The chance of a lifetime? - Bliss Baby Report 2010® Available from URL: https://www.nepho.org.uk/uploads/doc/vid_8772_BLISS%20Baby%20Report%202010.pdf

10. Sidhu H, Heasley R, Patterson C, Halliday H, Thompson W. Short term outcome in babies refused perinatal intensive care. *BMJ* 1989; 299: 647-349.

11. Bennett C, Lal MK, Field DJ, Wilkinson AR. Maternal morbidity and pregnancy outcome in a cohort of mothers transferred out of perinatal centres during a national census. *BJOG* 2002; 109 (6) 663-666.

12. McCall E, Craig S. Neonatal Intensive Care Outcomes Research and Evaluation (NICORE). Neonatal Care in Northern Ireland, 2009. Queen's University Belfast. 2012.

13. Baby Steps to better care – Bliss Baby Report 2008® Available from URL: http://www.bliss.org.uk/campaigns-and-policy-reports

14. The chance of a lifetime? Bliss Baby Report 2010 ® Available from URL: http://www.bliss.org.uk/campaign-reports

15. Gale C, Ahy A, Phillipp C, Khan R, Santhakumaran S, Ratnavel N. Is *In-Utero* transfer too difficult – results from a prospective study. *Early Human Development 2012* 88 (3) 147-150

16. National Audit office Report – Caring for Vulnerable Babies: The Reorganisation of Neonatal Services in England. 2007.

17. NICE – QS4 Specialist neonatal care quality standard. 2012, NICE, Manchester. Available from URL: http://publications.nice.org.uk/specialist-neonatal-care-quality-standard-qs4

18. British Association of Perinatal Medicine. Service standards for neonatal care 2010.

19. RCOG Press. Standards for Maternity Care – Report of a Working Party. June 2008

20. DHSSPSNI. Delivering the future - report of the high risk pregnancy group/ DHSSPSNI; Belfast: 1996.

21. PricewaterhouseCoopers LLP. DHSSPSNI Audit of acute Maternity Services in Northern Ireland. October 2006

22. CREST. Protocol for the Inter Hospital Transfer of Patients and Their Records. Belfast, UK. August 2006 Available at URL: http://gain-ni.org/images/Uploads/Guidelines/protocol.pdf

23. DHSSPSNI. A Strategy for Maternity Care in NI 20102-2018. DHSSPSNI July 2012.

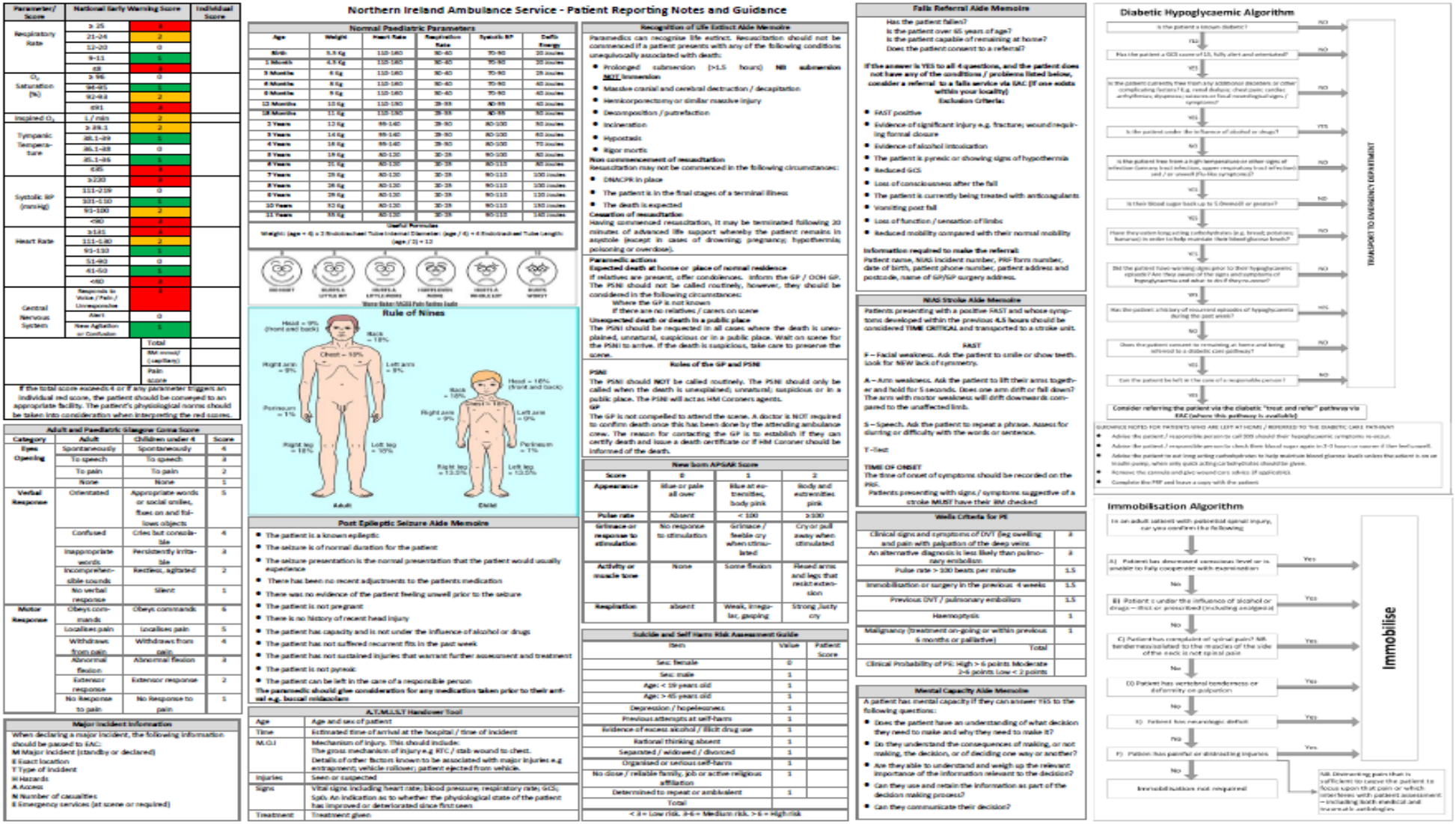
24. Fenton A, Peebles D, Ahulwalia J. Management of acute In-Utero transfers: a framework for practice. British Association of Perinatal Medicine. 2008.

25. Advanced Life Support Group http://alsg.org/uk/NAPSTaR

Appendices

Appendix 1: Northern Ireland Ambulance Service – Patient Reporting Notes and Guidance

(Inserted for reference only – contact NIAS for A3 original paper copy if required)



Northern Ireland Ambulance Service - Patient Reporting Notes and Guidance

Parameter/ Score	National Early Warning Score		Individual Score
Respiratory Rate	≥ 25	3	
	21-24	2	
	12-20	0	
	9-11	1	
	≤8	3	
O_2 Saturation (%)	≥ 96	0	
	94-95	1	
	92-93	2	
	≤91	3	
Inspired O_2	L / min	2	
Tympanic Temperature	≥ 38.1	2	
	38.1-39	1	
	36.1-38	0	
	35.1-36	1	
	≤35	3	
Systolic BP (mmHg)	≥220	3	
	111-219	0	
	101-110	1	
	91-100	2	
	≤90	3	
Heart Rate	≥141	3	
	111-140	2	
	91-110	1	
	51-90	0	
	41-50	1	
	≤40	3	
Central Nervous System	Responds to Voice / Pain / Unresponsive	3	
	Alert	0	
	New Agitation or Confusion	3	
	Total		
	RM moved? (yes/blank)		
	Pain score		

If the total score exceeds 4 or if any parameter triggers an individual red score, the patient should be conveyed to an appropriate facility. The patient's physiological norms should be taken into consideration when interpreting the red scores.

Adult and Paediatric Glasgow Coma Score			
Category	Adult	Children under 4	Score
Eyes Opening	Spontaneously	Spontaneously	4
	To speech	To speech	3
	To pain	To pain	2
	None	None	1
Verbal Response	Orientated	Appropriate words or social smiles, fixes on and follows objects	5
	Confused	Cries but consolable	4
	Inappropriate words	Persistently irritable	3
	Incomprehensible sounds	Restless, agitated	2
	No verbal response	Silent	1
Motor Response	Obeys commands	Obeys commands	6
	Localises pain	Localises pain	5
	Withdraws from pain	Withdraws from pain	4
	Abnormal flexion	Abnormal flexion	3
	Extensor response	Extensor response	2
	No Response to pain	No Response to pain	1

Major Incident Information

When declaring a major incident, the following information should be passed to 6AC:
M Major Incident (standby or declared)
E Exact location
T Type of incident
H Hazards
A Access
N Number of casualties
E Emergency services (at scene or required)

Normal Paediatric Parameters

Age	Weight	Heart Rate	Respiration Rate	Systolic BP	Defib Energy
Birth	3.3 Kg	110-160	30-60	70-90	20 Joules
1 Month	4.3 Kg	110-160	30-60	70-90	20 Joules
3 Months	6 Kg	110-160	30-60	70-90	20 Joules
6 Months	8 Kg	110-160	30-60	70-90	40 Joules
9 Months	9 Kg	110-160	30-60	70-90	40 Joules
12 Months	10 Kg	110-160	28-55	80-95	40 Joules
18 Months	11 Kg	110-160	28-55	80-95	40 Joules
2 Years	12 Kg	98-140	28-50	80-100	50 Joules
3 Years	14 Kg	98-140	28-50	80-100	60 Joules
4 Years	16 Kg	98-140	28-50	80-100	70 Joules
5 Years	18 Kg	80-120	20-28	90-100	80 Joules
6 Years	21 Kg	80-120	20-28	90-110	90 Joules
7 Years	24 Kg	80-120	20-28	90-110	100 Joules
8 Years	26 Kg	80-120	20-28	90-110	100 Joules
9 Years	28 Kg	80-120	20-28	90-110	120 Joules
10 Years	32 Kg	80-120	20-28	90-110	130 Joules
11 Years	38 Kg	80-120	20-28	90-110	140 Joules

Useful Formulas

Weight: (age + 4) x 2 Endotracheal Tube Internal Diameter: (age / 4) + 4 Endotracheal Tube Length: (age / 2) + 12

Name Rules: Mid3 Pain Scales Scale

Rule of Nines

Post Epileptic Seizure Aide Memoire

- The patient is a known epileptic
- The seizure is of normal duration for the patient
- The seizure presentation is the normal presentation that the patient would usually experience
- There has been no recent adjustments to the patients medication
- There was no evidence of the patient feeling unwell prior to the seizure
- The patient is not pregnant
- There is no history of recent head injury
- The patient has capacity and is not under the influence of alcohol or drugs
- The patient has not suffered recurrent fits in the past week
- The patient has not sustained injuries that warrant further assessment and treatment
- The patient is not pyrexic
- The patient can be left in the care of a responsible person

The paramedic should give consideration for any medication taken prior to their arrival e.g. buccal midazolam

A.T.M.I.S.T Handover Tool

Age	Age and sex of patient
Time	Estimated time of arrival at the hospital / time of incident
M.O.I	Mechanism of injury. This should include: The gross mechanism of injury e.g. RTC / stab wound to chest. Details of other factors known to be associated with major injuries e.g. entrapment; vehicle rollover; patient ejected from vehicle.
Injuries	Seen or suspected
Signs	Vital signs including heart rate; blood pressure; respiratory rate; GCS; SpO2. An indication as to whether the physiological state of the patient has improved or deteriorated since first seen
Treatment	Treatment given

Recognition of Life Extinct Aide Memoire

Paramedics can recognise life extinct. Resuscitation should not be commenced if a patient presents with any of the following conditions unequivocally associated with death:

- Prolonged submersion (>1.5 hours) NB submersion NOT hypothermia
- Massive cranial and cerebral destruction / decapitation
- Hemicorporectomy or similar massive injury
- Decomposition / putrefaction
- Incineration
- Hypostasis
- Rigor mortis

Non commencement of resuscitation

Resuscitation may not be commenced in the following circumstances:

- DNACPR in place
- The patient is in the final stages of a terminal illness
- The death is expected

Cessation of resuscitation

Having commenced resuscitation, it may be terminated following 20 minutes of advanced life support whereby the patient remains in asystole (except in cases of drowning, pregnancy, hypothermia, poisoning or overdose).

Paramedic actions

Expected death at home or place of normal residence

If relatives are present, offer condolences. Inform the GP / OOH GP. The PSNI should not be called routinely, however, they should be considered in the following circumstances:

Where the GP is not known
If there are no relatives / carers on scene

Unexpected death or death in a public place

The PSNI should be requested in all cases where the death is unexplained, unnatural, suspicious or in a public place. Wait on scene for the PSNI to arrive. If the death is suspicious, take care to preserve the scene.

Roles of the GP and PSNI

PSNI

The PSNI should NOT be called routinely. The PSNI should only be called when the death is unexplained; unnatural; suspicious or in a public place. The PSNI will act as HM Coroners agents.

GP

The GP is not compelled to attend the scene. A doctor is NOT required to confirm death once this has been done by the attending ambulance crew. The reason for contacting the GP is to establish if they can certify death and issue a death certificate or if HM Coroner should be informed of the death.

New born APSAR Score			
Score	0	1	2
Appearance	Blue or pale all over	Blue at extremities, body pink	Body and extremities pink
Pulse rate	Absent	< 100	>100
Grimace or response to stimulation	No response to stimulation	Grimace / feeble cry when stimulated	Cry or pull away when stimulated
Activity or muscle tone	None	Some flexion	Head arms and legs that resist extension
Respiration	absent	Weak, irregular, gasping	Strong /lusty cry

Suicide and Self Harm Risk Assessment Guide

Item	Value	Patient Score
Sex: female	0	
Sex: male	1	
Age: < 19 years old	1	
Age: > 45 years old	1	
Depression / hopelessness	1	
Previous attempts at self-harm	1	
Evidence of excess alcohol / illicit drug use	1	
Rational thinking absent	1	
Separated / widowed / divorced	1	
Organised or serious self-harm	1	
No close / reliable family, job or active religious affiliation	1	
Determined to repeat or ambivalent	1	
Total		

< 3 = Low risk. 3-6 = Medium risk. > 6 = High risk

Falls Referral Aide Memoire

Has the patient fallen?
Is the patient over 65 years of age?
Is the patient capable of remaining at home?
Does the patient consent to a referral?

If the answer is YES to all 4 questions, and the patient does not have any of the conditions / problems listed below, consider a referral to a falls service via 6AC (if one exists within your locality)

Exclusion Criteria:

- FAST positive
- Evidence of significant injury e.g. fracture; wound requiring formal closure
- Evidence of alcohol intoxication
- The patient is pyrexic or showing signs of hypothermia
- Reduced GCS
- Loss of consciousness after the fall
- The patient is currently being treated with anticoagulants
- Vomiting post fall
- Loss of function / sensation of limbs
- Reduced mobility compared with their normal mobility

Information required to make the referral:

Patient name, NIAS incident number, PRF form number, date of birth, patient phone number, patient address and postcode, name of GP/GP surgery address.

NIAS Stroke Aide Memoire

Patients presenting with a positive FAST and whose symptoms developed within the previous 4.5 hours should be considered TIME CRITICAL and transported to a stroke unit.

FAST

F – Facial weakness. Ask the patient to smile or show teeth. Look for NEW lack of symmetry.

A – Arm weakness. Ask the patient to lift their arms together and hold for 5 seconds. Does one arm drift or fall down? The arm with motor weakness will drift downwards compared to the unaffected limb.

S – Speech. Ask the patient to repeat a phrase. Assess for slurring or difficulty with the words or sentence.

T – Test

TIME OF ONSET

The time of onset of symptoms should be recorded on the PRF.

Patients presenting with signs / symptoms suggestive of a stroke MUST have their BM checked

Wells Criteria for PE

Clinical signs and symptoms of DVT (leg swelling and pain with palpation of the deep veins	3
An alternative diagnosis is less likely than pulmonary embolism	3
Pulse rate > 100 beats per minute	1.5
Immobilisation or surgery in the previous 4 weeks	1.5
Previous DVT / pulmonary embolism	1.5
Haemoptysis	1
Malignancy (treatment on-going or within previous 6 months or palliative)	1
Total	
Clinical Probability of PE: High > 6 points Moderate 2-6 points Low < 2 points	

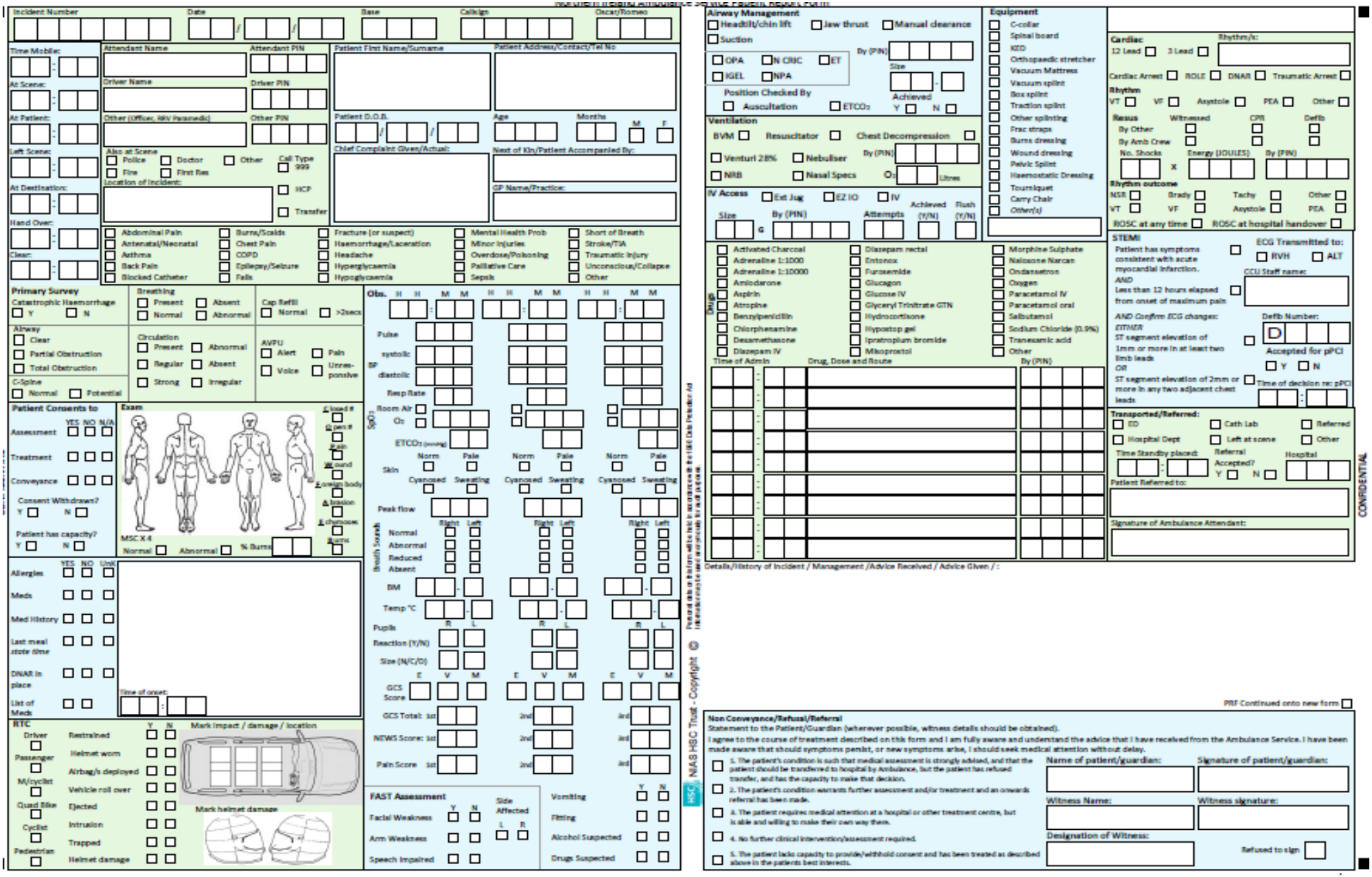
Mental Capacity Aide Memoire

A patient has mental capacity if they can answer YES to the following questions:

- Does the patient have an understanding of what decision they need to make and why they need to make it?
- Do they understand the consequences of making, or not making, the decision, or of deciding one way or another?
- Are they able to understand and weigh up the relevant importance of the information relevant to the decision?
- Can they use and retain the information as part of the decision making process?
- Can they communicate their decision?

Diabetic Hypoglycaemic Algorithm

Immobilisation Algorithm


Incident Number
Date
Base
Callsign
Oscar/Romeo
Time Mobile:
At Scene:
At Patient:
Left Scene:
At Destination:
Hand Over:
Clear:
Attendant Name
Attendant PIN
Driver Name
Driver PIN
Other (Officer, RRV Paramedic)
Other PIN
Also at Scene
Police
Doctor
Other
Fire
First Res
Call Type
999
HCP
Transfer
Location of Incident:
Patient First Name/Surname
Patient Address/Contact/Tel No
Patient D.O.B.
Age
Months
M
F
Chief Complaint Given/Actual:
Next of Kin/Patient Accompanied By:
GP Name/Practice:
Abdominal Pain
Antenatal/Neonatal
Asthma
Back Pain
Blocked Catheter
Burns/Scalds
Chest Pain
COPD
Epilepsy/Seizure
Falls
Fracture (or suspect)
Haemorrhage/Laceration
Headache
Hyperglycaemia
Hypoglycaemia
Mental Health Prob
Minor Injuries
Overdose/Poisoning
Palliative Care
Sepsis
Short of Breath
Stroke/TIA
Traumatic Injury
Unconscious/Collapse
Other
Primary Survey
Catastrophic Haemorrhage
Y
N
Airway
Clear
Partial Obstruction
Total Obstruction
C-Spine
Normal
Potential
Breathing
Present
Absent
Normal
Abnormal
Circulation
Present
Abnormal
Regular
Absent
Strong
Irregular
Cap Refill
Normal
>2secs
AVPU
Alert
Pain
Voice
Unresponsive
Patient Consents to
YES NO N/A
Assessment
Treatment
Conveyance
Consent Withdrawn?
Patient has capacity?
Exam
MSC X 4
Normal
Abnormal
% Burns
Allergies
Meds
Med History
Last meal state time
DNAR in place
List of Meds
Time of onset:
RTC
Driver
Passenger
M/cyclist
Quad Bike
Cyclist
Pedestrian
Restrained
Helmet worn
Airbag/s deployed
Vehicle roll over
Ejected
Intrusion
Trapped
Helmet damage
Mark impact / damage / location
Mark helmet damage
Obs.
Pulse
BP systolic
BP diastolic
Resp Rate
SpO2 Room Air
SpO2 O2
ETCO2 (mmHg)
Skin
Norm
Pale
Cyanosed
Sweating
Peak flow
Right
Left
Breath Sounds
Normal
Abnormal
Reduced
Absent
BM
Temp °C
Pupils
R
L
Reaction (Y/N)
Size (N/C/D)
GCS Score
E
V
M
GCS Total 1st
2nd
3rd
NEWS Score: 1st
Pain Score 1st
FAST Assessment
Facial Weakness
Arm Weakness
Speech Impaired
Side Affected
L
R
Vomiting
Fitting
Alcohol Suspected
Drugs Suspected
Airway Management
Headtilt/chin lift
Jaw thrust
Manual clearance
Suction
OPA
N CRIC
ET
IGEL
NPA
By (PIN)
Size
Achieved
Position Checked By
Auscultation
ETCO2
Ventilation
BVM
Resuscitator
Chest Decompression
Venturi 28%
Nebuliser
NRB
Nasal Specs
O2
Litres
IV Access
Ext Jug
EZ IO
IV
Size
G
Attempts
Achieved (Y/N)
Flush (Y/N)
Drugs
Activated Charcoal
Adrenaline 1:1000
Adrenaline 1:10000
Amiodarone
Aspirin
Atropine
Benzylpenicillin
Chlorphenamine
Dexamethasone
Diazepam IV
Diazepam rectal
Entonox
Furosemide
Glucagon
Glucose IV
Glyceryl Trinitrate GTN
Hydrocortisone
Hypostop gel
Ipratropium bromide
Misoprostol
Morphine Sulphate
Naloxone Narcan
Ondansetron
Oxygen
Paracetamol IV
Paracetamol oral
Salbutamol
Sodium Chloride (0.9%)
Tranexamic acid
Other
Time of Admin
Drug, Dose and Route
By (PIN)
Details/History of Incident / Management /Advice Received / Advice Given / :
Equipment
C-collar
Spinal board
KED
Orthopaedic stretcher
Vacuum Mattress
Vacuum splint
Box splint
Traction splint
Other splinting
Frac straps
Burns dressing
Wound dressing
Pelvic Splint
Haemostatic Dressing
Tourniquet
Carry Chair
Other(s)
Cardiac
12 Lead
3 Lead
Rhythm/s:
Cardiac Arrest
ROLE
DNAR
Traumatic Arrest
Rhythm
VT
VF
Asystole
PEA
Other
Resus
Witnessed
CPR
Defib
By Other
By Amb Crew
No. Shocks
Energy (JOULES)
By (PIN)
Rhythm outcome
NSR
Brady
Tachy
Other
VT
VF
Asystole
PEA
ROSC at any time
ROSC at hospital handover
STEMI
Patient has symptoms consistent with acute myocardial infarction.
AND
Less than 12 hours elapsed from onset of maximum pain
AND Confirm ECG changes:
EITHER
ST segment elevation of 1mm or more in at least two limb leads
OR
ST segment elevation of 2mm or more in any two adjacent chest leads
ECG Transmitted to:
RVH
ALT
CCU Staff name:
Defib Number:
D
Accepted for pPCI
Y
N
Time of decision re: pPCI
Transported/Referred:
ED
Cath Lab
Referred
Hospital Dept
Left at scene
Other
Time Standby placed:
Referral Accepted?
Hospital
Patient Referred to:
Signature of Ambulance Attendant:
CONFIDENTIAL
PRF Continued onto new form
Non Conveyance/Refusal/Referral
Statement to the Patient/Guardian (wherever possible, witness details should be obtained).
I agree to the course of treatment described on this form and I am fully aware and understand the advice that I have received from the Ambulance Service. I have been made aware that should symptoms persist, or new symptoms arise, I should seek medical attention without delay.
1. The patient's condition is such that medical assessment is strongly advised, and that the patient should be transferred to hospital by Ambulance, but the patient has refused transfer, and has the capacity to make that decision.
2. The patient's condition warrants further assessment and/or treatment and an onwards referral has been made.
3. The patient requires medical attention at a hospital or other treatment centre, but is able and willing to make their own way there.
4. No further clinical intervention/assessment required.
5. The patient lacks capacity to provide/withhold consent and has been treated as described above in the patients best interests.
Name of patient/guardian:
Signature of patient/guardian:
Witness Name:
Witness signature:
Designation of Witness:
Refused to sign
Personal data as set out in this form will be held in accordance with the NHS Data Protection Act
NHS
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Appendix 2

Snapshot audit of current practice proforma

Patient notes

Gestation: _____ Date of transfer: ___ /___ /___

No of Fetuses: ____ Transfer from: _____ To: _____

Indication for transfer: _____

Documentation in patient notes re: transfer
(e.g. Number of units contacted? consultant in referring/receiving unit informed? details of discussion with patient? time spent by doctor organising transfer? Grade of doctor organising transfer at referring unit/accepting transfer?)

_____

_____

_____

Transfer

Current trust transfer proforma completed? Yes / No

Duration documented? How long? _____

Staff on transfer? _____

Observations recorded on transfer? Yes/No Details documented in notes during transfer?

_____

_____

_____

Details documented in notes re: handover at receiving unit?

_____

_____

_____

Appendix 3

Patient Questionnaire into current *In-Utero* transfer practices

Patient Questionnaire

We understand you have recently been transferred from one hospital to another and we would appreciate if you would mind completing the questions below in order to help us improve our service. Your answers will be strictly confidential. Many thanks.

What is your understanding as to why you were transferred to another hospital?

_____

_____

_____

_____

Were you happy to be transferred or did you have any concerns?

_____

_____

Were you happy with the staff's explanation regarding the transfer?

_____

_____

_____

Did you feel your questions regarding the transfer were answered?

_____

_____

_____

Any further comments regarding the transfer?

_____

Appendix 4

Snapshot Audit of current practice and local patients' perspective

A total of 10 NI Maternity Handheld charts were reviewed at site within the SHSCT (Craigavon Area Hospital) in January - March 2015 to ascertain current practice regarding *In-Utero* transfer prior to the implementation of this guideline and proposed transfer proforma. A proforma was completed (Appendix 2) and results analysed. In addition, a short patient questionnaire was completed anonymously to obtain patient opinion on the current transfer process. (Appendix 3) results of the pilot survey and patient questionnaire are summarized below.

In-Utero transfer demographics and geographics

The average gestation at the time of *In-Utero* transfer was 32+3 weeks gestation (range: 30+2 – 35+1 weeks). Twenty percent of transfers involved a twin pregnancy. Transfers were from all trusts within Northern Ireland, excluding the Belfast Trust. Distance ranged from 21.1 – 68.1 miles. Eighty percent of transfers were from a hospital greater than 30 miles away from the receiving hospital.

Indication for *In-Utero* transfer

Indications for *In-Utero* transfer, as documented in the patients' NI Maternity Charts, are listed in Table 1.

Indication for transfer documented in Maternity Chart (n=10)
Possible Marginal abruption at 13+2 weeks gestation and Possible Urinary Tract Infection
Pre-eclampsia and no neonatal cots
Threatened preterm labour and positive fetal fibronectin test
Possible pre-eclampsia with 4+ protein, IUGR, no neonatal cots
Spontaneous rupture of membranes, 35 week gestation, DCDA twins, no neonatal cots
Two cases with PPROM, no neonatal cots
Antepartum haemorrhage, anterior placenta praevia, less than 34 weeks gestation
31 weeks gestation, compromise pregnancy, no neonatal cots
Threatened preterm labour, 31^{+5} weeks' gestation, twins

Table 1: Indications for *In-Utero* transfer, as documented in the Patients' Northern Ireland Maternity Charts.

Timing of *In-Utero* transfer

Fifty percent of transfers were outside of normal working hours with 30 per cent occurring after 11pm. Twenty percent of transfers documented the time spent by the doctor organising the transfer: this ranged from 30 minutes to 1 hour, 55 minutes. The decision to transfer the patient until the time transfer commenced ranged from 1 1/2 - 2 1/2 hours (unknown in 70 per cent of cases). Actual

transfer time ranged from 35 minutes – 1 hour, 40 minutes (average: 60 minutes) (unknown in 20 per cent of cases). The total time from decision to transfer until arrival at the receiving unit ranged from 2 hours to 13 hours 45 minutes.

Staff involved in *In-Utero* transfer

Medical staff making the referral for transfer ranged from senior house officer grade to consultant. Eighty percent involved a doctor of registrar grade of above. Forty percent of transfers required contacting two or more maternity units prior to the transfer being accepted with one case documenting that four units were contacted. Only 60 per cent of transfers documented the grade and/or name of the doctor at the receiving unit. The consultant obstetricians' on-call at both the receiving and referring units were only aware of the transfer in 20 per cent of cases. In 60 per cent of cases, the referring unit's consultant was aware that the transfer was taking place. In 80 per cent of cases a midwife accompanied the patient for the transfer. In one case both a midwife and a doctor were present. In the remaining transfer, the chaperone was unknown. NIAS staff were not named in any transfers cases.

Transfer documentation

In all cases a proforma was completed.[24] Twenty percent recorded maternal observations during transfer with 60 per cent documenting observations before transfer. Fifty percent made some documentation in the notes during transfer – examples include:

> *"…4-5 pains during transfer*"
>
> *"…MgSO4 running"*
>
> *"…fetal hearts recorded*"

Sixty percent documented a handover at the receiving unit, documenting

> *"…handover given"*

No cases documented the names of the personnel involved in the handover. In 90 per cent of transfers there was no documentation in the maternity chart regarding any discussion with the patient regarding transfer.

Outcome of transfer

Fifty percent of patients were transferred straight to labour ward on arrival at the receiving unit. The length of admission was known in 90 per cent of transfers - this ranged from 0 days – 9 days (average 3.6 days). Thirty percent of patients remained undelivered and were discharged home. Forty percent delivered on the same day as the transfer. One patient was transferred on to another hospital on the same day she arrived at the receiving hospital. In 20 per cent, the outcome of transfer was unknown.

Patients' perspective

Eight patients were asked to respond anonymously expressing their personal experience regarding *In-Utero* transfer. A 100 per cent response rate was obtained.

All patients understood the indication for transfer – all of them documenting that it was due to lack of neonatal cot availability in the referring unit with one patient commenting that this was due to

" threatened labour with twins".

All patients commented that they were happy with the staff's explanation regarding transfer.

All patients felt that all their questions regarding their transfer were answered. One patient commented that she:

"…didn't have any questions to ask as everything was already explained".

All patients were happy to be transferred. One patient commented that she was

"…happy to be transferred here [Craigavon] rather than Glasgow because there were no beds/cots anywhere else in NI".

Main concerns regarding transfer were around the distance from home with one patient commenting that she was

"…concerned that her partner had to travel for 2 hours each way to visit after a working day and may miss the birth."

Appendix 5

Abbreviations

BAPM	British Association of Perinatal Medicine
CREST	Clinical Resource Efficiency Support Team
DCDA twins	Dichorionic, diamnionitic twins
DHSSPSNI	Department of Health, Social Services & Public Safety Northern Ireland)
GAIN	Guidelines and Audit Implementation Network
GBS	Group B Streptococcal Infection
GDG	Guideline Development Group
HDU	High Dependency Unit
ICU	Intensive Care Unit
IUGR	Intrauterine growth restriction
NHS	National Health Service
NI	Northern Ireland
NIAS	Northern Ireland Ambulance Service
NICE	National Institute of Clinical Excellence
NICU	Neonatal Intensive Care Unit
NIMATS	Northern Ireland Maternity Information Service
OEWS	Obstetric Early Warning Score
PPROM	Preterm prelabour rupture of membranes
RCOG	Royal College of Obstetricians and Gynaecologists
RMH	Royal Maternity Hospital
SAI	Serious Adverse Incident
SCBU	Special Care Baby Unit
SHSCT	Southern Health and Social Care Trust
UK	United Kingdom

Appendix 6

Membership of the Regional *In-Utero* transfer of high risk women within Northern Ireland (including potential transfer outside Northern Ireland via air ambulance) GDG.

Name	Designation	Trust
Chair		
Harmini Sidhu	Consultant Obstetrician	Southern HSC Trust
GDG Members		
Gillian Blayney	ST3 Trainee, Obs & Gynae	Southern HSC Trust
Dominic McAtamney	Consultant Anaesthetist	Belfast HSC Trust
Charles McAllister	Consultant Anaesthetist	Southern HSC Trust
Kate McDaid	Assistant Director of Healthcare	Western HSC Trust
Richard Tubman	Consultant Neonatologist	Belfast HSC Trust
Nicola Porter	Manager	GAIN
Siobhan Crilly	Regional Clinical Audit Facilitator	GAIN
Robert Mercer	Regional Clinical Audit Facilitator	GAIN
Peer Reviewer		
Kevin McKeating	Consultant Anaesthetist	National Maternity Hospital Dublin

Appendix 7

Key Steps In the Development of the Guideline

1. Establish a clearly defined remit.
2. The nominated Chair appoints a Guideline Development Group (GDG).
3. Each member of the GDG receives GAIN information on guideline development and quality appraisal of clinical guidelines.
4. The group sets the key questions.
5. Organisational and financial barriers to the application of recommendations of a guideline need to be discussed and addressed.
6. Members of the group then conduct systematic review searches, each member having responsibility for addressing a specific question.
7. The results of the searches are presented to the GDG and further searches may be commissioned.
8. Evidence tables are compiled for each of the key questions.
9. A draft guideline paper is submitted to GAIN based on the evidence search and evidence table check list.
10. This is circulated by GAIN to a large group of professionals with expertise in the area.
11. The results of the consultation process are forwarded to the GDG.
12. The GDG prepares a second draft of the guideline which may take account of the consultation process. The GDG also considers further key questions which may require additional searches.
13. The GDG present the second draft of the guideline to GAIN.
14. This is subject to a more limited consultation process of peer review.
15. The GDG then produces the final version of the guideline.
16. The guideline is launched at a regional meeting.
17. The GDG is reconvened by the Chairman after 2-3 years as part of the guideline review policy.

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