INFORMATION STANDARDS
GOVERNANCE PROCESS

INFORMATION STANDARD
FINAL PROPOSAL
FOR NEW OR CHANGED (INCLUDING RETIRED) INFORMATION STANDARD

CALL TO NEEDLE TIME (THROMBOLYSIS)

December 2007
INFORMATION STANDARD FINAL PROPOSAL
FOR NEW OR CHANGED (INCLUDING RETIRED) INFORMATION STANDARD

REVISION HISTORY
Date of this revision:

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<th>Version no.</th>
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<td>01</td>
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<td>02</td>
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SUBMITTED BY:

Document completed by: Julian Todd

Role & organisation: Consultant, Information Services Division

FEEDBACK TO BE PROVIDED TO:
Feedback will be provided on the Proposal within 10 days of the WIGSB meeting. If the feedback is to be directed to another nominee please provide the name and contact details below.

Email: informationstandards@wales.GSI.gov.uk

SUBMISSION PURPOSE
Proposal submitted for: Formal approval.

Specific Areas for WIGSB to comment on when not submitting for formal approval at the Proposal stage

See text highlighted in yellow
## SECTION 1: BACKGROUND

1. **Information Standards Reference Number [From Information Services Division]**

   IGRN2007 / 028

2. **Name of Information Standard**

   Call to Needle Time (thrombolysis).

3. **Type of change**

   New standard

4. **Type of standard**

   Formal approval of existing operational flow.

5. **Introduction**

   This proposal, along with other similar proposals, aims to bring the information flows and related standards that support the Annual Operating Framework targets into the Information Governance process for formal consideration by WIGSB.

   This proposal relates to the secondary use of data collected as part of the Myocardial Infarction Audit Project (MINAP) to report on Call to Needle time for thrombolysis.

6. **Sponsor**

   Carl James, Head of NHS Performance Management, Waiting Times and Emergency Care, Directorate of Performance and Operations

   Cathy White, Head of Branch 3, Major Health Conditions and Clinical Support Services, Community, Primary Care and Health Service Policy Directorate

7. **Developer**

   Jason Bradley and Julian Todd on behalf of Information Services Division

8. **Implementation Date**

   Data flow exists.
SECTION 2: BUSINESS JUSTIFICATION

9. Purpose

The Call to Needle Time performance report is required to support the AOF target for 2008/9:

70% of patients with myocardial infarction suitable for thrombolysis will have a call to needle time of less than 60 minutes.

Where clinically indicated, timely administration of thrombolysis is recognised as a way of reducing damage to heart muscle and is potentially life-saving. The purpose of the data flow and the target is to measure the time taken to administer thrombolytic drugs to patients with confirmed myocardial infarction (MI). This data flow has been in place for 5 years (although the Myocardial Infarction Audit Project (MINAP) was started in 1998).

NHS Wales has invested significantly in measures to improve call to needle time, including installation of 12-lead ECG machines in Ambulances and training of paramedic staff in their use. The continued measurement of call to needle time allows any improvements due to this investment to be monitored.

Call to needle time is a report based on data extracted from the MINAP data set, which aims to collect a much larger patient-level audit data set. The full MINAP data set is outside the scope of this submission.

10. Scope

This proposed standard is based on the aggregated data extracted from the MINAP data set. All NHS Wales Trusts which provide acute cardiac services and the Welsh Ambulance Trust contribute data to the MINAP audit.

MINAP collects circa 100 items of data on individual MI events. The data is patient-level and includes patient identifiers. MINAP has been in operation in its current form since 2001 and was initially developed in the late 1990’s to provide hospitals with comparative audit of their performance in relation to timeliness of thrombolysis. The standards set out in the Coronary Heart Disease National Service Framework (CHD NSF), stress timely thrombolysis as an important quality of service indicator. The full MINAP data set is now at version 7 (January 2007).

The MINAP database is hosted and analysed by the Central Cardiac Audit Database (CCAD) which is part of the Information Centre for Health and Social Care. A standard report on call to needle time is made available to the Corporate Analysis Team (CAT). In this regard NHS Wales is treated in the same way as an English Strategic Health Authority.

11. Funding

There are no explicit funding issues with implementation of this standard as it is an existing flow. However, concerns about data quality and timeliness at Trust level have been attributed to staff shortages in Coronary Care Units.

12. Support

Improved performance against the CHD NSF is perceived as a high priority by The Welsh Assembly Government Policy Leads, the Cardiac Networks Co-ordinating Group (CNCG) the WAG Cardiac Implementation Group and the Acute Trusts and Ambulance Trust:

Relative performance in Wales on call to needle time is lower than England. A short life working group were tasked in 2007 with identifying the barriers to meeting the target and to advise on workable solutions.
The ongoing support and development of MINAP itself is managed by a Royal College of Physicians steering group (http://www.rcplondon.ac.uk/college/ceeu/ami/minap-steering-group.htm).

The audit is managed by the National Institute for Clinical Outcomes Research at University College London in conjunction with the British Cardiac Society and the Royal College of Physicians.
SECTION 3: HEALTH INFORMATION STRATEGIC AND OPERATIONAL FIT

13. Strategic Fit

MINAP data entry is performed by clinical or administrative staff in Acute Coronary Care Units and Ambulance Trusts. Since the level of ICT support for clinical care in these environments is limited, MINAP data is generally re-keyed from patient notes and/or specific audit pro-formas. MINAP data can also be submitted by electronic file transfer, but no information is available centrally on how many Welsh Trusts use this option.

MINAP data collection is likely to remain unsupported by strategic ICT investment for some years.

The normal method of operation for MINAP is for Trusts to install a local database written in Lotus Notes, which is then replicated with national CCAD servers. Lotus Notes supports password-based access to the local system, data encryption and secure transfer of data between Trust and central servers.

14. Operational Fit

In practice, patients with an MI may have thrombolytic drugs administered by paramedics at their home, workplace, in an ambulance, or by Acute clinical staff in A&E, Coronary Care Unit or other ward. Collection of accurate call to needle time therefore depends on accurate recording of the time of the first call and the timing of subsequent events on the patient pathway. Thrombolysis should only be administered if it is clinically indicated (usually by particular signs on a 12 lead ECG), so recording of the initial diagnosis is an essential part of the MINAP record, along with other details of the administration of thrombolytics, or the reasons they were not administered.

Thus the elapsed time between the initial call and the administration of thrombolytics may need to be calculated from times recorded by different staff on different records made in different physical locations. This may be achieved at local level by re-entering data into MINAP which was recorded on different clinical documentation, or by collating within MINAP parts of the data set for the same MI event which has been entered separately (e.g. by WAST and an A&E Department).

Capture of the call to needle time for all patients who receive thrombolysis may also be difficult, depending on the individual patient’s pathway – i.e. the full elapsed time may not be readily available in the record, or patients who have experienced an MI may not be recorded on MINAP.

MINAP data may be entered by administrative or clinical staff. In both cases, there may be local issues with staff availability, the quality and availability of the patient’s medical record and interpretation of the record. The Royal College of Physicians have issued a Guide to Data Entry for non-Clinical Staff (v1, July 2007). The full MINAP record contains 120 fields, not all of which will apply to every patient.

The standard quarterly report is available from MINAP one month after the end of each quarter and it is updated monthly¹. The Corporate Analysis Team can login to a restricted view of the MINAP system which shows the aggregated data, per hospital (not Trust) for Call to Needle, Door to Needle, and Call to Door times. This data cannot currently be obtained electronically and is printed out and rekeyed into a spreadsheet for analysis. Only Call to Needle time is a target at present, but all three times are reported to Cardiac Networks by CAT.

All Trusts have an extended view of MINAP which allows them to benchmark their performance against other Trusts. Trust level access to MINAP includes a wider range of reports which allow drill-down to individual record level.

¹ Presumably to allow for late data entry and corrections. Monthly updates by Trusts are not mandatory.
15. Known standards in use nationally and internationally

MINAP is a UK-wide audit, but the monitoring of Call to Needle time in England is different. A target of year-on-year improvement of 10% per Trust was set in England between 2003 and 2006 as a step-wise approach to achieving the NSF target of all patients to be thrombolysed within 60 minutes. This target applied to PCTs and has continued into 2007/8.

The only current standard which applies in Scotland is that set by Quality Improvement Scotland (QIS). This is a door-to-needle target of 30 minutes for the delivery of thrombolysis. There is no standard set for call-to-needle and there is no national audit framework to monitor progress.
SECTION 4: THE PROPOSAL

16. Proposed Solution

As described above, the aggregate data downloaded quarterly by CAT is a standard report from the full MINAP database. By inference, the report uses the following fields from the MINAP dataset:

1.01: Hospital ID (from a standard list, a total of 18 in NHS Wales)
2.01: Initial Diagnosis (a value of 1 = “Definite myocardial infarction” implies eligibility for reperfusion)
3.02: Date / time of call
3.09: Date / time of reperfusion
3.10: Delay before treatment (a value of 4 = “Initial ECG ineligible” excludes from the report any patients who eventually received thrombolysis, but whose treatment was delayed due to an inconclusive initial ECG)
3.36: Type of thrombolytic

Aggregate data is reported as a percentage of patients with a call to needle time less than 60 minutes:

- Numerator - the number of eligible patients with acute myocardial infarction receiving thrombolysis treatment either by injection or by infusion within 60 minutes of calling for professional help.
- Denominator - the number of eligible patients with acute myocardial infarction who received thrombolysis (unless they are excluded from the report for reasons given above).

Call to needle performance by Trust is reported to the WAG Performance Group on a quarterly basis.

The Welsh Ambulance Services Trust (WAST) submit their own return to MINAP and historically have monitored their performance separately. Following a review by the Call to Needle Sub-Group of the Cardiac Implementation Group in July 2007, it was recommended that the performance of the Welsh Ambulance Trust on pre-hospital thrombolysis should also be included in the report to the Performance Group and this is now happening.

17. Fitness for Purpose

There are some outstanding concerns regarding the source data quality of the MINAP data, which may be affecting the reported performance. The Call to Needle Sub-Group identified the following information-related issues:

- There are Trusts in Wales who continue to submit data to MINAP on cases that can be legitimately excluded on the grounds of justifiable delay. The inclusion of these cases can make performance appear worse than it actually is. Guidance on when cases can be excluded has been developed in the Mid and South West Cardiac Network and will be disseminated across Wales.
- A guide to good practice in meeting the Call to Needle (CTN) target will be produced. General questions of data quality and timeliness could be included in this guide.
- There is only one Thrombolysis Officer currently in post in Wales. The North Wales Cardiac Network’s Thrombolysis Report clearly highlights the benefits of the WAST post in collecting and validating CTN data and providing education, support and mentorship to Paramedic Officers to support improved collaborative working to improve standards.
- While not directly related to this target, the annual and quarterly MINAP reports include data for Door to Needle time (DTN) within Trusts. The Updated NSF focuses on the CTN of 60 minutes but MINAP also reports on performance against 30 minute DTN times. Effective action at Trust level to meet the AOF CTN target should include improvement in the DTN times, which are reported to Cardiac Networks.

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2 **Reperfusion**. (hence Reperfusion treatment) The return of blood to myocardium which was starved of blood by occlusion of a coronary vessel (myocardial infarction). Reperfusion can, and frequently does occur spontaneously, but reopening an occluded coronary artery can be performed either by angioplasty or by use of a thrombolytic drug. Reperfusion treatment can refer to either thrombolytic treatment or primary angioplasty.

3 This field is the only indicator in the dataset that thrombolysis was used, rather than angioplasty.
There is no mandate for the timeliness of updates to the MINAP database, so periodic data extracts may be incomplete when they are analysed by CAT. Further work at Cardiac Network and Trust-level may be required to improve this situation.

At present there are no cross checks on data completeness, e.g. by comparing number of MI events reported through MINAP with coded activity on PEDW.

18. Testing / Pilot

Call to Needle is an existing flow, so no pilot is proposed.

19. Information Governance

Data entry to the MINAP database contains several patient identifiers including:

- Case record number (PAS number)
- NHS number
- Surname
- Forename
- Date of birth
- Gender
- Postcode
- Ethnic group

However, data entered at Trust level is encrypted during transmission to the CCAD servers via the NHS Network. Multiple events or procedures recorded by CCAD are linked using the NHS number.

The MINAP data application contains data validation processes. These processes include range and consistency checks and also mechanisms to identify and remove duplicate records.


The data extracted by CAT is fully anonymised, aggregate data.

20. Commercial Considerations

There are no known commercial issues with this data flow.
SECTION 5: IMPACT ASSESSMENT

21. Impact Assessment

No impact assessment has been carried out to support this submission, but the review carried out by the Call to Needle Sub-Group of the Cardiac Implementation Group in July 2007 included aspects of data quality.
SECTION 6: IMPLEMENTATION PLAN

22. Implementation plan

Apart from the recommendations of the Sub-Group noted above, there are no specific plans to review or amend this flow. It should be noted that enquiries by WAG regarding improvements in the quarterly report have been made and rejected by CCAD. Their priorities for development and support of MINAP are Trusts working on improvements to patient care, rather than SHAs / WAG who use aspects of the data for performance management.

23. Official Documentation


MINAP Dataset Version 7.0 January 2007 (pdf).

Recommendations for Improving Call to Needle Times in Wales, - Recommendations of the Call to Needle Sub-Group of the WAG Cardiac Implementation Group. 17th September 2007.


?? is there a mandate to use MINAP e.g. in a WHC- <insert reference if applicable>
SECTION 7: MAINTENANCE AND REVIEW

24. Maintenance Process

Ongoing development of MINAP is managed as noted above in section 12. Since audit of timely administration of thrombolysis was the initial purpose for establishing MINAP in 1998, it is unlikely that any changes will be made to the main data collection which will seriously affect the performance management information flow.

25. Planned review dates

TBA