

Badger Neonatal User Group

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Minutes of Meeting

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1.0 Clevermed developments

The final Badger 3 units changed over to BadgerNet in 2015 and Badger 3 is no longer being used for new babies. It is still possible to access the system in read-only mode but all data is being synchronised across to BadgerNet.

The new reporting infrastructure is live and all reports are being converted. Drill down functionality is being added into many reports to show the details of the babies, assuming the user has the correct permissions to view patient details.

The web portal will soon be live allowing access to reports, help screen and BadgerNet. There will be links between service desk, discussion forum and the release manager system so that users will have updated information on content and timing of all releases.

1.1: Resource library

There is a comprehensive Resource Library available on the N3 network at <https://nww.badgernet.nhs.uk/HelpDocuments>.

On this page you will find all the information you require to understand, install, evaluate and use our software. Support and Contact details are also provided. There is also a link to the neonatal **Data Dictionary** that gives all the downloaded data items and their coding, as well as a database relational map which identifies how to link tables. We are in the process of updating the Resource Library to integrate it with the web portal mentioned above.

1.2: Other BadgerNet systems

BadgerNet maternity is being implemented in several units in UK and across New Zealand. This runs on the same platform as neonatal allowing easy flow of data between the systems.

A Paediatric Intensive Care system is being developed with Alder Hey Hospital in Liverpool. There is other work being done with Adult Intensive Care (audit system) and Neurology (referral system).

1.3: Interfaces

There were many questions around possible interfaces with other hospital software systems. In principle there is unlikely to be major technical difficulties in achieving any interface but this does require some input from both companies involved. There needs to be a detailed specification of the requirement on both sides and there will be a cost implication. Many units have links to their PAS system. Other interfaces to systems such as radiology and laboratory are done for the full EPR system but are not generally offered for clinical summary.

Links to order comms, allowing ordering and viewing of results, with single sign in through the Badger system is possible (with EPR). Systems that require verification of results will need a two way interface.

There was specific discussion about interfacing the NIPE examination data. This is being developed in the maternity system and, once established, will be added to the neonatal system.

1.4: Electronic Patient Record (EPR)

The full electronic patient record is being implemented in units in England and Scotland. This is a complete record that will allow units to remove most, if not all, paper. It is a full clinical record including nurse care planning and charting. Interfaces are possible to all other hospital systems as well as all equipment around the baby.

The EPR clinical workflow document can be downloaded from the Resource Library (<https://nww.badgernet.nhs.uk/HelpDocuments>)

EPR has the clinical summary system as its core and full details of babies will be visible wherever the baby is admitted or transferred.

The EPR can be made available on a test cloud for any unit wishing to view its functionality. Please contact Clevermed for details.

1.5: Electronic prescribing

The subject of Clevermed developing electronic prescribing within BadgerNet has been raised previously. Many are implementing a hospital wide prescribing system linked to pharmacy systems. Our initial position was that prescribing was a specialised software product and we would not develop this in house but could look to interfacing to a hospital system. The feedback we got is that most of the systems being implemented hospital wide are not thought to work well for the neonate.

Previously Clevermed developed a prescribing wizard which needs further work. This will be discussed further to see if there is any advantage to this being developed further and implemented along with BadgerNet.

1.6: Baby Diary

This is a secure opt-in service for parents/guardians and is now live. Before your Unit can start using Baby Diary, permission must be given by the Trust's Caldicott Guardian, the appropriate form can be found on the Resource Library (<https://nww.badgernet.nhs.uk/HelpDocuments>) There are also other documents covering technical details (for clinicians and IT/IG staff), getting started (for clinicians) and a flyer for parents/guardians (the latter is also available on the internet here: www.clevermed.com/Leaflets/babydiary.pdf).

Once the Unit is signed up to use Baby Diary parents/guardians can be offered the chance to opt-in. They can then securely access their Baby Diary via a website and/or iPhone and Android apps available to download now on the relevant app stores.

1.7: Parent reports

The development of parent reports with clinical information is still in the pipeline, but it is envisaged that this will only be available as part of the EPR configuration.

1.8: Tablets

The maternity system has a very successful iPad app that can be used off line. This is a 'native' app utilising all the functionality of the iPad and proving very useful in the maternity setting, both hospital and community.

The iPad app for the neonatal clinical summary system is functional and nearly ready for release. This too can be used off line and opens up many possibilities for data collection away from the hospital. When the user returns to the hospital any changes in the clinical record are automatically uploaded and synchronised.

Use of this app will allow rapid data entry on ward rounds without the need to access a PC which may well not be close to the cotside in all cases. The combination of summary data and rapid data entry close to the baby will reduce the time needed for collection of data as well as improve clinical care by having ready access to the record. iPads can be mounted securely at the cotside and replace PCs.

The iPad has a whiteboard function that can be used to summarise all the babies in the unit and allow rapid handover by displaying summary data. For EPR there is a plan to develop multiple whiteboards for differing purposes. For clinical summary the plan is for a single whiteboard to be used for summary and handover purposes.

1.9: Unit handover

Despite the advantages of tablets it is still felt necessary to develop further the unit based handover summary for the PC based system. This exists but is unwieldy in its current format. Work was stopped while we waited for the iPad development but it is clear that both the tablet and PC versions are necessary.

The challenge is to produce a summary that contains essential information but which does not take up many pages when printed. The dangers of printing this information were discussed and are well recognised in terms of patient confidentiality.

Users all have different requirements; from detailed summary to a simple list of babies in the unit with basic demographics and a place to write free text. It will be difficult to please everyone.

Some units have agreed to send their current handover summaries to Clevermed and this will help in further developing a useful handover summary. This work will continue through this year and hopefully a good compromise solution can be developed.

2.0 Configuration changes

A number of requests/comments were raised at the time of registration and during discussion. These are grouped below where they are not included in other parts of these notes. Where further thought and discussion is required by Clevermed we will endeavour to feedback in newsletters over the year.

2.1: Unit/hospital based issues

The ability to enter unit based data, e.g. total births in hospital to be used as denominator data, will be developed.

- Units will be able to specify their common diagnoses that will appear in the look up tables. There is discussion about whether the system can do this automatically by looking back at the 'usual' diagnoses, drugs, procedures etc. entered into the system by a unit.
- There was discussion again about the possibility of units being able to define which fields they want to be mandatory. There remains concern around how this could impact on quality of data input (e.g. incorrect data being entered just so a form could be saved, forms not being saved because some data items are unknown). This is an area where no final decision has been made but more discussion will take place in Clevermed around this issue as there are some strongly held views amongst many users. One possible starting point is for there to be an indication against each data item as to its importance and its use. Users can then see those items essential for NNAP, NCCMDS etc.
- Data Quality checks. The DQ screens in BadgerNet, compared with the format in Badger 3, make it more difficult to get a quick overview of the outstanding data items, particularly those for NNAP, NCCMDS etc. There is a plan in 2015/16 to convert these to a better and more flexible user interface.
- Unit daily update
 - BadgerNet is episodic so a baby with two episodes in the same unit will be represented in the unit daily update as two lines. This is different to Badger 3. There has been a request to show the baby on one line only and this has been added to the release requests. PB highlighted that this is quite a technical challenge in the BadgerNet architecture but agreed to look again at it.
 - There is a request for the unit daily update to remember what parameter the user has set this to and to always return to this view rather than to the unit default view. This has been added as a release request.
 - Days that have not been signed off as complete need to be identifiable on the Unit Daily Update. This has been added as a release request.
- Nurse staffing numbers. More units are now using this to collect twice daily 'snapshot' data on nurse staffing and link this to BAPM levels of care. Currently the number of babies is determined only from those where their care is in 'nnu'. Those marked as being in 'transitional care' that day are not included. This has caused some problems for units where more of their care is being moved into a transitional care 'ward'. The report will be developed to show both the 'nnu' activity and the total activity, including transitional care. The recommended staffing rations will be based on BAPM but will be calculated by the system based on HRG 1,2, or 3 levels of care – i.e. no nursing recommendation will be made for babies whose care is being given at all times beside their mother (i.e. 'true' transitional care). The ability to show how many staff are from the 'bank' will be introduced.

2.2: Discharge summaries

This is a subject that has been discussed repeatedly over several years. There has been a problem getting any agreement amongst users as to the content of the summary. It is clear that the single summary created now is not ideal for every situation. The plan for 2015/16 is to create a number of summaries and outline specifications for these has started.

- Short summary – this will contain the basic details that the GP needs. It does not contain all the detailed information that is in the current summary.
- Full notes summary – this is much the same as the current summary but can be extended to contain even more detailed information about the stay.
- Multi-episode summary – this will summarise the stay in each episode of care. It will not contain all the detail of the full summary for each stay but will highlight the important information for each episode. This can include transport episodes although final decision on this has not been made.
- Parent summary – this has not yet been specified but was brought up in discussion in the meeting. This will be similar to the Short Summary but aimed specifically at parents. Sensitive information will not be included. A version of this needs to be created for babies who are going to foster care. Work will be done on this in 2015/16.

2.3: NNAP issues

Downloads of data to NNAP are working well. Clevermed works closely with NDAU to try and ensure the reports and dashboard rows in BadgerNet use the same definitions as NNAP. Data completeness reports and dashboards are always under development and user feedback is encouraged.

If users are requesting changes relating to NNAP data then it is important that they first consult with NNAP who can then ask Clevermed to make any appropriate changes to the data being collected.

There are issues around ensuring complete and accurate entry of important data items.

- The first consultation with a senior member of staff is causing problems. This appears on the admission form but at this time the information for this field may not be available (the parents may not yet have been seen). There is concern that this then gets missed because the form is not opened again. There is a reminder to complete this on the baby's homepage as part of the 'things to do' checks. It is also highlighted in the **Data Quality** reports and there is now a **Patient List** that gives those babies where items have been marked as 'unknown'. There was discussion around where it might be better to place this data item (e.g. daily form) but no decision has been made. We will continue to improve data completeness reporting to help make sure these items are being collected.
- There was a request to be able to record that a ROP screen was 'not done' because the baby did not attend. Giving NNAP more information on reasons for a failure to screen for ROP helps confirm the completeness and quality of the data they receive. The ability to use the same ROP form to record reason for not screening will be looked at. NNAP would continue to count this as 'not screened' but more data would allow more detailed analysis of reasons.
- There was discussion around the data collected for temperature on admission. The current system asks the user to confirm if a temperature has been done before allowing a date/time to be entered. If 'yes' is selected and no date/time entered this is prompted for before the user can progress to complete the rest of the form. At this stage there is no plan to alter this data item.
- Culture data and central line associated blood stream infection (CLABSI). The collection of culture data in the system is very variable. There are reports showing all the culture results. Others show where a culture has been done but no result entered. Healthcare associated

infection, and in particular CLABSI, is a major factor in poor outcome. There is a need for a robust method of screening and comparing all units in UK. Clevermed is keen to work with users and NNAP to improve quality of the data to allow important benchmarking and to help with Quality Improvement programmes. There will no doubt be ongoing discussions throughout the year.

2.4: Training on-line

The difficulties of making sure new doctors are 'up to speed' with the system following each changeover were discussed. User guides and training videos are available on the N3 network from the Resource Library at <https://nww.badgernet.nhs.uk/HelpDocuments>. Clevermed will look at developing further on line training packages.

2.5: Follow up

A new episode of care is being developed which will allow all follow up data to be collected. This will include community nurse follow up, clinic visits (including babies seen back on the unit and in outpatients) and the 2 year follow up examination.

Growth data entered at follow up will be plotted onto the baby's growth chart.

Reminders for the 2 year follow examination are always being amended and, again, user feedback and requests are encouraged.

2.6: Other requests

- The hospital ID should be prominent on the banner along with national ID. This has been added for a future release.
- Overlapping admissions should be prevented by the system. It must be remembered that in BadgerNet it is possible to have 'legitimate' overlapping episodes – e.g. there may be a transport episode within the neonatal episode as the baby is transported briefly for an investigation. However, it is recognised that there should not be overlapping episodes within the same unit and this will be looked at further.
- The ability to record mouth care with breast milk will be added for a future release.
- Consanguinity is missing from the discharge summary. This will be added for a future release.
- Where a baby is admitted for a surgical reason then do not allow the discharge summary to be created unless there is a surgical diagnosis and/or procedure entered.
- Stop data quality showing today's daily form as incomplete
- There was concern that when doctors move to another unit the previous unit does not remove their access. This has resulted not only in the doctor having inappropriate ongoing access to patients in that unit but to mistakes where a patient has been 'admitted' to the wrong unit. It is agreed that each unit has a responsibility to ensure their user list is up to date, particularly at the time of changeover of the doctors. It is not possible to restrict a user to one unit only as there are many situations where multiple unit access is legitimate. Clevermed will give some thought to how we might help remind units to amend their user lists.

- There has been a request to add more parameters to the patient search to increase its flexibility – e.g. maternal post code. This will be looked at for future release.
- There was a suggestion that BadgerNet be used to help junior doctors complete their portfolio by listing procedures that they have done. This may be possible with some of the procedures but detailed information on things like line insertion is only possible at this stage in the EPR system. This is an area that will be considered further.

3.0 Reporting

Lauren presented the variety of reports and dashboards available currently in BadgerNet.

- Data downloads – getting your data for ad-hoc reporting and commissioning
- Patient lists – quickly finding specific types of patients
- Summary reports – seeing the bigger picture
- Dashboards – summary and detail in one place. Drill down on cells to show the patients.

Within patient lists it is possible to add parameters to get specific patients. Choosing the list for ‘All patients’ and then ‘Refine this list’ allows a user to enter a number of parameters, including specific diagnoses, drugs etc. along with date ranges.

This raised the whole subject of **ad hoc reporting**. It was always envisaged that detailed ad hoc reporting would be done by users downloading data into third party packages such as Access or Excel. The ‘Patient list’ option above allows some ad hoc reporting but the user cannot dictate the output from the query. It is proposed to develop further simple ad hoc reporting capabilities that will allow a user to select specific groups and to dictate the output columns in the report. This can only be done at a relatively simple level. Complex reports will always need to be done from the data downloads.

3.1: Summary reports

- Unit reports – summarising various types of activity for your unit
- Network reports – summarising various types of activity at network level
- Commissioner reports – care level activity by CCG and care location
- National reports – to help monitor your progress with NNAP

Many new reports have been added recently. These include:

- ‘Unit Feeding Summary’. This gives information on type of enteral feeding, feeding outcome with reference to mother’s intention at time of admission and feeding on the first day of life.
- ‘National 2 year follow up’. Allows a check of data completeness and review of follow up outcomes (using NNAP survival categorisation). Drilldown helps identify patients with missing data.
 - There was a request for a unit based report that shows graphically the 2 year outcomes for each gestational age group. This will be developed for a future release.
- ‘Network Nurse Staffing’. This report shows graphically for each unit in a network the numbers of shifts that are compliant with the staffing requirements (using BAPM recommended numbers). The graphs include the national averages for level 1, 2, and 3

units. Clicking on units in the legend will remove/replace the lines in the chart allowing simpler views of the data.

- More national reports are being introduced to cover all the NNAP questions.

There has been a request to allow the tables within reports to be downloaded to Excel. Grids can currently be 'copied and pasted' from the report to Excel but a direct export button will need further consideration. An export to MS Word and PDF is currently being developed.

3.2: Annual reports

A **Unit Annual Report** is currently live on the system. This shows, using tables and a variety of figures, workload and outcome data for a unit. This report can be downloaded to WORD so that text can be added to complete the annual report for the unit. Feedback and suggestions to develop this report are encouraged.

A **Network Annual Report** was demonstrated and this will be made live in the next release. This report contains 34 grids and charts for reviewing yearly activity. This has been developed with feedback from network data analysts but further suggestions are always welcome.

3.3: Benchmarking

Badger 3 had national reports for the NNAP questions where a single unit was compared with all other units in the UK. These are being introduced again into BadgerNet.

Funnel plots were demonstrated – these allow a better comparison of a unit against those of similar size. Bar charts will also be introduced showing a unit against the rest of the country.

It is important to remember that these reports are to help units check their own data. They are built up live and the actual numbers may not be exactly the same as the final NNAP report although there will probably be little difference in terms of comparisons with other units.

There was discussion around whether all the units should be identified within these charts. They are identified in NNAP reports and this will be introduced eventually in BadgerNet.

3.4: CQUINS

There have been changes made to the definitions of some CQUINS and also the National Quality Dashboard. These will be reflected in the reports and dashboards in BadgerNet. In particular there has been a new agreed definition for line related sepsis (CLABSI) and this will be included in the reports.

3.5: Transitional care

There is much confusion around transitional care mainly around the definition

- A type of care – where the baby is nursed beside mother who does all care with some input from nursing/medical staff for specific treatments (e.g. antibiotics, phototherapy). This may take place in any location, including within the neonatal unit. These days are all HRG4. There is no specific BAPM care level (most will be special care) and no recommended staffing levels.
- A place of care – a defined 'ward' or area that is called 'transitional care' or the postnatal wards. The BAPM care level and HRG will depend on the 'type' of baby being nursed in this

location. Some units are moving more babies into a transitional care area to be with their mothers.

There is also much variation in the way TC is funded. Also it is clear that over the UK there is no standard tariff for neonatal care. There is some current work in NHS England to try and standardise how all neonatal care (including TC) is funded.

An analysis of the data within the system shows wide variation in the number of babies designated as being in TC and the numbers with HRG 4 (equivalent to BAPM = SC and mother resident caring for baby). Many units are recording babies being nursed in TC where their HRG is either intensive or high dependency care.

Current BadgerNet reporting looks at location of care but there are also reports that show the HRG values against location of care. These should allow a complete picture to be derived for the work in any single unit.

There is a need for better definitions and more standardisation of the way the data are analysed. The CRG are developing a definition of TC based on diagnosis and this will soon be published. Clevermed then need to look at how the data are best reported.

The work on neonatal funding in England is looking to include the whole pathway, including TC and care in the home, in the tariff. Units need to ensure that appropriate data are being collected at all stages of the baby's care. The new follow up episode that is being developed will allow the care outside hospital to be recorded.

For discussion is a possible change to the daily form. Instead of location of care we ask each day

- 'Where is the baby being cared?' – In NNU (not next to mother) OR With mother (doing all care).
- If 'With mother' then we can record location – NNU, Separate TC ward, other ward (e.g. postnatal). Nursed at home with community nurse visits will be collected as a separate episode of care.

The nurse staffing report will include all babies in NNU and TC with the nursing ratios being shown only for the babies with HRG 1 -3.

It is hoped that we can remove the confusion between TC as a type of care or a location of care. Feedback and comments around how we handle transitional care and report on this are welcome as we try and get a better handle on the whole pathway of care for the baby.