Costing transformation programme

Minimum software requirements for the costing of NHS services in England: summary of consultation responses

April 2016

About NHS Improvement

NHS Improvement is responsible for overseeing foundation trusts, NHS trusts and independent providers. We offer the support these providers need to give patients consistently safe, high quality, compassionate care within local health systems that are financially sustainable. By holding providers to account and, where necessary, intervening, we help the NHS to meet its short-term challenges and secure its future.

NHS Improvement is the operational name for the organisation that brings together Monitor, NHS Trust Development Authority, Patient Safety, the National Reporting and Learning System, the Advancing Change team and the Intensive Support Teams.

1. The consultation process

We published the draft minimum software requirements and test plan, *Consultation: Minimum software requirements for the costing of NHS services in England*,[1] on 30 October 2015 and asked for feedback by 27 November 2015 via an online survey. Our consultation also involved face-to-face meetings with software suppliers. We also received written responses separate from our survey.

Questions asked

Our survey asked a number of questions to identify if the requirements were useful and adequate. We asked whether:

- the requirements would support the costing of NHS services
- any requirements were missing
- the requirements were correctly prioritised.

If respondents found gaps in the requirements or other problems with them, we asked them to state what was missing/what the problem was. We also asked for general comments on the usefulness of the requirements.

Analysis of the feedback

We set up a review panel of eight costing practitioners; each service area (acute, mental health, ambulance and community) was represented by at least one panel member. Collectively the panel members used a total of five different software suppliers, and one costing practitioner worked for a provider without a costing software product. The trusts represented were:

- Calderdale & Huddersfield NHS Foundation Trust
- Maidstone and Tunbridge Wells NHS Trust
- North Essex Partnership University NHS Foundation Trust
- North Middlesex University Hospital NHS Trust
- North Tees and Hartlepool NHS Foundation Trust
- Plymouth Hospitals NHS Trust
- Sheffield Teaching Hospitals NHS Foundation Trust
- South Western Ambulance Service NHS Foundation Trust.

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[1] www.gov.uk/government/consultations/minimum-software-requirements-for-the-costing-of-nhs-services-in-england
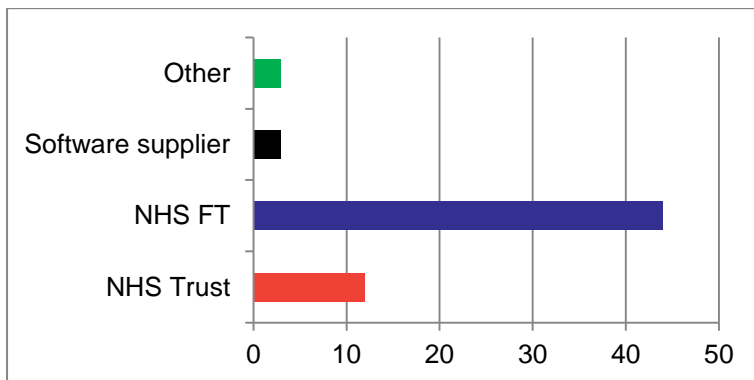
The panel review team was tasked with reviewing the feedback and making recommendations to us and our costing advisory group. It also reviewed an early draft of the costing standards and made additional recommendations based on these standards.

2. What the Service said and our response

We received 62 responses to our online survey (Table 1). Most welcomed our initiative to produce standard functional requirements to be used by software suppliers as the basis for developing software that supports the proposed costing standards.

We have revised the costing software requirements in response to the comments received, and also to make them consistent with the costing standards that we have been simultaneously developing. No substantive changes have been necessary.
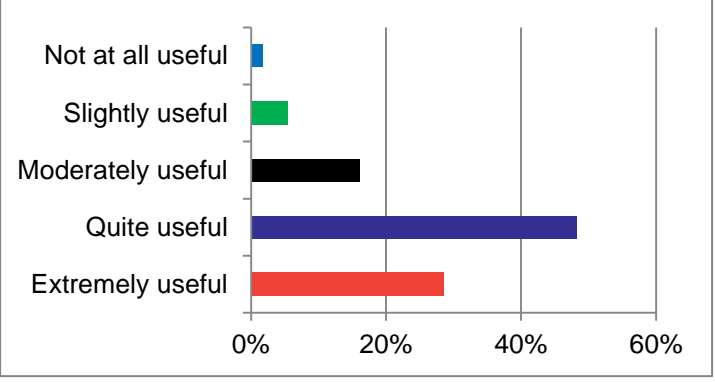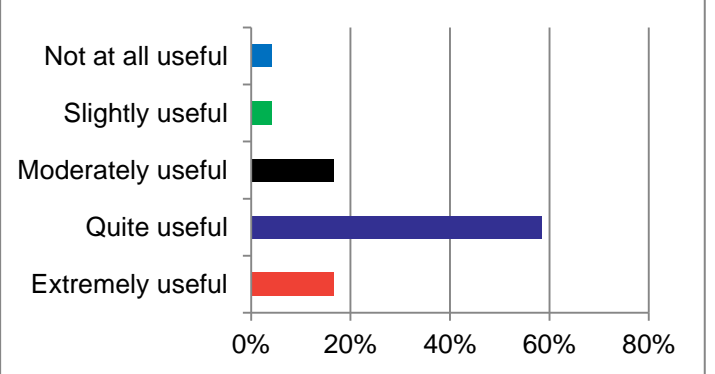
Table 1: Respondents breakdown by organisation type

Other: management consultant, unknown and a Royal College.

The comments we received and our responses are summarised below.

Are the requirements useful and adequate?

We asked three questions to determine the usefulness of the requirements.

Question 1: Do you believe the minimum software requirements provide an adequate basis for the costing of NHS services or designing and testing the costing software?	55 (89%) replied yes and 7 (11%) replied no.
Question 2: Do you think the minimum software requirements will help you with the procurement and implementation of costing software in the future?	44 (83%) replied yes and 9 (17%) replied no.
Question 3a: How useful is the minimum software requirements documentation to your organisation? Minimum software requirements	Of the 56 responses, 77% stated the requirements were either quite useful or extremely useful.
Question 3b: How useful is the minimum software requirements documentation to your organisation? Test plan	Of the 48 responses, 75% stated the test plan was either quite useful or extremely useful.

Some respondents questioned the need for DAT010 (previously DAT011) – 'no manual amendments to activity data', stating the system must allow quick manual adjustments to activity data, especially if a costing practitioner working to tight deadlines.

A small number questioned the need for data import requirements, in particular some of the validations. Also, respondents asked for an example to support ALL007 (previously ALL009) – 'disaggregating variances and applying user-defined cost drivers'.

Our response (compare Appendix 1 and Appendix 2)

We were encouraged by the positive feedback and the view that the requirements will be useful to the service.

Informed by the feedback we have made the following changes:

- revised DAT010 (previously DAT011) to allow manual adjustments to activity data

- added an example to support ALL007 (previously ALL009) and changed the description to ensure the requirement is clear.

Do you think there are any requirements that have the wrong priority?

Of the 62 responses to this question, 77% agreed with the priorities we had set.

There was disagreement about only a couple of the requirements, mainly in the reporting and transparency, and data import sections.

Some respondents felt that REP011 (previously REP012) and REP012 (previously REP013) should be changed to 'MUST', as being able to report average costs and compare cost models are essential to the costing process. Others felt that DAT005 and DAT006 should be changed to 'MUST' to improve flexibility and automation.

Some considered DAT010 (previously DAT011) should be downgraded to 'SHOULD', to give providers the flexibility to make manual changes to the system. Some requested REP003 be changed to 'MUST' as comparison with the previous years' currency averages is fundamental to sense checking the costing model outputs. One respondent said COS005 (previously COS006) – refers to whole-time equivalents (WTEs) being loaded into the cost ledger – was good to have but not essential, as WTE can be loaded through a dataset import rather than the trial balance.

Our response (compare Appendix 1 and Appendix 2)

Informed by this feedback we have:

- upgraded the priority for REP003, REP011 (previously REP012), REP012 (previously REP013), DAT005 and DAT006 to 'MUST'

- changed the priority of DAT010 (previously DAT011) to 'SHOULD'

- removed WTE from COS005 (previously COS006)

No other requirement priority has been changed.

Are there any software features currently missing that you think should be included in the minimum software requirements?

Of the 59 responses to this question, 71% indicated the requirements were complete.

Respondents who felt requirements were missing either recommended changes to the current requirements or suggested adding a small number of requirements.

One respondent suggested that MAT006 should be changed to allow both the order of priority as well as the combination when matching activity to change. Another suggested a report would be useful of the percentage of matched and unmatched records with a confidence rating for the robustness of activity matching.

Another respondent suggested that there should be a requirement to load alphanumeric information in a single column. Another suggested that the costing software should allow the data to be imported from other file formats like pipe delimited.

A field was recommended for ledger lines to be included or excluded for costing. Another missing requirement mentioned in the feedback was pre-calculation validations.

Some respondents suggested that the system must be able to produce national returns such as reference costs, and education and training. There must also be a cost output for providers to use for local reporting solutions.

One respondent felt the creation of dummy records was necessary, to be used where there are no activity data for a service.

Some respondents felt that system performance and reliability should be added to the scope of the requirements, as otherwise the result could be a compliant system that takes too long to process costing data.

Our response (compare Appendix 1 and Appendix 2)

It was encouraging to see that most respondents felt that the requirements were well defined. Only a small number of missing requirements were identified. In addition, it was recommended that a number of requirements were changed.

Informed by this feedback, we have made the following changes to the requirements:

- DAT012 was added to allow systems to deal with alphanumeric data.

- MAT009 was changed to incorporate matched and unmatched records as a percentage and absolute value.

- DAT002 was amended to include Excel, flat files, ODBC and XML file format.

- COS008 was added to facilitate the exclusion of cost ledger lines from the costing process.

- IMP003, VAL002 and VAL003 have all been amended to run validations before costs have been allocated to activities.

- REP015 and REP018 have been added to enable outputs to be available for local reports and for national reporting.

- DAT014 has been added to allow proxy activity to be used in the absence of patient-level data.

- MAT006 was changed to include the change in order as well as the combination of fields when setting the matching rule.

We have decided that we will not be changing the scope of the requirements to include performance and reliability. This will be addressed as part of the procurement framework, providing trusts with a well-rounded view of the software.

Appendix 1: Extract from minimum software requirements (April 2016)

ID	Requirement description	Priority
MAT006	The user must be able to change the combination and order of fields used for each matching rule, eg line 1 POD, line 2 POD and consultant, and line 3 consultant, POD and location	MUST
MAT009	The system must generate a summary report containing the rule ID, and number of records matched and unmatched as a percentage and absolute value for all auxiliary feeds	MUST
DAT002	The system must be able to import data from a range of data sources, using appropriate mechanisms. Potential data sources include: • Flat files • Excel • XML • ODBC This list is not exhaustive	MUST
DAT005	The system must allow data feeds to be loaded as a batch or individually depending on the user's preference	MUST
DAT006	The system must allow automated data importation to run at scheduled times as specified by the user	MUST
DAT010 (previously DAT011)	The system should record a log of manual user amendments to any data feeds	SHOULD
DAT012	The system must allow the user to load alphanumeric data where required	MUST
DAT014	The system must allow the user to create proxy cost objects where cost objects do not exist, to allocate costs in the same way as cost objects	MUST
IMP003	The system must produce data validation reports that state where and why errors are occurring, and these must be in formats that can be exported to the source departments for review before costs are allocated to activities	MUST
COS005 (previously COS006)	The cost ledger must include fields for cost centre, subjective code, amount (cost value), period (ie month), direct/overhead resource, resource group	MUST
COS008	The system must allow the user to exclude general ledger lines from the costing process, eg to allow internal recharges that net off to be removed from the cost process	MUST
ALL007 (previously ALL009)	Where reconciling items are created as a result of requirement ALL006, the user must be able to disaggregate the cost/income and apply user-defined	MUST

ID	Requirement description	Priority
	allocation methods and income or cost classifications	
VAL002	The system must produce a report identifying cost ledger lines that have no basis for allocation and are a reconciling item, before costs are allocated to activities	MUST
VAL003	The system must generate a validation report showing allocation methods that contain no activity records, before costs are allocated to activities	MUST
REP003	The system must allow the fully absorbed cost objects to be compared to previous year's currency averages (mean, median and mode) for sense checking and outlier identification. It must be possible to adjust the previous year's currency using the provider's market forces factor and/or the inflation rate	MUST
REP011 (previously REP012)	The system must allow the user to produce reports using cost object attributes (eg currency, clinic code and consultant) stating the average (mean, median and mode) unit costs/income for each combination of resource and activity, as well as the averages at a resource group and an activity group level	MUST
REP012 (previously REP013)	The system must allow the cost ledgers and income ledgers in two cost models to be compared, to identify the percentage change in costs and income by cost centre and subjective code	MUST
REP015	Revised data feeds and costed outputs must be accessible in one of the following formats for local reporting solutions: • Flat files • Excel • ODBC • XML This list is not exhaustive	MUST
REP018	The system must produce output tables for national mandatory cost collections	MUST

Appendix 2: Extract from draft minimum software requirements (October 2015)

ID	Requirement description	Priority
MAT006	The user must be able to change the combination of fields used for matching at each hierarchy level, eg line 1 POD, line 2 POD and consultant, and line 3 POD, consultant and location	MUST
MAT009	The system must be able to generate a report which states the matching record percentages for each activity dataset	MUST
DAT002	The system must allow data to be extracted directly into the system from any of the following sources for transformation: • SQL databases • MS Excel • CSV • MS Access databases	MUST
DAT005	The system should allow datasets to be loaded as a batch or individually depending on the user's preference	SHOULD
DAT006	The system should allow automated data importation to run at scheduled times as specified by the user	SHOULD
DAT011	The system must not allow any manual amendments to the activity data once these have been loaded into the system	MUST
IMP003	The system must produce data validation reports that state where and why errors are occurring, and must be in formats that can be exported to the source departments for review	MUST
COS006	The cost ledger must include columns for actual spend and whole-time equivalent (WTE) for each expenditure line	MUST
ALL009	Where reconciling amounts are created as a result of requirement ALL008, the user must be able to disaggregate the variance and apply user-defined cost drivers and income or cost classifications	MUST
VAL002	The system must produce a report identifying cost ledger lines that have no basis for allocation and are a reconciling item	MUST
VAL003	The system must generate a validation report showing cost drivers that contain no activity records	MUST
REP003	The system should allow the fully absorbed cost objects to be compared to previous year's currency averages for sense checking and outlier identification	SHOULD
REP012	The system should produce reports stating the average unit costs for each combination of resource and activity, as well as the averages at a resource group level and an activity group level	SHOULD

ID	Requirement description	Priority
REP013	The system should allow the cost ledgers and income ledgers in two cost models to be compared, to identify the percentage change in costs and income by cost centre and account code	SHOULD

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