Planning the Pathology workforce

Guidance for department managers
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1 Preparation

Each department should nominate a person to be responsible for recording data on the activities of the staff. This section describes the types of data you will need and how you should go about collecting them. Appendix 2 contains a summary of the steps described.

1.1 What data will I need?

*Time allocated to processes, activities and tasks*

The pathology service can, like any organisation or business, be described in terms of its processes. Each process is, in turn, characterised by the activities that define it. And each activity will comprise discrete tasks. So tasks define activities, which define processes, which define the service. The spreadsheets enable you to profile the work of your staff in these terms. But you will not be expected to do this from scratch. A process, activity and task (or PAT) list has been defined for you and validated by colleagues in the service.

The PAT list is presented in full with some additional explanatory notes at Appendix 2. It is advisable to familiarise yourself with this now. When you start collecting data, your respondents will apportion the time of the staff at each band to these processes, activities and tasks. The method for doing this is explained below.

Please note that the PAT list is not intended to reflect the competences used in the Job Evaluation Scheme. These competencies are generic in nature and used to determine bands in Agenda for Change (AfC). The PAT list relates specifically to pathology and has evolved through consultation with people in the service.

*Subgroups of the staff*

At any given AfC band, you are likely to have people doing different types of work. You will find it easier to allocate the time of the staff to tasks in the PATs list if people who do similar work are grouped together. For instance, suppose you have 12 people at band 4 in Biochemistry. Of these, 7 people do the same or very similar jobs. These 7 people will form a subgroup.

1.2 How are the data collected?

*Tasks for the department managers*

The collection of activity data (time allocated to processes, activities and tasks, as described in Section 1.1) should be delegated to the department managers. They will be responsible for *task_entry.xls*.

Department managers can respond on behalf of the staff in their department. Alternatively, they can discuss the apportionment of time to tasks with groups of the staff. We suggest you follow these steps:

- Before any data collection starts, department managers should ensure that they are familiar with the PATs list. The list is reproduced at Appendix 1 in this document.

- Divide the personnel at each AfC band into subgroups (groups of people who work in similar ways), as described in Section 1.1. Some people may rotate jobs at varying intervals throughout the year. You might, for instance, have three teams who rotate with each other every 4 months. You could regard this as a single subgroup (rather than 3 subgroups) as over a year they all do similar work.

- Using one printed copy of the PATs list for each subgroup, clearly mark the processes, activities and tasks you think they do.
Continue to annotate these sheets by apportioning the time of each subgroup to the tasks. Please use percentages. You will find it easier if you consider the apportionment of time over a full year, especially if you have people rotating jobs within any of your subgroups. Once you have done this, refer to Section 2 for details of how to add these data to the spreadsheet.

The following flowchart illustrates the process:

1. Departments
   - Biochemistry
   - Haematology
   - Etc.

2. AfC grades
   - AfC 1
   - AfC 2
   - AfC 3
   - Etc.

3. 12 people at AfC grade 3 in Biochemistry

4. 2 subgroups of the 12 people at AfC grade 3 in Biochemistry
   - 7 people who do similar work
   - 5 people who do similar work

5. 1 PAT list for each subgroup

6. Data transferred to spreadsheet
   - (task_entry.xls)
2 Record data in the spreadsheets

This section describes how to populate the spreadsheets with data. The steps described are summarised in the flowchart at Appendix 2.

2.1 Completing task_entry.xls

Copies of task_entry.xls must be completed for each department. Each copy will contain data for people at a single AfC band. There are 9 bands, with band 8 being split into four sub-bands (A to D), so up to 12 copies of task_entry.xls will be required by each department.

The spreadsheet contains several worksheets that require data entry. One worksheet is used to list the staff in the department (‘Respondent’). The remaining worksheets (initially hidden) are for recording the activities of the staff by subgroup (‘Sub1’ through to ‘Sub12’). A separate worksheet should be completed for every subgroup of the staff within each AfC band.

Create subgroups

The project manager will give department managers one spreadsheet for each band of employee. When opening the spreadsheets, make sure to enable macros when prompted. Starting with the workbook for band 1, go to the ‘Respondent’ worksheet. It should already be populated with the names of the appropriate personnel.

You now need to indicate which people are in which subgroup (refer to Section 1). You can create up to 12 subgroups. Place a ‘1’ against the name of each person in your first subgroup (column F). Put a ‘2’ against each person in your second subgroup, and so on. When complete, each person will have a number between 1 and 12 against her or his name.

Now click the ‘Generate subgroups’ button. This will create the extra worksheets you will need to complete. Here is an example:

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Respondent name</td>
<td>James Jones</td>
<td>Respondee</td>
<td>WTEs</td>
<td>Subgroup</td>
</tr>
<tr>
<td>2</td>
<td>Number of staff</td>
<td>15</td>
<td>Name 2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>Number of subgroups</td>
<td>3</td>
<td>Name 3</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>Total work entered</td>
<td>15.00</td>
<td>Name 4</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
<td>Name 5</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
<td>Name 6</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>7</td>
<td></td>
<td></td>
<td>Name 7</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>8</td>
<td></td>
<td></td>
<td>Name 8</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>9</td>
<td></td>
<td></td>
<td>Name 9</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>10</td>
<td></td>
<td></td>
<td>Name 10</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>11</td>
<td></td>
<td></td>
<td>Name 11</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>12</td>
<td></td>
<td></td>
<td>Name 12</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>13</td>
<td></td>
<td></td>
<td>Name 13</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>14</td>
<td></td>
<td></td>
<td>Name 14</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>15</td>
<td></td>
<td></td>
<td>Name 15</td>
<td>1</td>
<td>3</td>
</tr>
</tbody>
</table>

All personnel are assigned to a subgroup

Worksheets are generated for the subgroups
If you make an error in assigning people to subgroups, simply correct the value in column F and click ‘Generate subgroups’ again. For example, having already created subgroups, you decide that ‘Name 15’ in the example above should be in subgroup 2, not subgroup 3. Change the value in cell F16 to a ‘2’ and click ‘Generate subgroups’.

**Recording the activities of the staff**

Now complete each of the subgroup worksheets (‘Sub1’ to ‘Sub12’), starting with ‘Sub1’. By referring to the PATs sheets you created for each subgroup, put in the 6-digit code numbers of the tasks done by this subgroup (column D). The descriptions will appear automatically in column F. Alongside each task, you should now record the proportion of this subgroup’s time that is spent on each task (record it as a percentage in column E). This defines the work profile for the subgroup. You might find this ready-reckoner helpful in estimating these percentages:

<table>
<thead>
<tr>
<th>Total hours worked per week</th>
<th>37</th>
<th>37.5</th>
<th>20</th>
<th>30</th>
<th>40</th>
<th>50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mins / wk</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>0.23%</td>
<td>0.22%</td>
<td>0.42%</td>
<td>0.28%</td>
<td>0.21%</td>
<td>0.17%</td>
</tr>
<tr>
<td>10</td>
<td>0.45%</td>
<td>0.44%</td>
<td>0.83%</td>
<td>0.56%</td>
<td>0.42%</td>
<td>0.33%</td>
</tr>
<tr>
<td>30</td>
<td>1.35%</td>
<td>1.33%</td>
<td>2.50%</td>
<td>1.67%</td>
<td>1.25%</td>
<td>1.00%</td>
</tr>
<tr>
<td>60</td>
<td>2.70%</td>
<td>2.67%</td>
<td>5.00%</td>
<td>3.33%</td>
<td>2.50%</td>
<td>2.00%</td>
</tr>
<tr>
<td>Hours / wk</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>2.70%</td>
<td>2.67%</td>
<td>5.00%</td>
<td>3.33%</td>
<td>2.50%</td>
<td>2.00%</td>
</tr>
<tr>
<td>2</td>
<td>5.41%</td>
<td>5.33%</td>
<td>10.00%</td>
<td>6.67%</td>
<td>5.00%</td>
<td>4.00%</td>
</tr>
<tr>
<td>4</td>
<td>10.81%</td>
<td>10.67%</td>
<td>20.00%</td>
<td>13.33%</td>
<td>10.00%</td>
<td>8.00%</td>
</tr>
<tr>
<td>8</td>
<td>21.62%</td>
<td>21.33%</td>
<td>40.00%</td>
<td>26.67%</td>
<td>20.00%</td>
<td>16.00%</td>
</tr>
<tr>
<td>16</td>
<td>43.24%</td>
<td>42.67%</td>
<td>80.00%</td>
<td>53.33%</td>
<td>40.00%</td>
<td>32.00%</td>
</tr>
</tbody>
</table>

Column E must total 100%. When it does, the value in cell B3 (‘Total work’) will read ‘100.00%’. A completed worksheet should look something like this:

Now repeat this process for worksheets ‘Sub2’ to ‘Sub12’.
**Confirm the data**

The 'Respondent' worksheet contains a 'Check subgroups' button. Click this once you have finished recording all the data in a workbook. This will check that you have placed sufficient data on each worksheet and that the apportionment of time adds to 100%. You will see an error message, like the ones below, if any of your worksheets need amending.

![Error message](image1)

The tasks you have recorded on 'Sub1' do not add up to 100%

![Error message](image2)

You have recorded the same task more than once on 'Sub1'

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**Return the data**

Once you are happy with the data, the spreadsheets should be returned to the project manager, or whoever has responsibility for *main_model.xls*. 
Processes, activities and tasks

01 Plan the service
Develop strategic plans, budgets, business cases and plan new programmes of work (such as screening)

0101 Plan the service

02 Work with users and purchasers of pathology (e.g. GPs and PCTs)
Communicate with users. Develop and maintain relationships. Forecast demand and negotiate prices. This should not include communication about tests and results

0201 Work with users of pathology (e.g. GPs and PCTs)

03 Manage and develop people
Provide HR support to the workforce, receive training, train others, develop workforce plans

0301 Manage and develop others

030101 Manage others

030102 Develop and train others (e.g. train students and employees, conduct appraisals, provide support for formal examinations)

0302 Manage and develop yourself

030201 Manage and develop yourself (e.g. receive training). Do not include research work here

04 Provide the service
Do the 'direct' work of the pathology service

0401 Create samples

040101 Travel (as part of obtaining samples)

040102 Prepare to obtain samples (prepare your environment, validate the patient's identity and the request, obtain consent)

040103 Obtain specimens from individuals

040104 Complete documentation and maintain sampling records

040105 Provide expert advice on the collection of specimens

0402 Transport samples to the laboratory

040201 Plan routes and manage the activities of drivers

040202 Collect samples from external facilities and deliver to the laboratory

040203 Collect samples from internal wards and departments and deliver to the laboratory

040204 Complete documentation and maintain transportation records

0403 Prepare samples for testing

040301 Unpack and sort deliveries of samples and book into the system (including receipting and addition of date, time etc)

040302 Prepare your environment for processing samples (including sterilisation of equipment)

040303 Verify details of the request (patient ID, requester tests requested), prioritise samples and generate appropriate records and labels

040304 Prepare media for samples

040305 Determine and communicate the suitability of samples for testing and examination (e.g. regarding rejects)
040306 Place samples for automated analysis into appropriate containers and batch trays
040307 Load samples and batches into analysers
040308 Prepare samples for manual analysis in suitable media (slides, cultures, cell blocks, etc.)
040309 Prepare transplant samples in suitable media for analysis
040310 Prepare cancer (resection) samples in suitable media for analysis
040311 Prepare cancer (diagnostic biopsy) samples in suitable media for analysis
040312 Prepare routine surgical samples in suitable media for analysis
040313 Prepare post mortem samples in suitable media for analysis
040314 Prepare neuropathology samples in suitable media for analysis
040315 Prepare electron microscopy samples in suitable media for analysis
040316 Prepare muscle and nerve biopsy samples in suitable media for analysis
040317 Prepare interoperative frozen section samples in suitable media for analysis
040318 Prepare other samples in suitable media for analysis

0404 Perform tests
040401 Perform or initiate fully-automated tests (automated and tracked systems)
040402 Perform semi-automated tests (some automation but not, for example, tracked)
040403 Perform routine manual tests
040404 Perform complex manual tests
040405 Perform point of care tests
040406 Record test results

0405 Interpret and communicate the results of tests
040501 Validate the technical and clinical quality of test results (including whether all necessary tests have been done)
040502 Do easy interpretation of test results and produce reports with recommendations, as appropriate
040503 Do intermediate interpretation of test results and produce reports with recommendations, as appropriate
040504 Do difficult interpretation of test results and produce reports with recommendations, as appropriate
040505 Provide clinical advisory services to internal and external clients
040506 Provide technical advisory services to internal and external clients (e.g. help desk)
040507 Send electronic and printed reports to requesters
040508 Use data to inform other services for patients (e.g. risk assessments for chronic diseases)

0406 Dispose of samples
040601 Collect, categorise and bag samples requiring disposal
040602 Perform 'make-safe' tasks (such as sterilisation)
040603 Transport samples to the disposal site or service
040604 Complete documentation and maintain disposal records

0407 Manage and work in the mortuary
040701 Manage and work in the mortuary

0408 Manage and work in the blood bank
040801 Receive and store blood components and products
040802 Select and issue blood components and products
040803 Complete documentation and maintain blood bank records

0409 Provide other services
040901 Deal with outgoing send-aways
040902 Provide consumables to Pathology users (e.g. GPs)
040903 Deal with complaints and queries not related to tests
040904 Provide support to other disciplines (e.g. attend MDT meetings)
### 0410 Other direct tasks

<table>
<thead>
<tr>
<th>Task Number</th>
<th>Task Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>041001</td>
<td>Other direct task 1:</td>
</tr>
<tr>
<td>041002</td>
<td>Other direct task 2:</td>
</tr>
<tr>
<td>041003</td>
<td>Other direct task 3:</td>
</tr>
<tr>
<td>041004</td>
<td>Other direct task 4:</td>
</tr>
<tr>
<td>041005</td>
<td>Other direct task 5:</td>
</tr>
<tr>
<td>041006</td>
<td>Other direct task 6:</td>
</tr>
<tr>
<td>041007</td>
<td>Other direct task 7:</td>
</tr>
<tr>
<td>041008</td>
<td>Other direct task 8:</td>
</tr>
<tr>
<td>041009</td>
<td>Other direct task 9:</td>
</tr>
<tr>
<td>041010</td>
<td>Other direct task 10:</td>
</tr>
</tbody>
</table>

### 05 Manage other resources (not people)
Develop, manage and maintain suppliers, contractors, IT and other physical resources

<table>
<thead>
<tr>
<th>Task Number</th>
<th>Task Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0501</td>
<td>Manage other resources</td>
</tr>
<tr>
<td>050101</td>
<td>Manage other resources</td>
</tr>
</tbody>
</table>

### 06 Manage and administer the service
Provide managerial and administrative support to the pathology service

<table>
<thead>
<tr>
<th>Task Number</th>
<th>Task Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0601</td>
<td>Manage estates and facilities</td>
</tr>
<tr>
<td>060101</td>
<td>Manage estates and facilities</td>
</tr>
<tr>
<td>0602</td>
<td>Provide office administration services</td>
</tr>
<tr>
<td>060201</td>
<td>Provide office administration services (including dealing with post and managing email for others)</td>
</tr>
<tr>
<td>0603</td>
<td>Produce protocols and other documentation</td>
</tr>
<tr>
<td>060301</td>
<td>Produce protocols and other documentation</td>
</tr>
<tr>
<td>0604</td>
<td>Provide support to other parts of the organisation (including other pathology departments)</td>
</tr>
<tr>
<td>060401</td>
<td>Provide support to other parts of the organisation</td>
</tr>
<tr>
<td>0605</td>
<td>Manage external relationships (e.g. with the Department of Health). Do not include relationships with users of the service</td>
</tr>
<tr>
<td>060501</td>
<td>Manage external relationships</td>
</tr>
<tr>
<td>0606</td>
<td>Produce reports and submit statutory returns</td>
</tr>
<tr>
<td>060601</td>
<td>Produce reports and submit statutory returns</td>
</tr>
<tr>
<td>0607</td>
<td>Administer screening programmes (excluding testing)</td>
</tr>
<tr>
<td>060701</td>
<td>Administer screening programmes (excluding testing)</td>
</tr>
<tr>
<td>0608</td>
<td>Administer financial transactions</td>
</tr>
<tr>
<td>060801</td>
<td>Administer financial transactions</td>
</tr>
<tr>
<td>0609</td>
<td>Administer and undertake travel</td>
</tr>
<tr>
<td>060901</td>
<td>Administer and undertake travel</td>
</tr>
</tbody>
</table>

### 07 Manage and administer quality, health and safety
Manage and administer quality, health and safety (including quality assurance, audit, accreditation, risk management and governance)

<table>
<thead>
<tr>
<th>Task Number</th>
<th>Task Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0701</td>
<td>Manage and administer quality, health and safety</td>
</tr>
<tr>
<td>070101</td>
<td>Manage and administer quality, health and safety</td>
</tr>
</tbody>
</table>
08 Improve the service
Improve the service through specific projects and research work

0801 Improve the service
- 080101 Improve the service through formal projects
- 080102 Investigate and develop new tests and techniques
- 080103 Undertake your own research work
- 080104 Provide assistance to others' research work
- 080105 Prepare and present material (e.g. for conferences or peer review). Do not include work associated directly with your own research

09 Other support tasks
Use the spaces provided to add up to five extra tasks to apportion time to

0901 Other support tasks
- 090101 Other support task 1:
- 090102 Other support task 2:
- 090103 Other support task 3:
- 090104 Other support task 4:
- 090105 Other support task 5:
The structure of the task list

The task list is split into eight processes, each with a two-digit code. For example, process 04 is 'Provide the service'. For some processes there are no additional levels of detail (into activities and tasks). Such a process should be treated as a 'catch-all' for any work that best fits the description of the process.

Some processes are broken down into activities, each with a four-digit code. For example, activity 0401 is 'Create samples' (within process 04).

Some activities are broken down into tasks, each with a six-digit code. For example, task 040103 is 'Obtain specimens from individuals' (within activity 0401).

In the list above, each process is given a brief explanation. And some tasks have a very short description of what might be included. Further details of what to include or exclude from specific tasks, activities or processes are provided below.

Guidance on what to include or exclude from specific processes, activities or tasks

People will often spend a significant amount of time in meetings. This should be allocated to the process, activity or task that best describes the work being done in the meeting. As an example, attendance at MDT meetings should be allocated to activity 040904.

Process 01

Work associated with planning new programmes should be included here. However, work associated with the technology or science behind new programmes or tests should be recorded in process 8, 'Improve the Service'.

Process 02

This should include communications about the business of the pathology service. Work related to the development of contracts or relationships should be included. But communications about specific tests should not appear here (it should be within process 4, 'Provide the service').

Process 03

This should include the management of people, the provision and receipt of training and also work normally associated with the Human Resources function.

All work related to the provision of training for others should be included in 030102. This could be the provision of ‘on the job’ training, organising and attending external training courses, and any training of medical students. Presentations at conferences should not be included here (it should be allocated to 080105).

Process 04

Task 040101, ‘Travel (as part of obtaining samples)’. This should include the return journey after taking a sample and/or any onward journeys to take further samples.

Activity 0402, ‘Transport samples to the laboratory’. People, such as phlebotomists, who take samples and transport them to the laboratory, should record their travelling time in task 040101. Activity 0402 should be used to record the work of people whose dedicated role is transportation. You can also record the effort involved in managing these people in this section.
Activity 0404, ‘Perform tests’. This should include tests done for the blood bank, such as compatibility and antibody testing. But the loading of samples into machines should be excluded (it should be allocated to an appropriate task in activity 0403).

Process 05

The pathology service will make use of a wide range of physical resources, from consumables and stationery to major capital items. In process 05 you should record time spent managing the procurement of these items and businesses that supply them.

Process 06

This process covers activities that directly support the work of the pathology departments.

Process 07

Do not record time spent on testing samples for Internal Quality Assurance (IQA). This should be recorded in activity 0404, ‘Perform tests’. Process 07 should be used to record the organisational aspects of quality management and health and safety.

Process 08

Some activities help to improve the service – its range of tests, core capabilities, and so on. And some activities add value to the wider pathology community – research, presenting at conferences, for instance. Record the work on these activities here. Do not include work on quality improvement initiatives here. This belongs in process 07.
Flow chart for initial data entry

**Preparation**

1. Issue guidance notes to department managers
2. Familiarise with the PATs list
3. Make a list of the staff at each band
4. Create subgroups of the staff at each band
5. Make a note of the tasks that are done by each subgroup

**Action**

- Project manager
- Department managers
- Department managers
- Department managers
- Department managers
Data entry

Define departments and record the volume of tests

Record details of the staff: Name, department, band, hours

Copy the names and WTEs to task_entry.xls (one copy per band per department)

Send files to department managers (1 file per band per department)

Create subgroups of the staff in each copy of task_entry.xls

Apportion the work of the staff to tasks

Click 'Check subgroups' button and take any corrective action

Return copies of task_entry.xls to project manager

Transcribe task data to main_model.xls

Record indicative costs for each grade

Workbook (Worksheet)

Main_model.xls (Current depts & volumes – input) Project manager

Main_model.xls (Staff details – input) Project manager

Task_entry.xls (Respondent) Project manager

Task_entry.xls (Respondent) Department managers

Task_entry.xls (Sub1 to Sub9) Department managers

Task_entry.xls (Respondent) Department managers

Task_entry.xls (Respondent) Department managers

Task_entry.xls (Respondent) Department managers

Main_model.xls (Current workforce – input AND Revised workforce – input) Project manager

Main_model.xls (Current Depts – input) Project manager