Welcome to Knowledge Matters

By Samantha Riley

Thanks to those of you who have completed and returned the analytical skills assessment questionnaire which was circulated in August. Nearly 140 questionnaires have been returned and analysis of the results is underway. After initial analysis of the completed questionnaires, the first training modules will focus on the following topics:

- Practical application of basic statistics
- Fully utilising the built in capabilities of Excel
- Basic VBA skills - how to automate repetitive tasks

Detailed specifications for these modules will be available by the end of October with training starting at the end of November. Please e-mail knowledge.management@southeastcoast.nhs.uk for further details and to register interest.

On 19th September, South East Coast SHA and the Office of Strategic Health Authorities jointly hosted an analytical fair focussed on 18 weeks. A variety of models, tools and approaches were shared from across the country and a modelling marketplace provided an opportunity to gain hands-on experience of using locally developed tools. The event was chaired by the Chief Executive of the Information Centre and over 250 delegates attended from across the country. Delegates will automatically be forwarded copies of all of the presentations from the day. If you did not attend, but would like to receive copies, please e-mail us.

Outpatient referrals analysis was circulated in early September. The SHA is now working on adapting this tool to enable PCTs to populate it with local practice level data. An updated outpatient new to follow up calculator (with 2006/7 data) was also circulated earlier this month. Finally, the Interactive Inpatient Patient Survey Tool has also recently been circulated, and a second version is now available upon request.

For further information or to obtain your own copy of any of these tools, please e-mail: -
knowledge.management@southeastcoast.nhs.uk
The AESOP toolpack is a range of 5 tools, created using MS Excel, designed to be used on a regular basis to monitor A&E department flow and individual patient waits in department. It can be used to evidence patterns in patient arrivals, departures and effect of process changes on the department. It uses a simple extract from the A&E system containing patient ID (for investigating a particular issue), arrival date / time, departure date / time and patient type.

The 90 Day Mean & UCL tool is used to provide trend analysis over a longer period. It enables the effect of process changes to be highlighted where these have impacted on patient waits and can show where performance may start to become an issue long before it is seen on the A&E performance figures. The upper confidence limit (UCL) gives a guide as to the maximum wait 99% of patients could experience (ideally this should be no more than 4 hours), in addition it provides a guide as to the variability in wait each patient is experiencing. Large variations in the UCL between days indicates inconsistency and potentially a chaotic A&E department.

The Daily and Weekly Run charts show consecutive patient waits as a series of bars colour coded depending upon which 4 hour time slot a patient arrived in department, allowing busy times of day to be identified. Again a UCL line gives a guide as to maximum wait, in addition, specific patients can be identified and their A&E cards can be pulled for investigation. RAG charts provide an overview as to the number of patients that are leaving the department within best practice guidelines.

The Patients in A&E Tool provides an overview for a specified day as to the number of patients who were actually in the department, the number arriving and the number leaving by 15 minute time slots and by the type of patient. This is particularly useful for investigating when backlogs actually start developing rather than when the department becomes chaotic therefore allowing corrective action for the future.

The final element of the toolkit is the data validation spreadsheet, this processes the data and checks for a number of simple errors that could have an impact on the final analysis. These errors are highlighted in a report allowing details on the A&E system to be checked and corrective action to be taken. As part of a feedback loop this can be used to highlight where staff may require training or guidance on recording the patient journey through the department.

The toolkit and advice on its use is freely available from myself, contact me on simon.berry@southeastcoast.nhs.uk for further details.
Good Bye ....

There is a slightly sad note to this issue of knowledge matters as we say farewell to two members of our team...

Fiona Cantrell, one of our Performance analysts, left us on 28th September to take up a post at the Royal West Sussex as the Commissioning and Performance Manager.

Fiona has only been with us for six months, but her contributions to the team have been invaluable, Fiona’s thoughts on her time at KM:

"Even though it's been a relatively short stay I've really enjoyed working with the Knowledge Management Team. I've learned such a lot from everyone."

Graham Evans, our Public Health Analyst, left us on the 14th of September. Graham has taken up the post as Head of Public Health Intelligence for both East Sussex Downs & Weald and Hastings & Rother PCTs, Graham’s parting words ...

"Well it’s been a journey over the last 5 years!! I really enjoyed my time at the SHA and worked with some excellent people, even the 7/5th’s of them that did not understand fractions."

Welcome ....

We would like to welcome David Harries to the team who joins us from NHS South Central, taking over from Graham as public health analyst. David took up post on 1st October.

Analytical fair ....

to the tune of popular children's song - The Animal Fair

We went to the analytical fair, 
The great and the good were there, 
There were modelling tools, 
With complex rules, 
for different pathways of care.

The team had a marvellous stand 
With laptops, terribly grand! 
To sell our toys 
To the girls and the boys 
We couldn’t keep up with demand

OSHA and SEC ran the fair 
The IC CEO was the chair 
The modelling market place 
with wide knowledge base 
became quite a social affair

To hit 18 weeks R.T.T. 
Is a challenge that we can see 
Good practice was shared 
and notes were compared 
and a way forward was agreed 
agreed, agreed, agreed, agreed!

SUS user group ....

The next South East Coast-wide Secondary Use Service (SUS) User Group meeting will be held at 10:00am on Thursday 18th October, at the SHA in Horley. Separate Provider and Commissioners breakout sessions will feature during the morning, and we have arranged for a representative from the National SUS team to attend to discuss key issues and future developments, and to answer your questions.

For further details about SUS, please contact Andrew Wilk (andrew.wilk@southeastcoast.nhs.uk /01293 778876)

Good news for NHS employees...

If you are an NHS employee, you are eligible to participate in the Microsoft Home Use Programme. It enables eligible employees of the NHS to get a licensed copy of most Microsoft Office desktop applications to install and use on a home computer as part of the benefits entitlement to staff in the Microsoft Enterprise Agreement. To be eligible you must have an nhs.net account. If you do not have an account, please contact Sally Williams who will set you one up (sally.williams@southeastcoast.nhs.uk)

The software license itself is free, however there is a fee charged to cover packaging and handling costs of £18.

For more detail go to the Microsoft website https://www.microsoft.com/uk/nhs/pages/nhs_licensing_home_user_programme.aspx

Is there something that you wish you knew more about? To suggest future topics for knowledge matters contact the team
**A3: ASK AN ANALYST**

If you have a question for the team please e-mail: Knowledge_management@southeastcoast.nhs.uk

**Q - There are lots of things that I know VBA can do but I do not know how to do them. For example combine columns or rows more easily then using the concatenate function. I have found the following dialogue box but I do not know how to produce it?**

**A -** The dialog box described is not a standard in Excel but part of a set of "add ins"  
You can replicate this by going into VBA editor and scripting some Macro's and creating some user forms but this does depend on how confident you are with coding and takes time.  
We use a free add on called ASAP utilities - [http://www.asap-utilities.com](http://www.asap-utilities.com)  
It is free to download and gives you lots of useful functions, like the one you mentioned above plus many more, all accessible from the menu bar! All the analysts at the SHA use it.  
- Adam Cook, Development Analyst

**Q - I have a spreadsheet which I know has more worksheets than I can see, I have tried to unhide them using format/sheet/unhide and window/unhide options but am still unable to find it. Can you help?**

**A -** If you are sure that the workbook is hiding sheets from you and you can’t see them using the techniques mentioned above then the sheet properties have probably been set to xlveryhidden. In Excel you can set sheets too be Visible, Hidden or xlveryhidden. The first two settings can be changed using the hide/unhide techniques mentioned above; the xlveryhidden property can only be manipulated through VB Editor.

This can be done in one of two ways, one through the properties window and the other through macro code.  
When you open VB Editor in Excel you should see both the VBA Project Window and the Properties Window on the left hand side. Select the sheet you want to view in the project window, if you have more than one workbook open you will need to select the one with hidden sheets first. In the properties window the visible property should be at the bottom of the list and you should be able to change the value. Changing this value to xlsheetvisible will allow you to view the sheet in excel.

If you have more than one sheet to change or the code in the workbook is password protected (and you have forgotten the password) try the following code in a module:

```vba
Sub unhide()
    Workbooks("Example").Activate
    For Each Sheet In Worksheets
        Sheet.Visible = True
    Next
End Sub
```

*'this section specifies the workbook with the sheets you want to unhide. Only required if you are placing the module in a different workbook.*

*’this section sets the Visible property of every sheet in the workbook to true*

If the workbook is password protected then you can still run this by placing the code module in another workbook (e.g. Personal.xls) and using the first line of code to specify the workbook you want to change  
- Kiran Cheema, Workforce Analyst
Skills Builder: - Percentiles

Continuing the theme from last issue, an exploration of Percentiles .......

Would you be surprised to know that there is no standard definition of Percentiles?

You would be right in thinking that they have something to do with percentages. As discussed in the last issue Percent (%) means "out of 100" and is a way of expressing any number as a fraction of 100, or another way of think about it is dividing any number into 100 equal pieces or 100 percentages. Percentiles similarly are a way of dividing a group of values into 100 pieces with an equal number of values in each or 100 percentiles.

A quick search on the internet quickly reveals two slightly different definitions of Percentiles:
Either as a value on a scale of one hundred that indicates the percent of a distribution that is equal to or below it
Or as a value on a scale of one hundred that indicates the percent of a distribution that is below it.

This difference in definition makes little difference in large data sets, but can have significance in smaller ones!

As with all descriptive techniques it is important to understand what you are looking at.

Take the following set of numbers:
1,2,3,4,5,11,12,13,15,20

Now there are 2 ways of describing the values in this series:
We can compare these values to each other using techniques like percentages or fractions e.g the value 5 is 25% of the value 20 or 5 is ¼ of the value 20
Or
We can compare the values to their relative positions in the series e.g. 5 is the 5th largest value in a series of 10.

So how are percentiles used as a description of position?

Let’s look at the first definition of percentiles:
“a value on a scale of one hundred that indicates the percent of a distribution that is equal to or below it”
So if we look at the value 5, this is the 5th value in a series of 10, or 5 out of 10 values are equal to or below 5, we can use the same calculation as with percentages to determine the percentile.
(1-(5/10))*100 =50th Percentile. In this case the value 5 being the 50th percentile means that 50% of values are smaller than or equal to the value 5.

What about the second definition of percentiles:
“a value on a scale of one hundred that indicates the percent of a distribution that is below it”?
So if we look at the value 5, this is the 5th value in a series of 10, so 4 out of 10 values are below 5, we can again use the same calculation as with percentages to determine the percentile.
(1-(4/10))*100 =40th Percentile. In this case the value 5 being the 40th percentile means that 40% of values are smaller than the value 5.

As you can see this variation in definitions can lead to a difference in result which you do need to take into account when interpreting data, especially with small data sets!
The technique of percentiles allows you to compare a value’s position in a group but not the magnitude or scale of difference between the value and any other value in the series.

Percentiles can be found across the NHS being used in a number of ways, most frequently you may come across them being used to rank a series of numbers (usually ranking organisations according to a specific indicator such as waiting times), but they can also be used on historical data sets to determine upper and lower confidence intervals which can be used to compare against actual values to highlight anomalies and patterns that may require further analysis.

For Example: Below is a weight chart

This chart was created by taking a Historical sample of children’s weight at different ages.
For example if we looked at the data for 10 year olds and plotted the number of children in each weight band it might look something like this:

We can then identify ranges of concern i.e. in this case any weight that falls under the 5th or over the 95th percentiles should be flagged as of concern.

This distribution can then be used to compare “new” data points against, to monitor or flag for concern, in this example any weight over the 95th percentile of the original sample distribution (45kg).

Percentiles can also be used to compare distributions e.g. if more than 5% of a recent sample falls inside the 5th percentile of a historical distribution this could be highlighting as an area for concern.

Percentiles can also be used in place of other comparative techniques like averages; for example, you may want to compare values to the middle of a series or to a higher point in the data series.

When using descriptive techniques, always take a moment to consider what you are looking at or what you are trying to describe before deciding which technique to apply as there may be more appropriate techniques to use.

For more information or to explore this topic further here are a few websites with further info:
http://cnx.org/content/m10805/latest/
http://en.wikipedia.org/wiki/Percentile_rank
http://en.wikipedia.org/wiki/Percentile

Do you have something you would like to contribute to Knowledge Matters? Please contact us!
Creating Links - South East Public Health Observatory

By Alison Hill, Director, SEPHO

Introducing South East Public Health Observatory

The South East Public Health Observatory is one of nine public health observatories in England. Our objective is to provide public health intelligence to assist our stakeholders across the NHS and wider health and social care economy to improve their services. We receive core funding from the Department of Health to deliver a regional service to PCTs, the SHAs and the Government Office. We work very closely with the public health analysts in the government office and in the SHAs and have a coordinated work plan across the four organisations. In addition we work as a network of PHOs across England, Ireland, Scotland and Wales (www.apho.org.uk ). Each of us have lead areas - for instance SEPHO runs the national local authority Health Profiles project and leads for PHOs on obesity and cardiovascular disease.

Public health intelligence and intelligence tools
- **Health Profiles**
  SEPHO has produced Health Profiles for each local authority in England, which give a snapshot of health and health inequalities in your local authority areas. These are available on www.communityhealthprofiles.info
- **Choosing Health in the South East**
  We have produced a series of reports on the Choosing Health priority themes, including smoking, obesity, physical activity, sexual health, problem drug use and alcohol. The latest report was a briefing to support PCTs prior to the smoke-free England launch on 1st July.

Information services
- **Hospital Episode Statistics service**
  We run a Hospital Episode Statistics service and provide analyses on request from any NHS agency in the South East. We have access to national data from 1989 and put a set of standard outputs on our website displayed using dynamic reports. We also provide an ad hoc request service. We work with the University of Oxford and publish a national atlas of admissions and procedures using linked HES (i.e. patient level data, linking hospital admissions and mortality from ONS).
- **Drug Treatment Monitoring Service**
  We collect and quality assure all episodes of drug treatment and those in drugs intervention programmes. This service is funded by the National Treatment Agency and the Home Office. We produce standard outputs, offer an ad hoc service requests, and prepare reports for Drug Action Teams and PCT commissioners in the South East.
- **Cancer intelligence**
  We work jointly with the Oxford Cancer Intelligence Unit, the lead cancer intelligence unit for South East wide analyses. We have produced a report on inequalities in cancer mortality and survival, and another report on inequalities in treatment is in preparation.

Support and networking
South East Public Health Information Group
SEPHIG is a network of public health analysts across the South East. We run a quarterly professional development session in London which we use as an opportunity to share what is going on across the South East, and invite external speakers. Join our group and you will get regular mailings. Please contact Amanda Kesseboom@sepho.nhs.uk

If you want to find out more about us go to our website www.sepho.org.uk or contact us on 01865 334714 or by email enquiries@sepho.nhs.uk.
**This Issues Useful Links …**

**Institute for Healthcare Improvement**
Lots of useful tools and guides on measurement are available to download once you have registered on the site. An invaluable site if your interest is information for improvement

http://www.ihi.org

**Health Informatics Community**
Lots of events and news targeted at anyone involved with informatics. There are a number of special interest groups and there is the ability to both learn about work taking place across the country and also share local work

http://www.informatics.nhs.uk/

**In Development and coming soon …**

A range of ‘How To Guides’ are being developed to provide a quick desktop reference guide to common queries. The list currently includes:

- “I can’t see my USB flash Drive”
- “My files are ‘Too BIG!’”
- “How do I make PDF’s then?”

If you have any ideas you would like turned into Guides please let the KM team know!

In addition, a Quality and Outcomes Framework (QOF) assessment tool will be finalised and circulated in mid October.

---

**Fun Fact**

1.3% of people admitted to SEC hospitals in 2006/07 for a fall involving ice-skates, skis, roller-skates or skateboards were over the age of 70

---

**News and Updates…**

**Clinical Metrics Development Programme**
The programme has been formally launched. The dementia sub group will meet for the first time on 12th October (10.00 - 12.30) and the stroke sub group on 18th October (9.30 - 12.00). Work on COPD will start towards the end of the year. Please ask any clinicians that may be interested in the programme to contact Samantha Riley for further details.

**HES on-line**
Simon Berry has now had training and the SHA should have access to the system by the end of October. Currently, HES on-line contains data for the whole of 2005/6 with 2006/7 data being uploaded to the system in December. Once access has been obtained, it will be possible for the SHA to provide national benchmarks for a variety of indicators.

**Unify 2**
Thanks to all of you who have continued to update us on problems experienced with the Unify 2 system. Your input has been extremely valuable in evidencing the issues with the system to enable - please continue to alert us to problems that you are experiencing and also make suggestions for improvements to the system. A national Unify 2 Advisory Group has been established which all SHAs are represented on and this is the forum in which your feedback is discussed and actions agreed to improve the system.

**Quick Quiz**

Which line on the graph below represents a left-skewed distribution?

---

Knowledge matters is the newsletter of NHS South East Coast’s Knowledge Management Team, to discuss any items raised in this publication, for further information or to be added to our distribution list, please contact:

**Knowledge Matters**
C/O Knowledge Management Team
NHS South East Coast
York House
18-20 Masetts Road
Horley, Surrey, RH6 7DE

**Phone:**
01293 778899

**E-mail:**
Knowledge.management@southeastcoast.nhs.uk

**To contact a team member:**
firstname.surname@southeastcoast.nhs.uk

---

Do you have something you would like to contribute to Knowledge Matters? Please contact us!