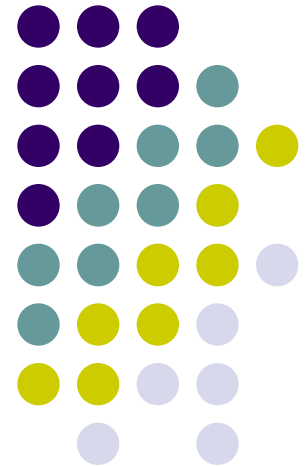


# A new 'app'roach

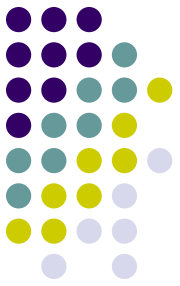
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Using an 'app' to assist platelet prescribing.

Wendy McSporran  
Transfusion Practitioner



# A new 'app'roach



- Let the story begin.....
- Who has a smartphone?
- Who has downloaded the platelet 'app'?



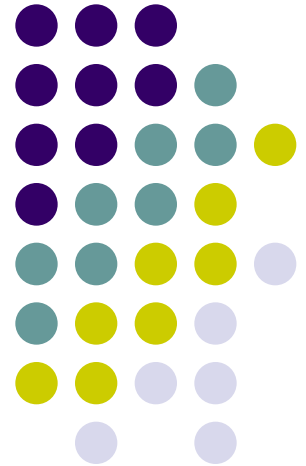
# Ofcom – the communication market 2012

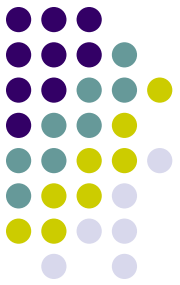


- ‘New devices shape an explosion in mobile data use’
- 40% of adults now own a smartphone
- 40% of adults with a smartphone report it is the most important device for accessing the internet
- Tablet ownership has gone from 2% to 11% in 12 months

# Why develop an 'app'?

It's being requested!





# The bright spark!

- 07:30hrs – sub basement room
- 20 junior hepatobiliary doctors
- A quick teaching session on sample timing and electronic issue
- At the end.....
- ‘That’s great but I won’t remember a word of this tomorrow – any chance you could put blood transfusion info in an ‘APP’?’

# Student Culture



Imperial Mobile - Windows Internet Explorer

http://www3.imperial.ac.uk/ict/services/softwarehardware/imperialmobile

File Edit View Favorites Tools Help


★ Favorites Imperial Mobile

## Services available with Imperial Mobile

When you first open Imperial Mobile, you have to register with an email address and password. If you use your College email address, you can opt to receive alerts of important news.

Users will be able to:

- Search campus maps
- Find the nearest available Barclays bike hire
- Complete and submit your Student Online Evaluation
- Get live tube information
- Check when your next bus will arrive
- View current PC availability in the Central Library clusters
- Find students and staff in the people search - call or email them directly, or add them straight to your address book.
- See where your friends are on campus and contact them to meet up
- Get the latest College and Union news and find out what's on
- Follow the College on Twitter and read the latest student blogs
- Hear about student announcements and promotions
- Explore a guide to College services and facilities
- Alerts – receive alerts and information
- And more...



Supported devices

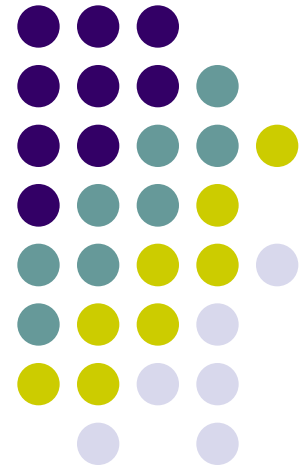
iOS version

Internet 100%

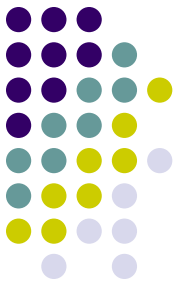
Start 2 Microsof... 4 Interne... day1\_copy[... Microsoft Po... Search Desktop 16:23

# Don't we already have interventions to change transfusion practice?

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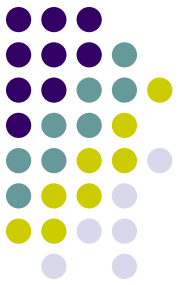
# Interventions to alter transfusion practice so far.....



- Audit feedback
- Teaching & training sessions
- Dissemination of guideline and local policy-paper and desktop
- Algorithms for prescribing
- Varying degrees of success

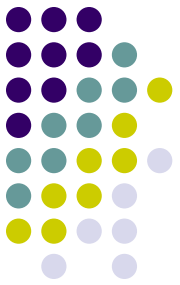


# Literature looking at 'transfusion behaviour' and how to influence.

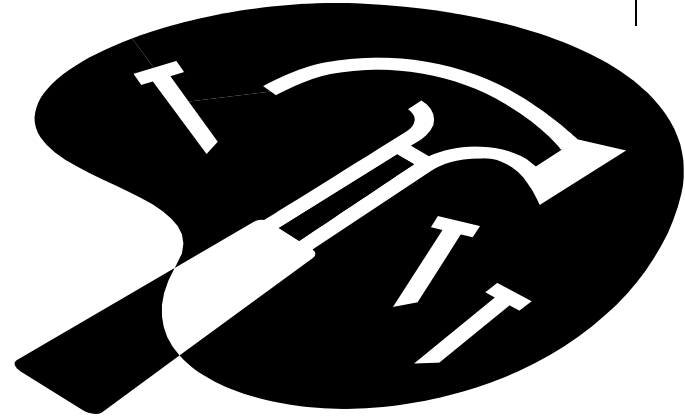


- **Using theories of behaviour to understand transfusion prescribing in three clinical contexts in two countries: Development work for an implementation trial.** Francis et al, *Implementation Science*, 2009, **4**:70 (24<sup>th</sup> October 2009)
- **A cross-country comparison of intensive care physicians' beliefs about their transfusion behaviour: A qualitative study using the theoretical domains framework.** Islam et al, *Implementation Science*, 2012, **7**:93 (21<sup>st</sup> September 2012)
- **Reducing the amount of blood transfused: a systematic review of behavioural interventions to change physicians' transfusion practices.** Tinmouth et al, *Arch Intern Med*, 2005, **165**:845
- **Evidence based selection of theories for designing behaviour change interventions: Using methods based on theoretical construct domains to understand clinicians' blood transfusion behaviour.** Francis et al, *Br J Heal Psychol*, 2009, **14**: 625-646

# New tool in the box!



- Dissemination of guidelines and algorithms by mobile site.
- It has the potential to change practice if there is deviation from guidelines simply because the 'prescriber' is not familiar with them.

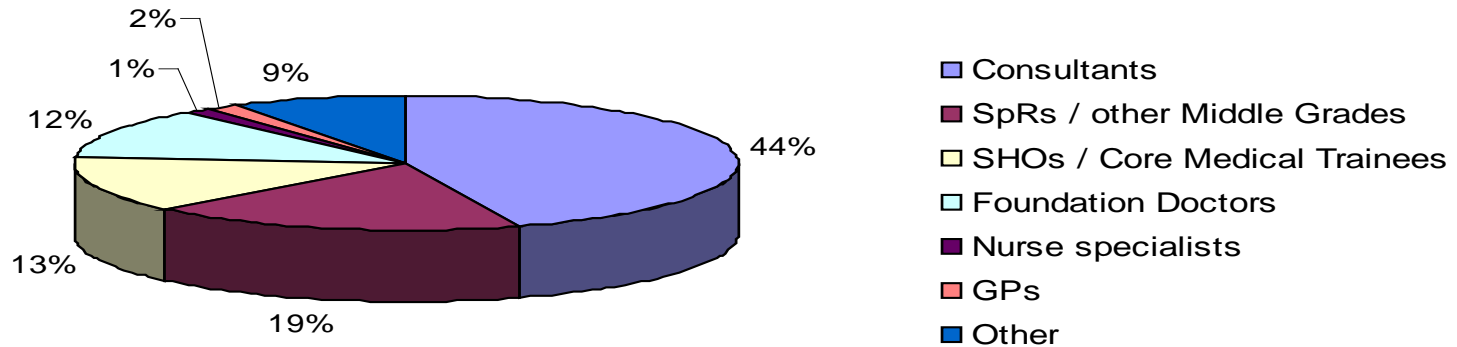


# Who is the target audience?

## 2011 NCA Audit of Use of Blood in Adult Medical Patients



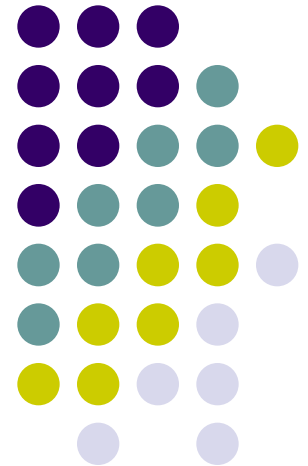
**Who made the decision to transfuse?**

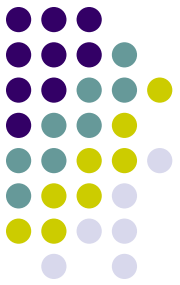


**One factor we do know – the ‘prescriber’ is not usually a ‘transfusion expert’!**

# What is known about health care professionals use of 'APPs'?

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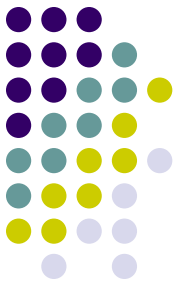




# One UK regional survey

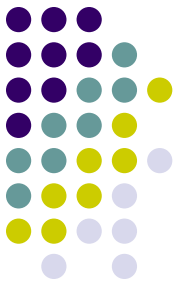
- Smartphone and medical related App use among medical students and junior doctors in the United Kingdom: a regional survey
- Payne et al, *BMC Medical Informatics and Decision Making* 2012,12:121
- Sent across one health care region with 8 hospitals plus an East Midlands University
- 257 medical students – 79% owned a smartphone
- 131 junior doctors – 74% owned a smartphone
- Equal numbers of males and females owned a smartphone but males were significantly more likely to own apps

# What is known about health care professionals use of 'APPs'?



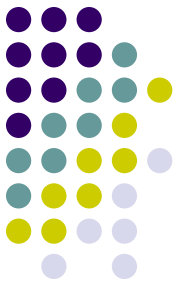
- Regional survey results
- The majority of medical students and doctors owned 1 – 5 medical related applications
- Both populations showed similar trends in usage of several times a day
- Medical students    1 – 30 minutes per 24 hrs
- Junior doctors        1 – 20 minutes per 24 hrs

# What did they wish for future app development?



- Students:-
- *Lecture, timetable info, what they should be learning.*
- Doctors:-
- ***concerned about accessing information at the point of care.***
- *‘what to prescribe’ , ‘how to treat an illness’*

# Regional survey – Doctors comments

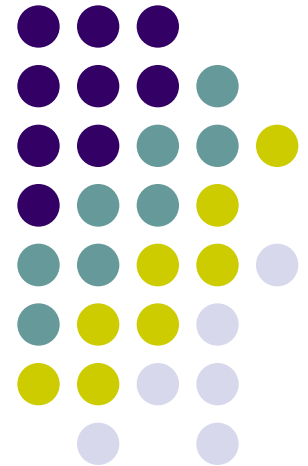


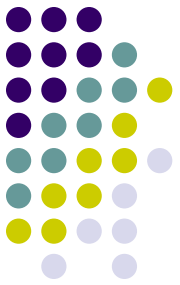
- Regarding clinical/hospital apps:-
- ‘ This would be very useful on a busy ward because with only a few computers it is difficult to get a monitor when they are needed for urgent clinical work’
- ‘Please make a hospital app this will save so much time, we can actually treat patients and not spend all day sat at a computer’
- Payne et al, *BMC Medical Informatics and Decision Making* 2012,12:121



# Any other evidence of influencing practice?

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# More Evidence of use

- **An analysis of the development and implementation of a smartphone application for the delivery of antimicrobial prescribing policy: lessons learnt**

Charani et al, Journal of Antimicrobial Chemotherapy 2013; 68:960-967

- **An 'APP' to guide antibiotic prescribing implemented across five teaching hospitals**
- **Results:-**
- It was used by **100%** of junior doctors within **12** months
- **1900** sessions per month compared to **desk top** version at **221**
- **71%** reported that using the application improved their antibiotic knowledge
- **81%** reported that the APP helped them adhere to the policy

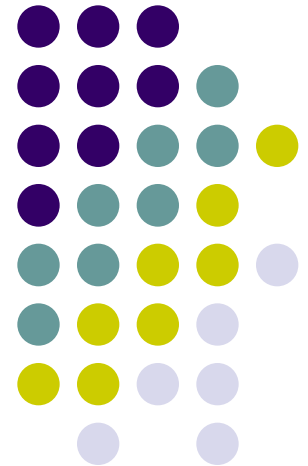


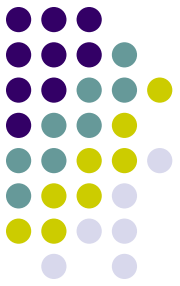
# How was it disseminated?

- Teaching sessions for junior doctors on all sites – during part of the regular teaching sessions
- Emails sent to all new doctors at the Trust
- The Intranet homepage
- The Trust newsletter
- In each case ‘on the spot’ information was given on how to download the app.

# Any downfalls?

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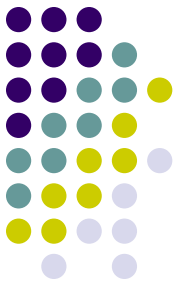




# Barriers to the use of 'APPs'

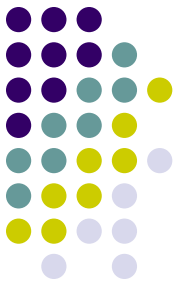
- Not everyone has a smartphone or mobile device
- IT infrastructure in hospitals
- Cost of APPs – This one is free!
- Looks 'unprofessional' – public / patient perception

# Doctors comments from UK Regional Survey



- ‘I think it appears extremely rude both to patients and colleagues to appear to be looking at your phone whilst on the ward’
- ‘The culture of looking lazy or uninterested by playing on your phone needs to be overcome. Once patients and consultants realise the phone is work related I will feel more comfortable’
- Payne et al, *BMC Medical Informatics and Decision Making* 2012,12:121

# Well-known healthcare journal – Good Housekeeping!



**The smartphone will see you now....**

**Sandi Toksvig's Last Laugh**

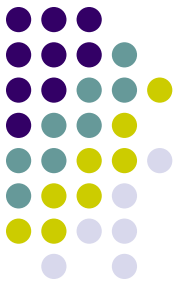
‘But these days doctors don’t even wear white coats any more.....You don’t even have to have a stethoscope either, as there’s a stethoscope phone app! Yes, you can check someone’s heart with your phone...surely this is a technological advance too far? What if the battery is low and the doctor thinks your dead?’

# Development

- A search of transfusion ‘apps’ identified that there was a gap in the market for a tool that could facilitate prescribing of platelets
- NHSBT had developed and launched the Blood Donor App so they had the expertise.
- They agreed to fund and build the HTML5 ‘APP’ website.





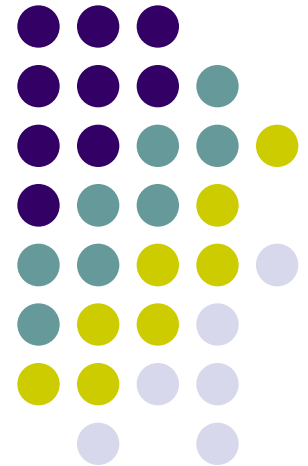


# The working group

- A member of the Customer Service Better Blood Transfusion Team
- Two Transfusion Practitioners
- A Haematologist & research fellow
- New Media lead from NHSBT

# The product!

Accessing guidelines and thresholds at the bedside!



# Prescribing Platelets?



**Blood and Transplant**

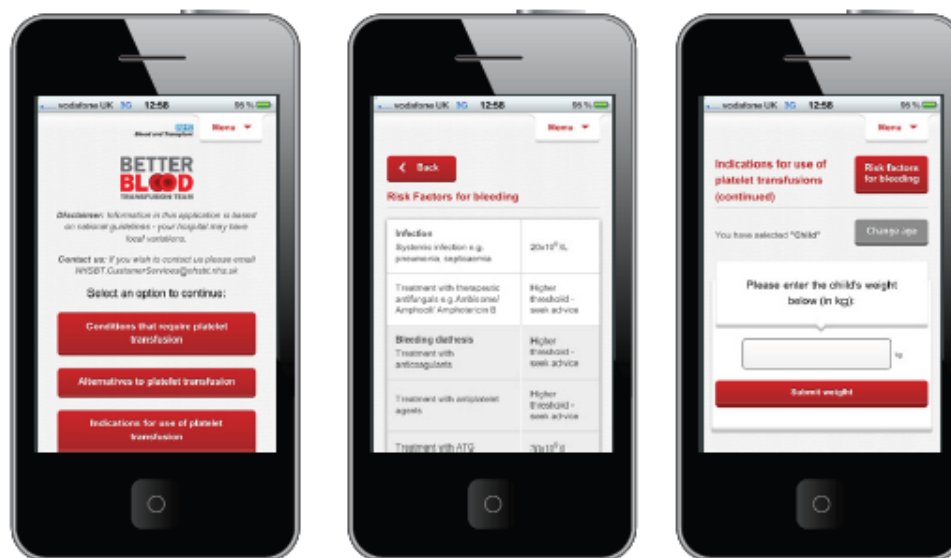
## The New Platelet Transfusion Mobile Site

is designed to give quick easy access to the national guidelines on platelet transfusion and is specifically designed for smartphones and tablets so you have access wherever you need it.

Developed with transfusion experts in response to requests from clinicians, the site works like an app to enable those prescribing platelets to check that the indication for use is appropriate to meet the individual patient's clinical needs.

### Features include:

- Platelet transfusion thresholds prior to common procedures
- Reasons why prophylactic threshold can be increased
- Contraindications to platelet transfusions
- A paediatric dose calculator.



Your feedback is welcome - email: [NHSBT.CustomerService@nhsbt.nhs.uk](mailto:NHSBT.CustomerService@nhsbt.nhs.uk)



**NHS****Blood and Transplant**

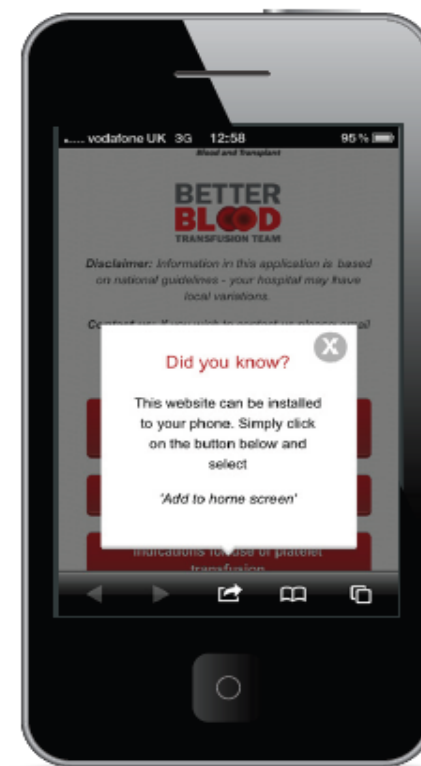
# Access Platelet Transfusion guidelines the easy way!

Scan the code below or visit <http://goo.gl/sO7fh>



## How to bookmark

Once you have accessed the site, you can add an icon to your device home screen with your browser's bookmark option. This allows quick access to the site, even when you don't have internet coverage.



As this site is specifically designed to work on mobile devices, it may not function correctly in all standard browsers.



# BETTER BLOOD TRANSFUSION TEAM

Menu ▼

*Disclaimer: Information in this application is based on national guidelines - your hospital may have local variations.*

*Contact us: If you wish to contact us please email [NHSBT.CustomerServices@nhsbt.nhs.uk](mailto:NHSBT.CustomerServices@nhsbt.nhs.uk)*

Select an option to continue:

Conditions that require platelet transfusion

Alternatives to platelet transfusion

Indications for use of platelet transfusion

Principles, contraindications and risks of transfusion

Administration of platelets

Risk factors for bleeding

BBT App - Windows Internet Explorer

←

→

⌵

http://hospital.blood.co.uk/safe\_use/platelet\_education\_resources/bbt/site/?utm\_campaign=bbt&utm\_sour

Bing

FileEditViewFavoritesToolsHelp

★ Favorites

BBT App

⏪ Back

Risk Factors for bleeding

<b>Infection</b> Systemic infection e.g. pneumonia, septicaemia	20x10 <sup>9</sup> /L
Treatment with therapeutic antifungals e.g.Ambisome/ Amphotil/ Amphotericin B	Higher threshold - seek advice
<b>Bleeding diathesis</b> Treatment with anticoagulants	Higher threshold - seek advice
Treatment with antiplatelet agents	Higher threshold - seek advice
Treatment with ATG	30x10 <sup>9</sup> /L
Treatment with Bortezomib	30x10 <sup>9</sup> /L
<b>Inherited bleeding problem</b> e.g. haemophilia, von Willebrand's disease, platelet function disorder	Higher threshold - seek advice
<b>Acquired bleeding disorder</b> (not associated with medication or promyelocytic leukaemia) e.g. DIC	20x10 <sup>9</sup> /L (>50x10 <sup>9</sup> /L if bleeding)
Coagulopathy associated with promyelocytic leukaemia	20x10 <sup>9</sup> /L (>50x10 <sup>9</sup> /L if bleeding)
<b>Increased bleeding risk</b> Recent major operation (i.e. within the previous 2 weeks)	50x10 <sup>9</sup> /L

Start

»

3 W...

3 M...

A ne...

Spoti...

4 L...

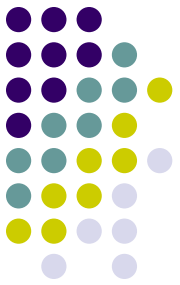
ISM1...

Search Desktop

12:3

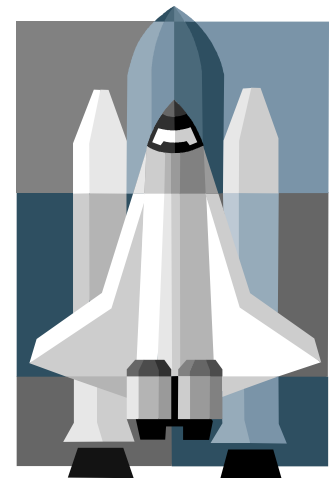
Internet

100%



# ‘Soft Launch’!

- Feedback:-
- Haematology SpR's – Easy to use but not enough detail – more please!
- Same required for red cells, FFP, Anti D prophylaxis, transfusion reactions, major haemorrhage
- Junior doctors (not haematology!) – Avoid abbreviations ‘had to Google – ATG, HIT’, word ‘increment’ not used outside haematology, ‘this ‘app’ would save me a lot of calls’.
- Improve user journey – It has to be completely intuitive.





BBT Site [DEFAULT]

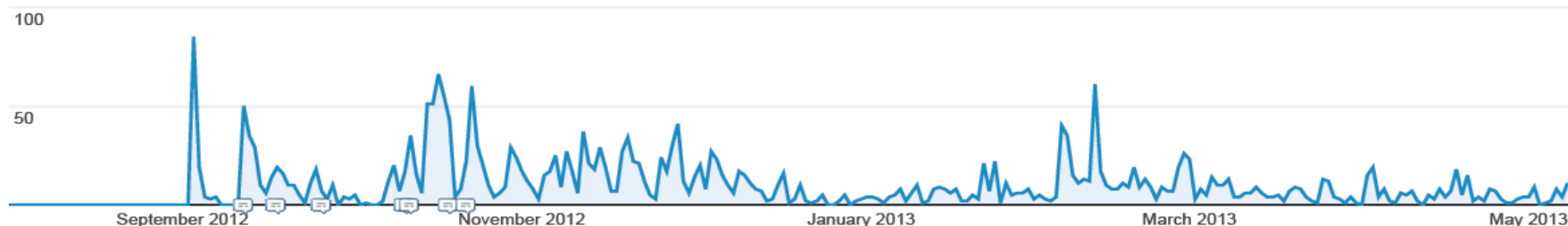
## Audience Overview

1 Aug 2012 - 8 May 2013

100.00%

### Overview

Visits



1,367 people visited this site

Visits



Unique Visitors



Pageviews



Pages / Visit



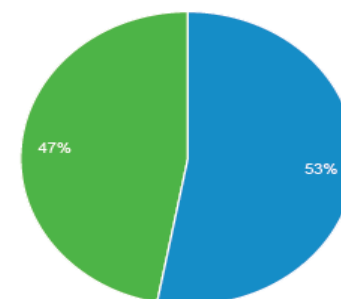
Avg. Visit Duration



Bounce Rate

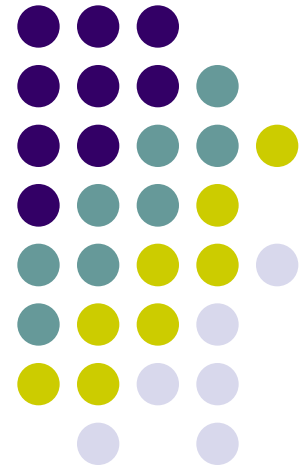


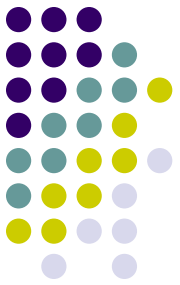
Returning Visitor New Visitor





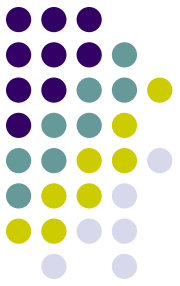
# The future.....





# We need your help!

- It would be really useful if you could download the 'APP' and 'play' with it and then..... Please feedback
- To download - <http://goo.gl/pLGtX>
- To feedback - [NHSBT.CustomerService@nhsbt.nhs.uk](mailto:NHSBT.CustomerService@nhsbt.nhs.uk)
- Promote within hospitals and inform medical staff of its availability
- Promotional postcards available with QR code, order free of charge:-  
<https://ww3.access-24.co.uk/>.



# Future 'APP' Development

- Developing a business case for transfusion 'app' incorporating all blood components.
- Watch platelet use in the UK for possible impact

# Thank you

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The End!

