Good afternoon my name is Gemma van Fleet and today I will be revealing what Zebras & Very Important People have to do with outpatients!
• Redcliffe Hospital has approximately 270 beds and is located by the sea on the Redcliffe Peninsula 109 kms from where you are seated today.
• In late 2007 Redcliffe hospital had a vision for the second and final stage of a $27.5 million redevelopment. The hospital’s new Emergency Department, which opened in April 2008, was stage one. Stage two would see a newly redeveloped Specialist Outpatients department.
• A number of departments, previously spread throughout the hospital, were relocated within the one area, to allow patient access to all services in one location.
• Specialist Outpatient Services implemented new innovative models of care designed around the patient journey, improving patient flow and the efficient use of staff, to provide patients with and optimum service.
• Multidisciplinary clinics were to be expanded and a dedicated nursing team were to oversee the holistic care of each patient.
• The facilities were upgraded with more comfortable waiting areas and improved amenities for both patients and visitors.
• To incorporate this patient focused vision within the new department model it was identified our current processes would need to change.
• But most importantly in the new department we didn’t have any room for the patients to queue!
• In addition, Queensland Health mandated new business rules for how hospitals manage patients from referral, through to consultation and discharge.
• And there was to be no increase in resources.
New Department

Hmmm I didn’t know modeling was in my HIM job description.
• Lets take a look at the old department
• The old department comprised manual processes that were paper based
• There were space constraints and processes were time consuming for both patients and staff
• Patients attending other departments including medical imaging, plaster technicians and allied health had to contend with a complex and at times confusing process
• Patients would be given a blue slip when attending different departments
• CLICK FOR PICTURE
Old Department

- There was no way to integrate the new business rules within current resources
- Patients could wait in a queue of up to 30 people to register for their appointment.
- Patients and staff found the queuing to be frustrating and stressful.
- Flow was a problem with some patients leaving prior to completion of their appointment.
- Patients had to wait for nursing staff to acknowledge and alert the medical officer of patient arrival.
- And we did lose patients on occasion.
- CLICK FOR PICTURE
The Solution

- Existing systems and technology considered
- Need for innovative information technology solution
- Interface with PAS required
- Dynamic development

A three phase IT solution:

- Barcoded appointment letter
- Barcode scanning kiosk with swipe card reader
- Interactive ‘dashboard’

The patient automated arrival system was born!

- Existing technology such as ticketing machines were considered.
- It was identified that there was a need for an innovative information technology solution to automate the manual arrival of patients, in line with the new rules.
- The solution needed to interface with our current patient administration system (HBCIS)
- In the absence of an ‘off the shelf’ solution the project team started a journey into dynamic development
- A three phase IT solution was developed:
  - Barcoded patient appointment letter
  - Barcode scanning kiosk with Medicare swipe card reader
  - and an interactive ‘dashboard’ which allows clinicians to monitor patient arrival and flow
- The patient automated arrival system was born!
So what does the new patient experience look like?

The patient receives a letter of offer for an appointment

The patient then accepts the appointment and receives a barcoded letter

The patient is requested to send the hospital a ‘confirmation form’ containing up to date demographic and funding information to ensure that the patient administration system is up to date for the patients appointment

There are other provisions for urgent appointments

The patient then arrives at the hospital on the day of their appointment...
• Upon arrival to the department the patient presents to a kiosk, located in the outpatient corridor, to register by scanning barcoded letter
• The kiosk display instructs the patient on the steps required to check in for their appointment
The new patient experience... jump the queue!

- Medicare or DVA Card YES or NO
- Patient makes selection via touch screen
- Swipe Medicare or DVA Card
- Medicare or DVA number and expiry verified in PAS

- If the patient is a public or DVA patient the kiosk asks them if they have a Medicare or DVA card
- The patient is required to select yes or no from the touch screen
- And is then instructed to swipe their Medicare or DVA card in the card reader
- The patient’s Medicare or DVA Card number and card expiry is then verified in the patient administration system
- CLICK FOR EXAMPLES
• If the patients Medicare or DVA details are verified the patient is arrived and a message is displayed on the kiosk indicating this to the patient

• At this point the patients may be directed to another department prior to attending the appointment if required. For example a fracture clinic patient is directed to the medical imaging department for an xray prior to their appointment.

• The patient has the option to view a map to the waiting area by touching the screen
• If a patient is unable to check in successfully they are directed to the outpatients reception counter
• Barcode scanning triggers a payment class check. If the patient is not a Medicare or DVA patient the kiosk directs the patient to the correct area for example if the patient is not Medicare eligible the patient is directed to patient administration to pay for their visit.
• A barcoded patient label can be used to check in instead of the barcoded letter
• Patients who arrive more than one hour before their appointment and more than half an hour late for their appointment are directed to the counter
• CLICK TO DISPLAY MESSAGES
The clinician experience... big brother is watching!

- Clinical staff monitor dashboard
- Colour of patient line indicates ‘current status’

WHITE = Patient has not yet arrived
YELLOW = Patient arrived and ready to be seen
GREY = Patient has arrived but not ready to be seen (currently in another department)
BLUE = Patient has been seen
PINK = Patient failed to attend
ORANGE = Patient did not wait

- Now for the clinician experience...
- Clinical staff monitor the interactive dashboard that updates to reflect the flow of all patients from arrival to departure
The clinician experience…big brother is watching!

- Clinical staff monitor patient flow via department columns
- Numbering in columns indicates order of flow
- Departments responsible for monitoring dashboard
- Prepopulated departments for appointment types
- Manual addition of department/service

<table>
<thead>
<tr>
<th>Clinic .....</th>
<th>FRACTURE</th>
<th>Doctor .....</th>
<th>REGISTRAR,</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time</td>
<td>UR</td>
<td>Patient Name</td>
<td>Appt Type</td>
</tr>
<tr>
<td>10:00</td>
<td>123456</td>
<td>MR. PETER MEYER</td>
<td>Clinical</td>
</tr>
<tr>
<td>10:15</td>
<td>123456</td>
<td>MR. JUAN RODRIGUEZ</td>
<td>Clinical</td>
</tr>
<tr>
<td>10:30</td>
<td>123456</td>
<td>MR. JOHNNIE DAVIS</td>
<td>Clinical</td>
</tr>
<tr>
<td>10:45</td>
<td>123456</td>
<td>MR. JOHNNIE DAVIS</td>
<td>Clinical</td>
</tr>
<tr>
<td>11:00</td>
<td>123456</td>
<td>MR. JOHNNIE DAVIS</td>
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</tr>
<tr>
<td>12:00</td>
<td>123456</td>
<td>MR. JOHNNIE DAVIS</td>
<td>Clinical</td>
</tr>
</tbody>
</table>

- Clinical staff monitor patient flow via department columns
- The number in the columns indicate the order of flow for patients attending multiple departments
- Each department is responsible for monitoring the dashboard and the flow of patients to and from their own department
- Department columns automatically populate for certain appointment types to indicate the order of flow for the patient. For example a fracture clinic patient can be directed to the imaging department upon arrival, then flow across to the plaster technicians and then attend their appointment
- Users can manually add departments prior or during the patients appointment
The clinician experience...big brother is watching!

- Users can configure dashboard
- Clinicians use dashboard to update ‘current status’

- Users can configure the dashboard depending on user location and clinics running
- It can be configured a number of ways to suit user preferences
- When a patient has finished in a department users in that department complete the status for that patient in the designated department column and indicates the patient can flow to the next relevant department or appointment
- Clinicians use the dashboard to update current status to ‘seen’ once the patient is seen to record the completion of the appointment
- This status is then updated in the patient administration system in real-time
• The outpatients administrative team located at the front reception constantly monitor patient arrival and flow via the dashboard.

• Due to the implementation of the patient automated arrival system job redesign was possible within the administration team and the implementation of the new business rules was possible.

• Patient no longer arrive via the front reception but need to return following their appointment to make follow up appointments where required.
Benefits…

- Reduction in queues
- Increase data accuracy and reduction in human error
- Patient and staff satisfaction
- Increase revenue due to visibility of patient payment class
- Decrease in FTA due to confirmation process
- Dynamic auto refresh dashboard (paperless)
- Automated patient flow between multiple clinics and departments
- Efficient time management by monitoring patient arrival
- Further growth

- The implementation of the system has seen a reduction in queues in the outpatient department
- There is an increase in data accuracy and a reduction in human error
- During implementation the system sold itself and has increased both staff and patient satisfaction
- Due to the visibility of patient payment class on the dashboard and the payment class check performed at patient check in the system has seen an increase in revenue from third parties and ineligible patients
- The department has seen a decrease in patient who fail to attend due to confirmation process
- The dynamic auto refreshing dashboard has created a paperless process automatically flowing patients between multiple clinics and departments
- The system has enabled efficient time management by monitoring patient arrival in real time and allows for future growth and integration with other technology and systems
So when did I get involved and who else was involved?

I was involved in:
- Stage 3 at Redcliffe Hospital and the introduction of card swipe and payment class checks
- The complete system roll out Caboolture Hospital
- I roll out the system in Antenatal clinic at Redcliffe Hospital

During Redcliffe Stage 3 roll out and the Caboolture roll out the project team was comprised of a:
- Project Manager in a part-time capacity
- Two Senior Health Information Managers in a part-time capacity, one being me
- A full-time Project Officer full-time
- And a part-time Project Officer
In my experience dynamic development was an exciting and necessary way to produce a best fit system.

However this was very resource intensive and meant that excellent communication between project team members was needed to keep abreast of all the changes during development.

We all have the best of intentions when it comes to projects and good communication but I would be lying if I said that as a project team we didn’t have a few miscommunications or forget to communicate changes at varying points in the project lifecycle.

Due to the fast pace development and changes in development we found it difficult to ensure project documentation kept the same pace.

I learnt may things about system development and learnt to work with a developer who did not know the health business and who was located in a different state.

One of the biggest successes in the Caboolture roll out, where they were getting the system as a complete package, was rolling out the dashboard to doctors, nurses and administrative staff in a staged approach. By the time go-live date was upon us the only people we needed to focus on was the patients.

An extensive amount of time was spend on the marketing of the new system to patients and staff and this paid off during roll out.

Without a doubt the system spoke for itself so buy in and training was a part of the project I most enjoyed. The only difficult part was containing all the enhancement ideas that flowed once users became familiar with the system. When asked by doctors why they couldn’t direct data entry into the system for outpatient progress notes I had to contain my excitement knowing that this is a while down the track.
Two approaches...

- **Part-time**
  - Maintain HIM workload
  - Allowed introduction of support position
  - Good time management (geographically separated)

- **Full-time**
  - Dedicated resource for the project
  - Tested the support position model
  - Limited ability to backfill HIM role for short timeframe

- When I was involved in the Caboolture roll out this was in a part-time capacity whilst managing staff and other duties in my Senior Health Information Manager role at Redcliffe. At the time a HIM support position was funded to assist, however establishing this position was also a challenge as I was not only working on the project but also in my part-time HIM role. One of the positive aspect of this model is that this support position remains in the department today and allowed us to trial a different model in the HIMS service. I developed excellent time management and delegation skills during a very busy time and am still grateful that I was given this opportunity and supported in trialing a new model to enable me to complete the required work.

- Would I try this model again? Probably not.

- In contrast when I rolled out the PAAS to Redcliffe Antenatal Clinic I was the full-time project manager and could dedicate my time entirely to the project. As there was limited ability to backfill my HIM role for a short-time frame we could continue the HIM support position. This also allowed me to test the new HIM support roles function and structure in supporting me whilst I was off-line. This gave me an opportunity to assess the current structure and we have made changes and continue to do so. This model also allowed me to focus on the project and complete in a short-time frame whilst supporting succession planning in the HIMS department. I do prefer this model but realized that the variety of my HIM position is what appeals to me.
What did I bring as a HIM?

- Business process knowledge
- Problem solving skills and big picture thinking
- Established networks
- Technical skills
- Clinician rapport
- Well rounded resource
- Documentation queen

What did I bring as a HIM to the project?

- I brought business process knowledge. My current HIM role demanded that I understand a wide variety of business processes throughout the hospital and as outpatient flow was one of them I fit easily into the project team and could work confidently with the all stakeholders.
- I brought problem solving skills and big picture thinking which I believe to be a prerequisite for most HIM positions.
- Having worked at Redcliffe Hospital for a number of years and with a number of key stakeholders I had established networks that I could call upon and already had rapport with individuals that I worked with in the project and as part of the project. Having gone on to develop the same networks and rapport at Caboolture Hospital I am able to call upon these contacts in my HIM role and vice versa.
- I brought technical skills to the role and a well rounded resource which I believe is attributed to the HIM skill set.
- And of course I am a documentation queen so enjoyed my part to play in the project documentation space.
• So what did Zebras and Very Important People have to do with outpatients?

• Zebras & VIPs were our themes for Redcliffe and Caboolture

• Redcliffe went for the Zebra theme with a link to the barcode

• Caboolture decided on a VIP theme because due to the introduction of the new system patients are able avoid the queue and have VIP status

• These themes carried on throughout the project and on go-live days and were not only an effective marketing tool but also fostered a team approach from all staff involved in the project

• And it was a lot of fun during a busy and changing time!
Acknowledgements

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