



Quality Improvement Project

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Clinical governance

...the system through which NHS organisations are accountable for continuously improving the quality of their services and safeguarding high standards of care by creating an environment in which clinical excellence will flourish (Department of Health)



Quality

... the degree to which health services for individuals and populations increases the likelihood of desired health outcomes and are consistent with current professional knowledge (US Institute of Medicine)

Dimension of quality and the benefit of patient centred approach

Evidence shows that person-centred care can lead to improved quality, reduced waste, a better experience of care, and better use of resources



Patient Centred – their values and preferences guide care

Timeliness – reduce waits for patients and staff

Safety – avoids harm of patients and staff

Efficiency – avoiding waste

Equitability – doesn't vary in quality because of patients personal characteristic

Effectiveness – care that benefits patients based on scientific knowledge



Quality Improvement

The actions taken throughout the healthcare organisation using systemic change methods (appropriate tools and strategies) to increase the effectiveness of activities and processes to provide better outcomes for the healthcare and its patients, and improve patients experience.

Principles of quality improvement

- Understanding the problem and what the data shows
- Understanding the process and systems within the organisation including the patient pathway and if steps can be simplified
- Analysis the demand, capacity and flow of the service
- Choosing the tools to help bring about change including leadership, clinical engagement, staff and patient participation



Quality Improvement Methodologies

Audit	Check clinical care meets defined quality standards
Model for improvement	Decide upon, test and refine quality improvements
Plan do study act	Introduce and test potential quality improvements on a small scale
Process mapping	Map the patient journey for quality improvement opportunities
Statistical process control /run chart	Measure and control process quality against predefined parameters
Root cause analysis/Fishbone	Systematically uncover the causes of events affecting quality
Communication tools/SBAR	Improve quality of care through structured information exchange

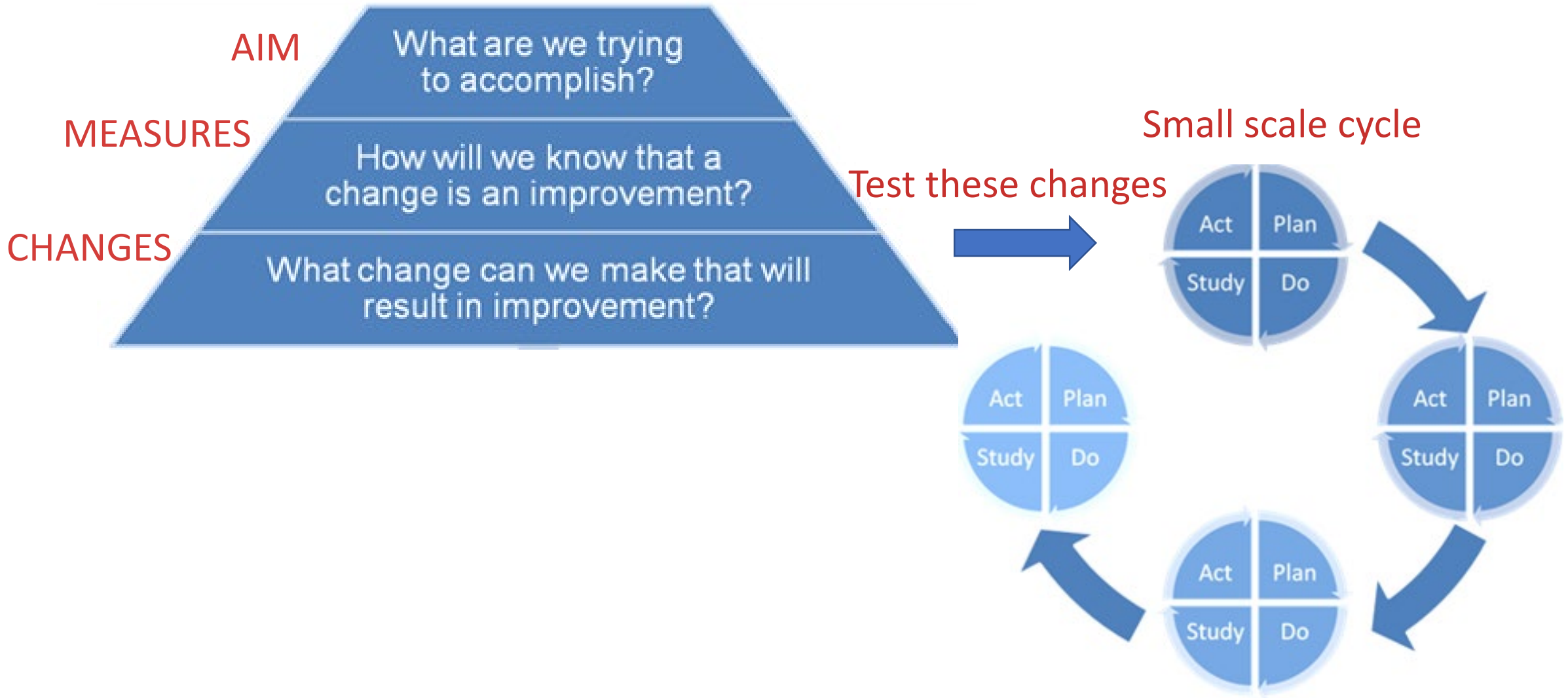


Audit





The Model for Improvement





Process mapping

- Tool to map each step of the process - maps the pathway through part of the patient's healthcare journey.
- Process mapping helps staff understand why the problem exists, how the steps fit together, which steps add value and where there may be waste or delays.
- A patient's journey involved multiple providers which helps identify any quality problem between teams and organisation.



Run Chart

- The approach uses a baseline chart that display boundaries for acceptable variation in a process.
- Data is collection over time to show if a process is within the control limit range or if there is a change in the process and or a trend
- **Change** in the process = series of **8+ points** above or below **the median** is not random and is a new process
- **Trend** in the process = **6+ consecutive points** increasing or decreasing is unlikely to be random and can highlight if a process if improving or deteriorating
- Examines the difference between **common cause variation** (natural variation caused by the process) and **special cause variation** (one-off event that is way out of line)



Reason for choice of QI

Demand for pre-op photographs highlights with an incident where re-excision of the wrong scar occurred

Organisational priority to increase the number of photographs before skin cancer treatment.

Photographs increase safety, reduce poor patient experience and outcome

Quality improvement:

- Safety – reduces needless harm to patient

- Timeliness – less wasted clinical time

- Equitability – care doesn't change due to hospital location or referral process

Capacity for taking photographs high – Medical illustration (MI) had facilities available for every day new patient clinics were running.

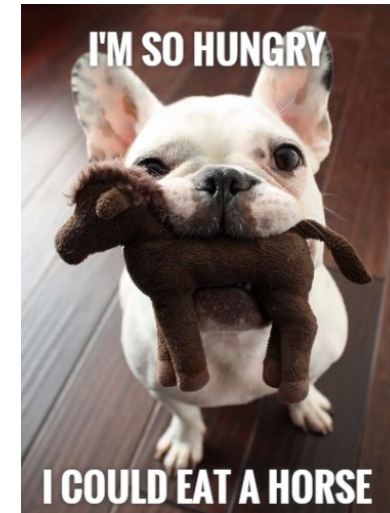
Human error

..related to most healthcare-related adverse events.

Emphasises to organisation time to change the culture and not point the finger of blame but to learn from it and spread good practice to improve safety

Often swiss cheese phenomenon – combination of errors:

- Chaotic healthcare environment
- Stress
- Angry
- Hungry
- Distractions
- Staff shortages
- Late
- Inexperience
- Poor team communication
- Tiredness

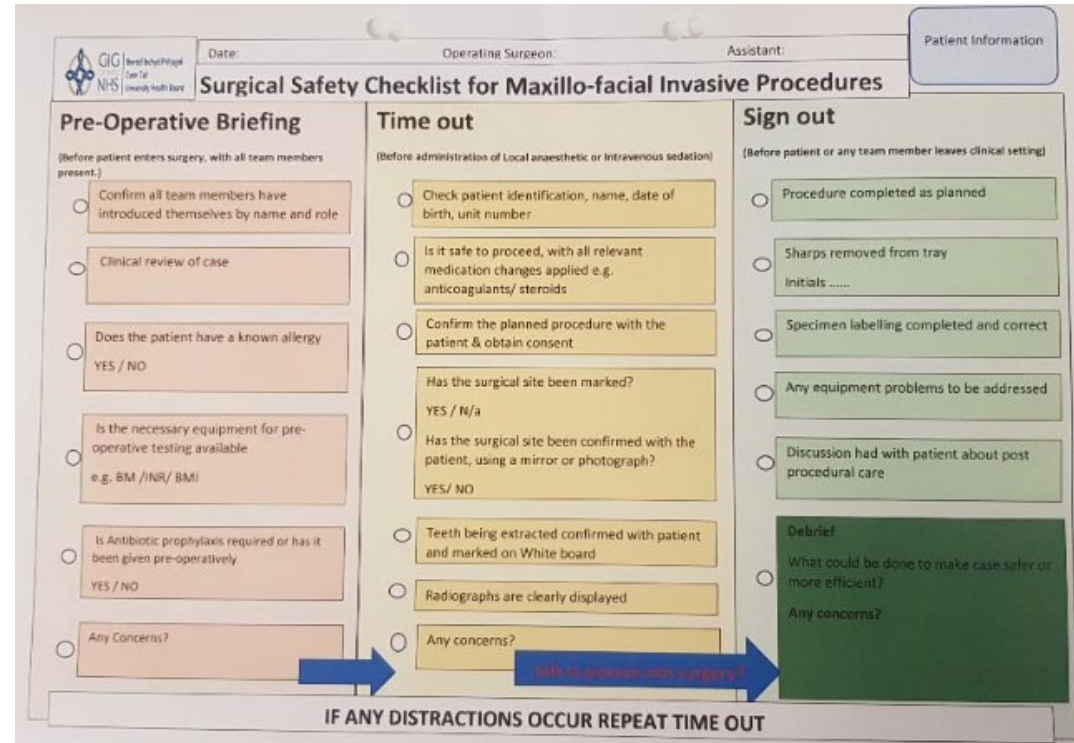


Likely an element of situation awareness for the never event - concentrated on one scar and not noticing others.

Human factors

Principles

1. Avoid reliance on memory
2. Make things visible
3. Review and simplify process
4. Standardise common processes and procedures
5. Routinely use checklists
6. Decrease the reliance on vigilance



The image shows a surgical safety checklist for maxillo-facial invasive procedures. It is organized into three main columns: Pre-Operative Briefing, Time out, and Sign out. Each column contains a series of checkboxes and text boxes for recording information. The checklist is titled 'Surgical Safety Checklist for Maxillo-facial Invasive Procedures' and includes fields for Date, Operating Surgeon, Assistant, and Patient Information. The Pre-Operative Briefing section includes items like 'Confirm all team members have introduced themselves by name and role', 'Clinical review of case', 'Does the patient have a known allergy', 'Is the necessary equipment for pre-operative testing available', 'Is Antibiotic prophylaxis required or has it been given pre-operatively', and 'Any Concerns?'. The Time out section includes 'Check patient identification, name, date of birth, unit number', 'Is it safe to proceed, with all relevant medication changes applied e.g. anticoagulants/steroids', 'Confirm the planned procedure with the patient & obtain consent', 'Has the surgical site been marked?', 'Has the surgical site been confirmed with the patient, using a mirror or photograph?', 'Teeth being extracted confirmed with patient and marked on White board', 'Radiographs are clearly displayed', and 'Any concerns?'. The Sign out section includes 'Procedure completed as planned', 'Sharps removed from tray', 'Specimen labelling completed and correct', 'Any equipment problems to be addressed', 'Discussion had with patient about post procedural care', and a 'Debrief' section with 'What could be done to make case safer or more efficient?' and 'Any concerns?'. A blue arrow points from the 'Any concerns?' box in the Time out section to the 'Debrief' section in the Sign out section. A red arrow points from the 'Any concerns?' box in the Pre-Operative Briefing section to the 'Any concerns?' box in the Time out section. A red box at the bottom of the checklist reads 'IF ANY DISTRACTIONS OCCUR REPEAT TIME OUT'.

Surgical Safety Checklist for Maxillo-facial Invasive Procedures

Date: _____ Operating Surgeon: _____ Assistant: _____ Patient Information

Pre-Operative Briefing
(Before patient enters surgery, with all team members present.)

- Confirm all team members have introduced themselves by name and role
- Clinical review of case
- Does the patient have a known allergy
YES / NO
- Is the necessary equipment for pre-operative testing available
e.g. BM /INR/ BMI
- Is Antibiotic prophylaxis required or has it been given pre-operatively
YES / NO
- Any Concerns?

Time out
(Before administration of Local anaesthetic or Intravenous sedation)

- Check patient identification, name, date of birth, unit number
- Is it safe to proceed, with all relevant medication changes applied e.g. anticoagulants/steroids
- Confirm the planned procedure with the patient & obtain consent
- Has the surgical site been marked?
YES / N/a
- Has the surgical site been confirmed with the patient, using a mirror or photograph?
YES/ NO
- Teeth being extracted confirmed with patient and marked on White board
- Radiographs are clearly displayed
- Any concerns?

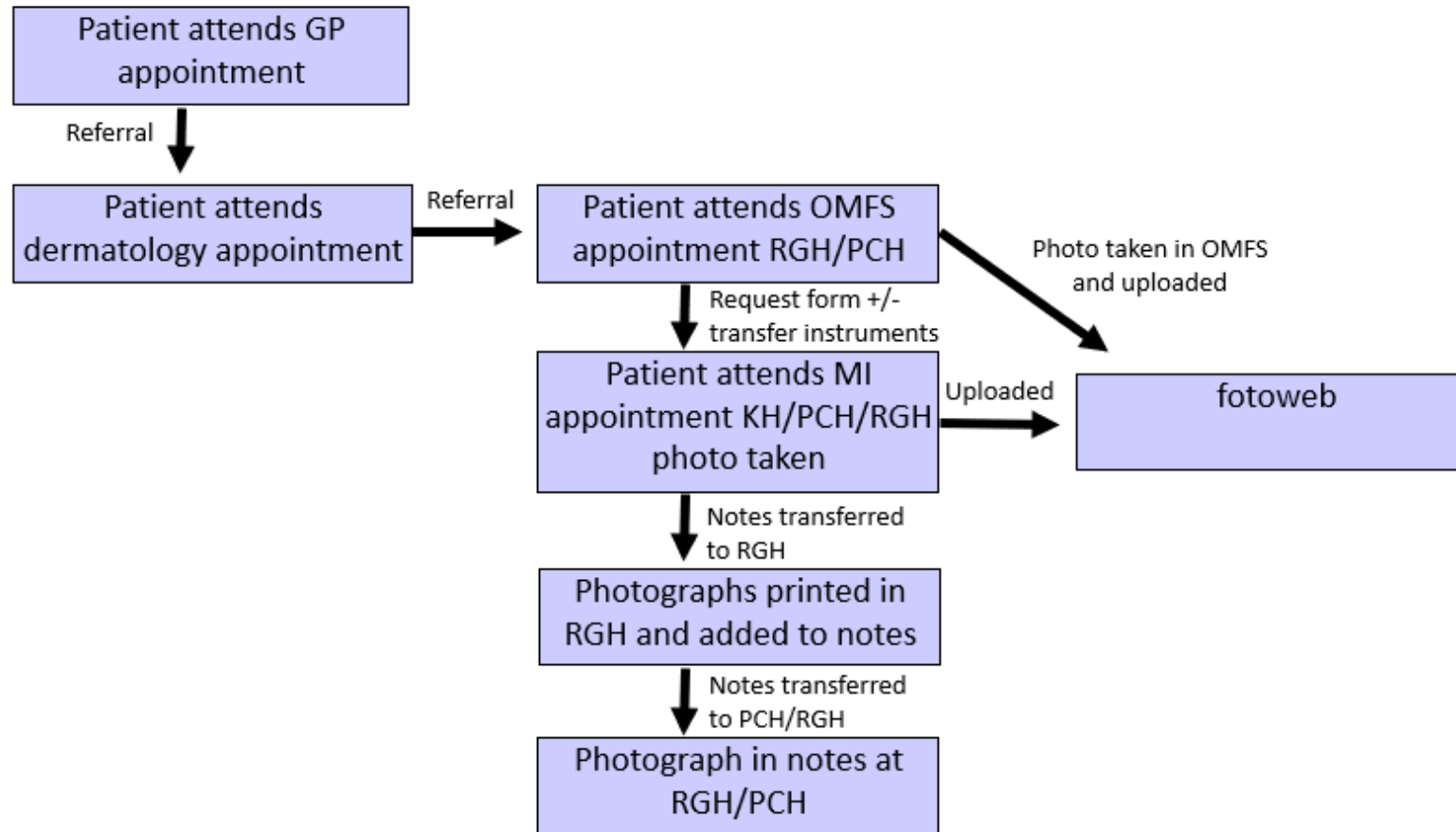
Sign out
(Before patient or any team member leaves clinical setting)

- Procedure completed as planned
- Sharps removed from tray
Initials
- Specimen labelling completed and correct
- Any equipment problems to be addressed
- Discussion had with patient about post procedural care
- Debrief
What could be done to make case safer or more efficient?
Any concerns?

IF ANY DISTRACTIONS OCCUR REPEAT TIME OUT

Tools for understanding the problem

1. Process map for photographs appearing on fotoweb and in notes

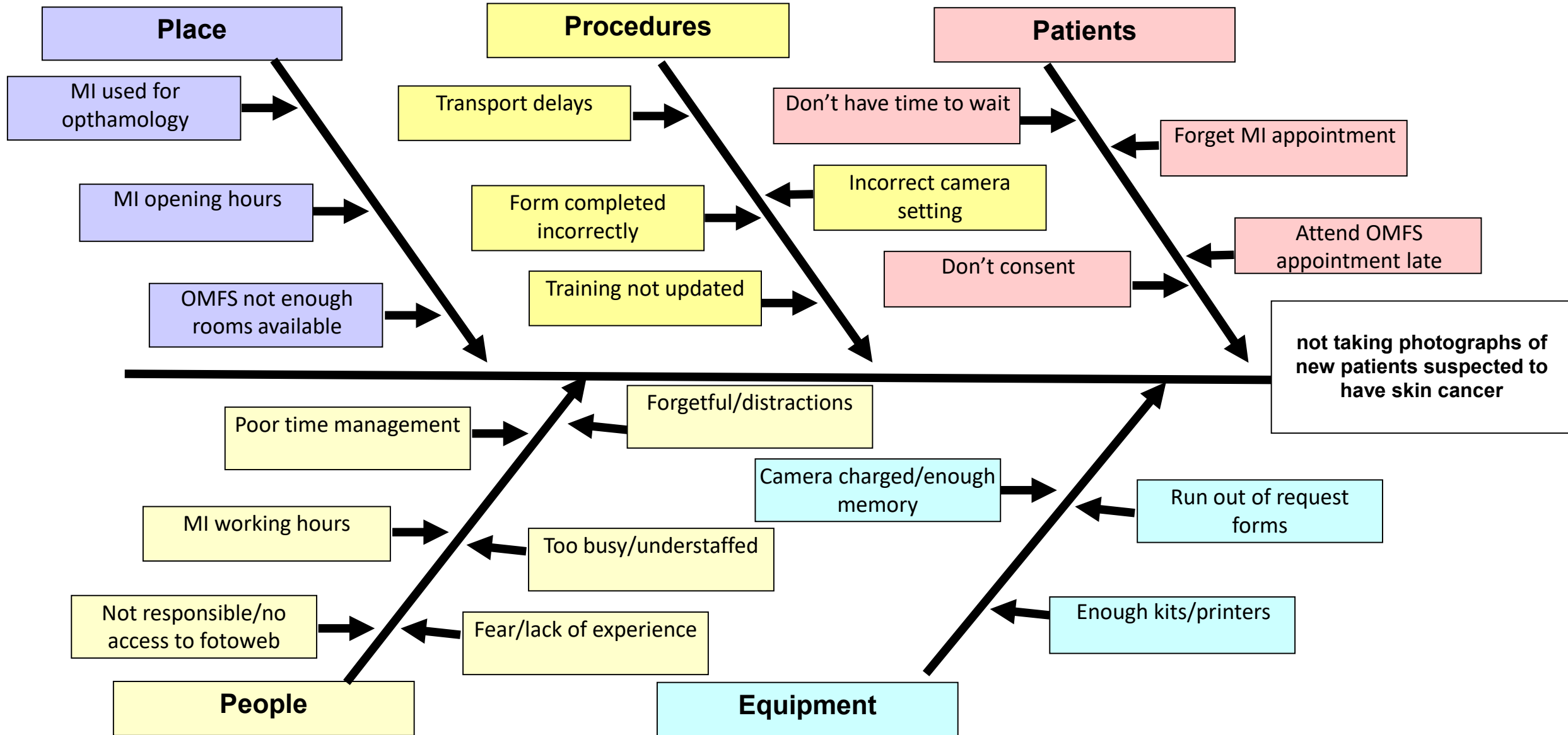




Ib. Process map analysis

- Number of steps: reduced if dermatology/GP's take photographs
- Transfer:
 - Information: camera - computer (– printer – notes)
 - Person: GP (– Dermatology) – OMFS (– MI)
- Added value: MI better quality photographs
- Waste
 - Transport: notes to RGH for printing & equipment from OMFS – MI
 - Human motion – walking/driving to MI
 - Waiting – for notes to arrive
 - Over processing - value of photographs visible of fotoweb and notes
 - Skill underutilised – Nurses taking photographs?

2. Fishbone Diagram





Stakeholders Analysis

Stakeholders:

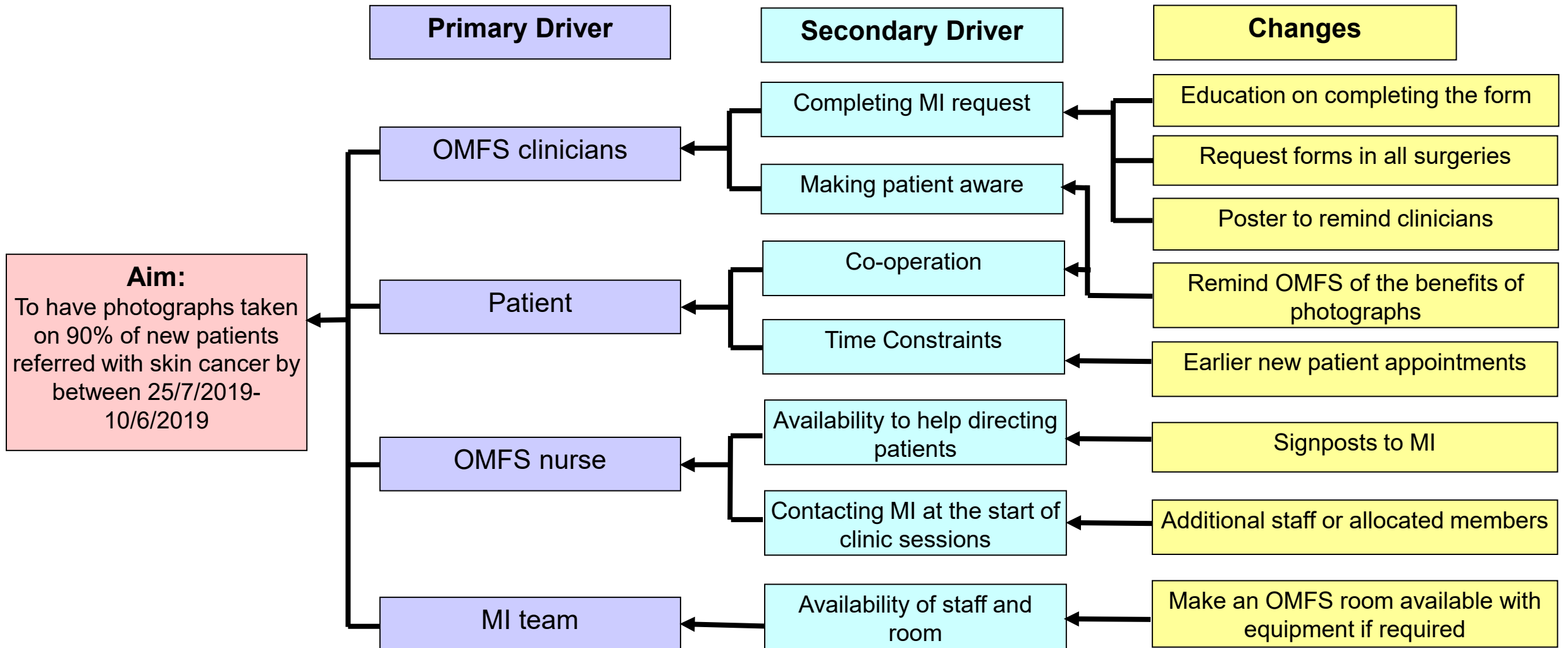
- **Consultant and registrar** – their view and priority of focus within OMFS department
- **Medical illustration team** – their availability to take the photo and make them accessible to view on fotoweb or in the notes
- **OMFS clinician** - their role to recognise and refer appropriate patients for photographs
- **Nurses** – their role in the team to prompt clinicians, lease with MI regarding their availability and to assist the patient in locating the MI room.



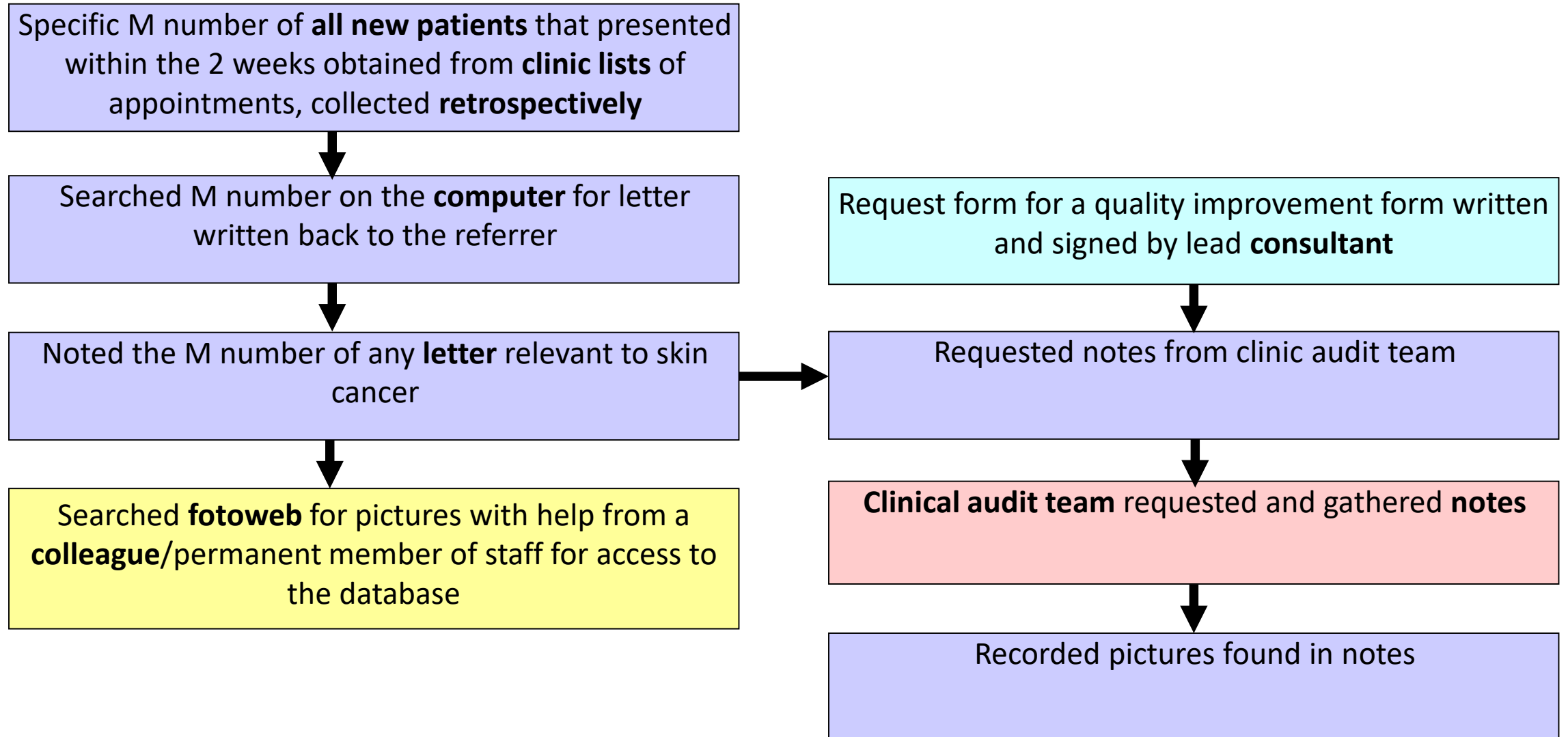
Aim

Goal to have photographs taken and visible in the notes or fotoweb of at least 90% of new patients presenting with a skin cancer to the OMFS departments in PCH and RGH in between 27/5/2019 – 10/6/2019.

Driver Diagram



Data Collection



Baseline Bar Chart

3 new patient sessions in RGH and 4 in PCH a week.

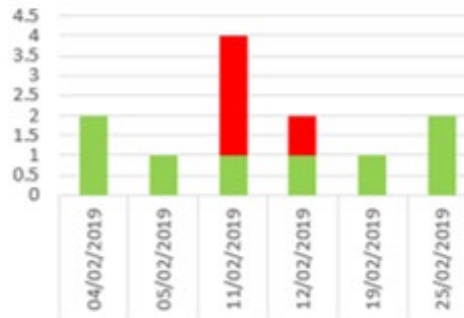
February 2019

-Total number of skin cancer referral in RGH = 20, PCH = 19

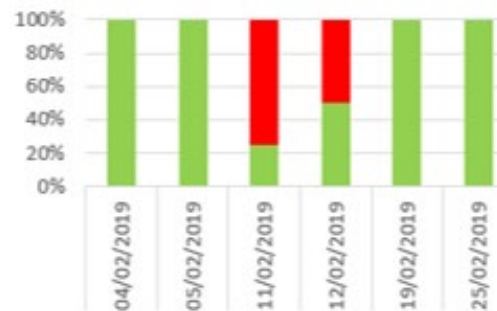
-Notes obtained by clinical audit team:

RGH = 12

Number of photographs per clinic date

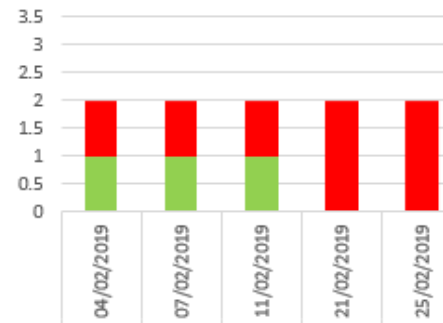


% of photographs per clinic date

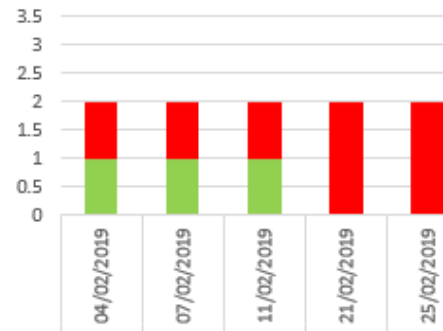


PCH = 10

Number of photographs per clinic date



Percentage of photographs per clinic date



Selecting a change

Ease/benefit matrix

		Poster to remind clinicians	All staff access to fotoweb
High		Remind OMFS staff of benefits	
		Request forms in all surgeries	
<i>Benefit</i>			
		Educate OMFS staff on completing the form	Earlier new patient appointments
		Signposts to MI	Additional staff and printers
Low		Additional equipment	Make OMFS room available
			Later opening hours for MI
		Easy	Hard
			<i>To test</i>

Change – emailed all staff

- Mentioned clinical leads – consultant and registrar
- Baseline results - February notes collected thus far; 3/10 new patients had photographs taken in PCH and 8/12 in RGH.
- Emphasised benefits of photographs:
 - Increased safety for patients
 - Accurate information regarding location and size pre-treatment, thereby giving the team more foresight into treatment time and options for repairing the defect
 - Helpful for post-treatment checking for recurrence
 - Comparison of sizes of any additional lesions
- Example of how to complete the form and location
- Information on MI:
 - Opening times
 - Location
 - Contact numbers
 - Process
 - Timeframe to appear in the notes

Photography / Video Recording of Child Consent Form

Attach Patient Addressgraph
Name
Address
Hospital No.
D.O.B.

Statement of Parent/Guardian:
Please tick one box only and sign in the appropriate place below, once the purpose of the photography/video recording has been explained to you.

(1) Treatment and Care Records
 (2) Teaching and Research (includes purpose 1)
 (3) Publication (includes purpose 1&2)

I have read the information on the reverse of this form and understand the explanation provided and consent to my child's recordings being used for the purpose indicated above.

Signature of Parent/Guardian: Date:

Statement of Medical Practitioner (requesting illustrations and obtaining consent.)
I confirm that I have fully explained to the patient/parent/guardian the purpose of this recording.

Name (please print) Designation: *Your role eg OCTI*
Department Consultant in Charge
Signature: *Your signature* Date:

If you wish to refer the patient to the Medical Illustration Department for photography please complete this diagnosis section and indicate on the diagram the area to be photographed *man on side of face*

Relevant Diagnosis or Description
Views Required: *eg front*
AP *front*
PA *back*
R Lat *side*
L Lat *sds*

Comments

Statement of health professional (taking the photography or video recording.)
Name (please print) Department:
I confirm that I have registered with the Medical Illustration Department and that the photography and storage of the resulting images will take place in line with the CTUHB's Photography and Video Recordings of Patients: Confidentiality and Consent, Copyright and Storage Policy.
Signature Date:

MID JOB NO. For Medical Illustration Use Only

Enabling change

- Education of Healthcare professionals and full staff involvement - spread the word to whole OMFS team via email.
- Spread of Innovation – engagement with senior sisters in department about aim and MI.
- Rigorous delivery – Delivery of email re-enforced with reminder WhatsApp to SHO's.
- Leadership for change and system drivers- great to have some senior clinicians in the department involved.

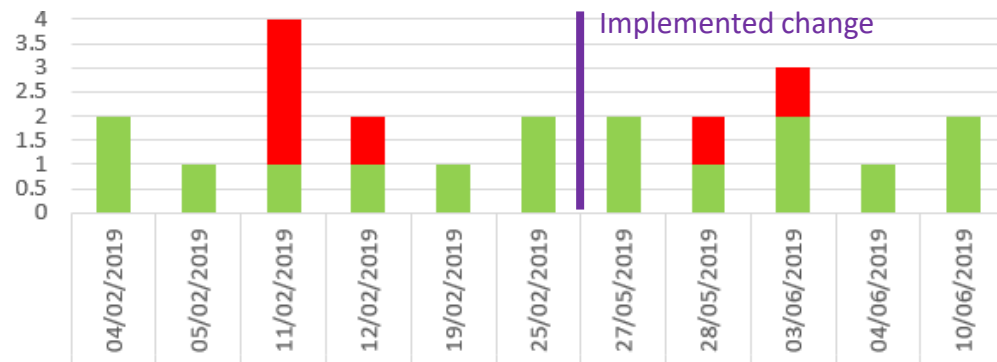
Bar Chart following Change

17/05/2019 – 10/06/2019

Total number of skin cancer referrals in RGH = 16, PGH = 15

Notes obtained by clinical audit team: **RGH = 10**

Number of photographs taken per clinic date



Percentage of photographs taken per clinic date



Mean % before change = 79% → after change = 83.2%

PCH = 10

Number of photographs taken per clinic date



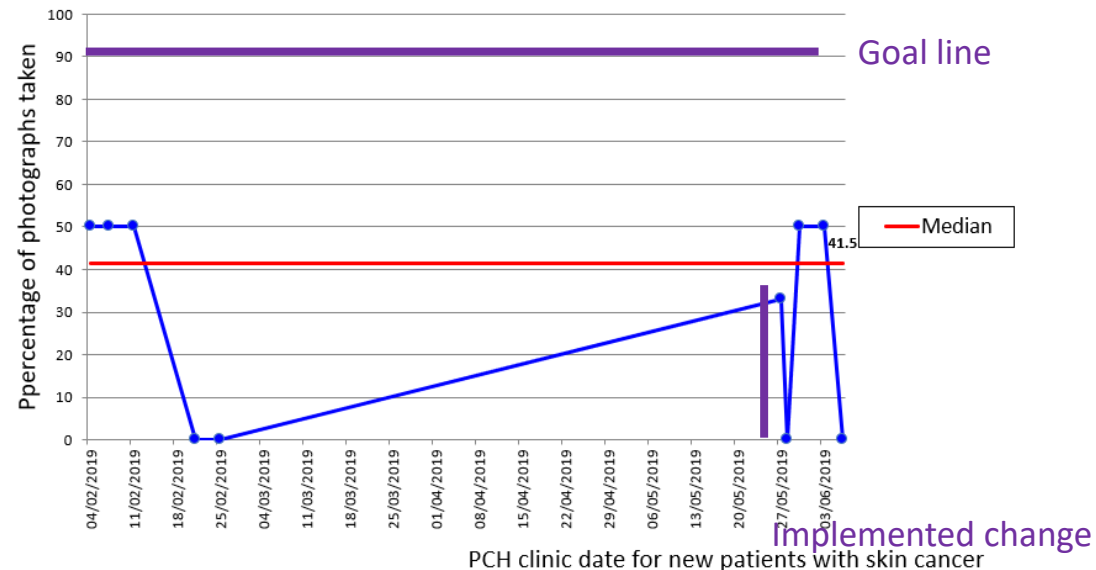
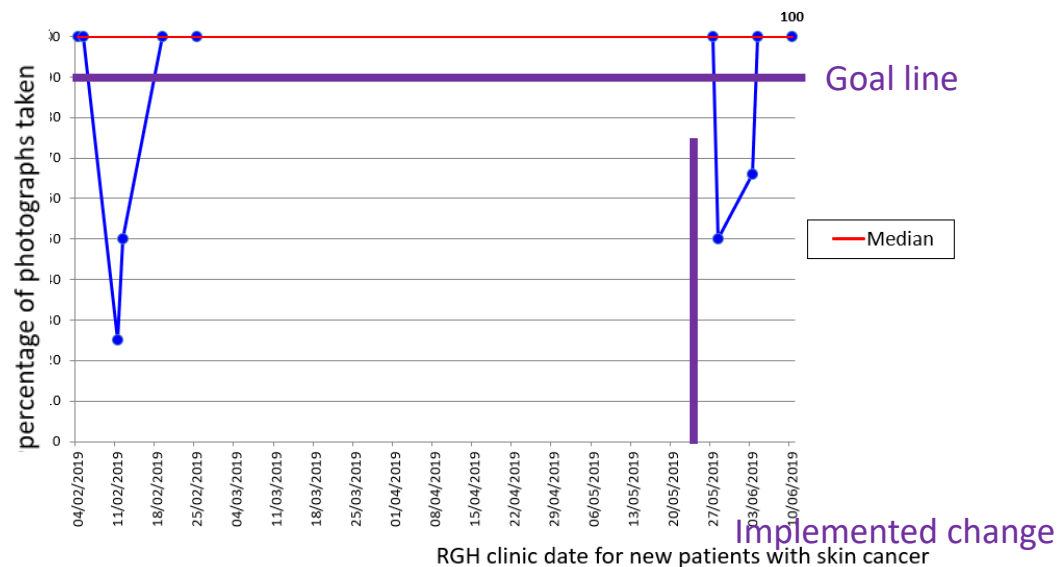
Percentage of photographs taken per clinic date



Mean % before change = 30% → after change = 26.6%



Run chart



Analysis

- Not a representable baseline (6 clinic dates RGH and 5 PCH) and not enough date after implemented change (5 clinic date)
- Ideally collect data from at least 10 clinical sessions before and after implement a change to be able to assess for any trends or changes.
- From data available my change has not affected the number of photographs taken

Variation

- Common cause – variation from the process different number of photographs requested on different days likely to be related to different consultant lead clinics.
- Discrepancy of number of photographs taken between location–RGH all staff aware common process, and again related to consultants and clinicians based their with less SHO's.
- Bar chart highlights variation between new patients attending peaks and troughs of skin cancer referrals.



Barriers

- Delay in staff checking emails?
- Convincing people there is a problem
- Data collection – getting access to the notes. Ideally mark patients sent to fotoweb on the clinical attendance form.
- Lack of staff engagements in writing MI requests – getting people to change behaviour is difficult
- Additional time involved for patients - do they want to participate and consent to photos?
- Securing sustainability

Sustainability – Process

Benefits beyond helping patients

- Makes clinician job easier increased confidence in removing the right lesion, reduce reliance on the patients knowing where the skin cancer is or the notes

Credibility of the benefit

- Some believe in the benefits, some think descriptions and diagrams suffice
- There is evidence this change has been achieved in RGH
- Not supported by evidence that it makes a difference

Adaptability of improvement process

- Relies on OMFS to make request, MI team relied on but already present

Effectiveness of the system to monitor progress

- The change requires monitoring retrospectively through clinic attendance sheets, letters, notes and fotoweb databases
- No mechanisms to monitor progress beyond the project.
- Reinforced benefits – visible for clinicians over time

Sustainability – Staff

Staff involved with designing change

- Nurse's suggestion to add forms to each clinic
- Staff have been educated and trained via email.

Staff behaviour towards sustaining the change

- Sister reluctant for the change 'storage of additional files', 'infection control risk'
- Others happy to get involved an email to request more forms.

Senior leadership engagement and support

- Consultant and registra trusted and respected
- Personal responsibility ensuring MI available every new patient clinic
- Unsure how much they have promoted it

Clinical leadership engagement

- Clinicians not taking personal responsibility to ensure more photographs taken

Sustainability - Organisation

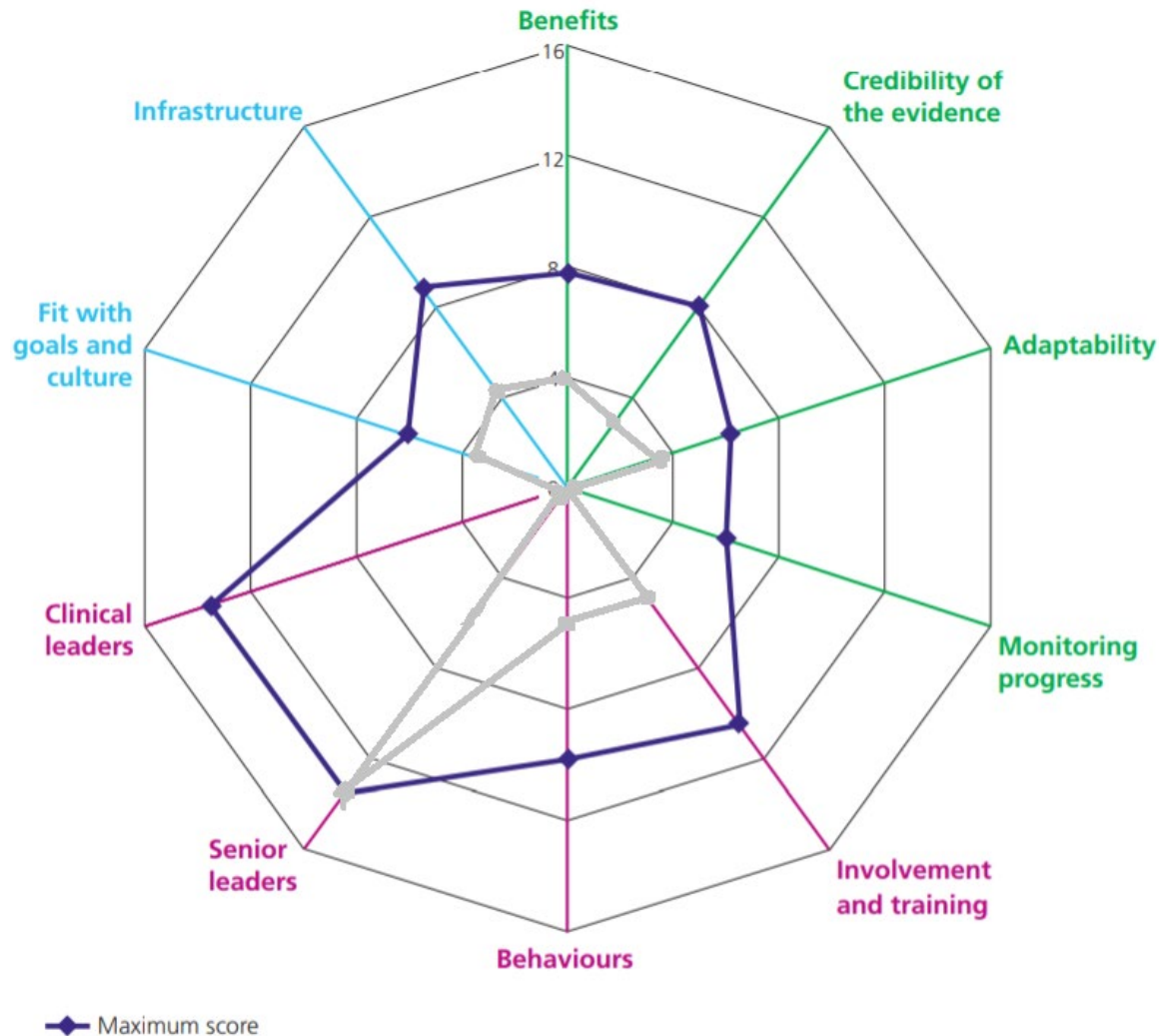
Fit with the organisation strategic aims and culture

- the goal and aims have been clear and shared
- The aims is a clear continuation of the overall organisational strategic aim

Infrastructure

- Trained staff in the new way of working
- There is enough equipment and infrastructure to facilitate photos MI there new patient clinic
- There are no policies supporting the procedure or communicated system

Portal Diagram and Interpreting the scores



Monitoring progress - Mark on a sheet patients referred to MI each day to increase effectiveness of monitoring. Gain access for every clinician to view photographs via fotoweb.

Clinical leaders - The main downfall is clinical engagement and support of the process from some registrar's and consultants. Their support would we likely to have a big impact on photograph requests because SHO's actively seek advice before treatment planning.

Involvement and training Staff have been trained how to complete request forms. Clinicians that don't refer need to be highlighted and involved to discuss their ideas.

Infrastructure - new requirements built into job descriptions for future DCT's by adding a section to the 'book of fear'



SWOT analysis

Strength

- Competent clinician staff
- MI lots of availability and service accessible to most patient with multiple locations
- Change of process possible (already in RGH)

Weakness

- Little recognition of individual clinician request
- Difficult to measure number of photographs taken

Opportunity

- Thousands of referrals opportunity to make an even better service

Threats

- Lack of evidence based effectiveness
- Risk of over-reliance on computer based system
- High turnover of staff
- Security access fotoweb



Future actions and *human factors*

Another change is required as minimal change demonstrated.

- 1) Try and give leadership to the nurses, putting out request forms before each clinic in every room and *communicate as a team to remind each other*
- 2) Mention QI project at next audit meeting
- 3) Make a poster in every room - bright bold and *make it visible* to aid clinical engagement and help *reduce reliance on memory* to complete request form
- 4) Add a question on the cards completed before booking treatment 'photograph taken?'. Thereby producing a communicated system because the card are present at the time of treatment so the clinician will know if a photographs was taken *helping to standardise common processes*.
- 5) Next cycle anonymously link the clinical session to the consultant in charge and feedback information