



Prioritization of In-patient Ultrasound Service in QEH

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Background

- QEH is the only acute hospital in KCC
- Large patient load
- Limited resources
- Prioritization of services to ensure cost-effective and efficient allocation of resources

Background

- Ultrasound (USG) examinations
 - Non-invasive
 - Radiation-free
 - Can diagnose many critical conditions e.g. DVT, acute appendicitis, abdominal abscesses
 - Frequently requested by clinicians for critically ill patients
- Increasing demand for urgent / early USG

Prioritization

- Identify in-patients to have higher priority to have earlier USG examinations
- Avoid unnecessary delay of investigation / treatment
- Shorten hospital stay

Objectives

- To minimize waiting time for in-patient ultrasound service
- To streamline workflow of appointment booking in order to save time of clinicians and radiologists

Timeline

- Survey in March 2009 to assess
 - Total patient load
 - Distribution of requests
 - Peak time of requests

- USG appointment booking system reviewed and revamped to reserve more resources for urgent examinations since August 2009



The Changes Made

1. Reservation of sufficient resources for urgent cases
2. Reallocation of appointment bookings
3. Restructuring of booking pattern
4. New policies regarding urgent ultrasound requests for in-patients

1. Reservation of Sufficient Resources for Urgent Cases

- Reserve sufficient appointment time slots to perform urgent ultrasound examinations (number in each session based on recent statistics on USG requests)
- If urgent requests less than reserved slots, non-urgent in-patients called to use up the 'spare capacity'
- Waive 'fast for 6 hours' patient preparation for these non-urgent in-patients
- By the end of each session, all reserved slots expected to be filled (including urgent cases and on-site non-urgent in-patient cases)

2. Reallocation of Appointment Booking

- Reserve more appointment slots in ACC to entertain selected cases redirected from Main Department (e.g. from RT Dept and some paediatric patients aged ≥ 8) and early requests from ACC
- Change vascular USG session from Mon AM to Wed AM

3. Restructuring of Booking Pattern

- Non-urgent general cases are scheduled in early part of each session
- Identify specific sessions which may require reservation of more appointment slots for urgent general cases, e.g. Mondays or post-public holidays

4. New Policies Regarding Urgent Ultrasound Requests for In-patients

- Waive conventional face-to-face / phone discussion between referring clinicians and radiologists for urgent USG requests
- Urgent requests screened by sonographers first
- Fax to ward for additional clinical information if needed
- Radiologists consulted only when necessary

Advantages

- Reduce waiting time of urgent examinations (from request to completion of examination)
- Save referring physicians' time
- Increased efficiency of radiologists who can concentrate more on scanning

Monitoring System in Main Department

- No. of urgent cases not performed by end of same working day
- No. of urgent and non-urgent in-patient requests
- Throughput of Main Department
- Time at which all exams are completed in individual sessions

Monitoring System in ACC

- No. of 'Early' and 'Routine' USG requests
- Throughput of ACC

Results

- Program launched in August 2009
- Outcome reviewed 4 months later
- One-week data in March 2009 and December 2009 collected for comparison

	Average Daily Volume of Urgent Ultrasound Requests					
	Entertained on same day		Not Entertained on same day		Total No.	
	No.	%	No.	%	No.	%
Mar 09	12.4	74%	3.2	26%	15.6	100%
Dec 09	20.2	97%	0.6	3%	20.8	100%

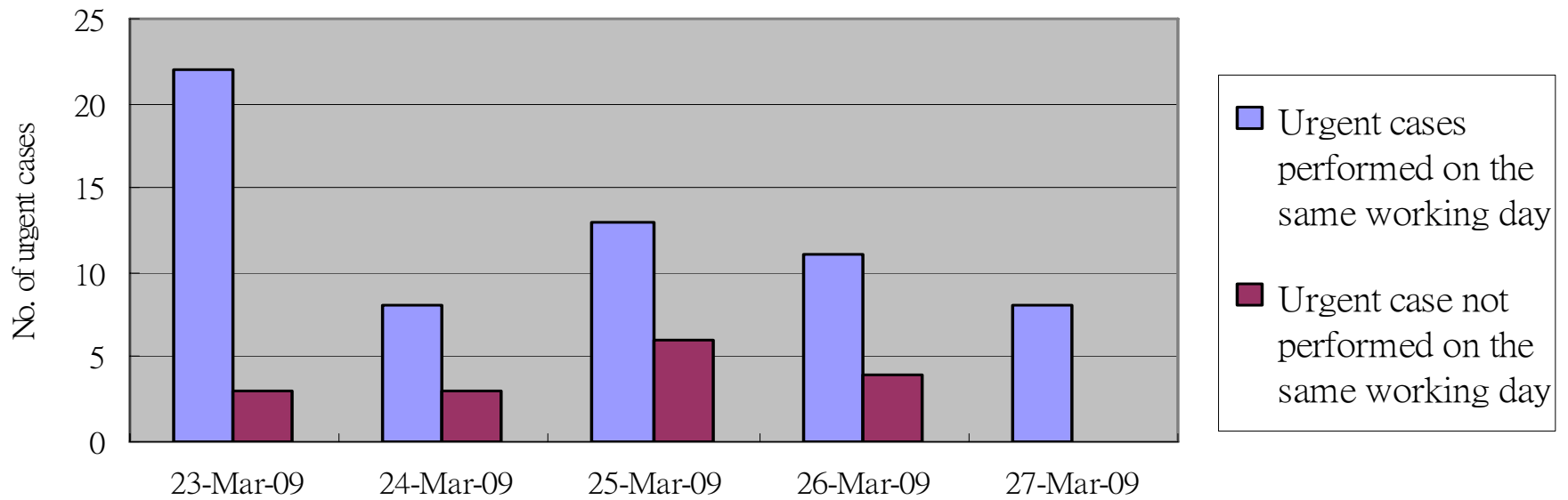
Average Daily Volume of Urgent Ultrasound Requests

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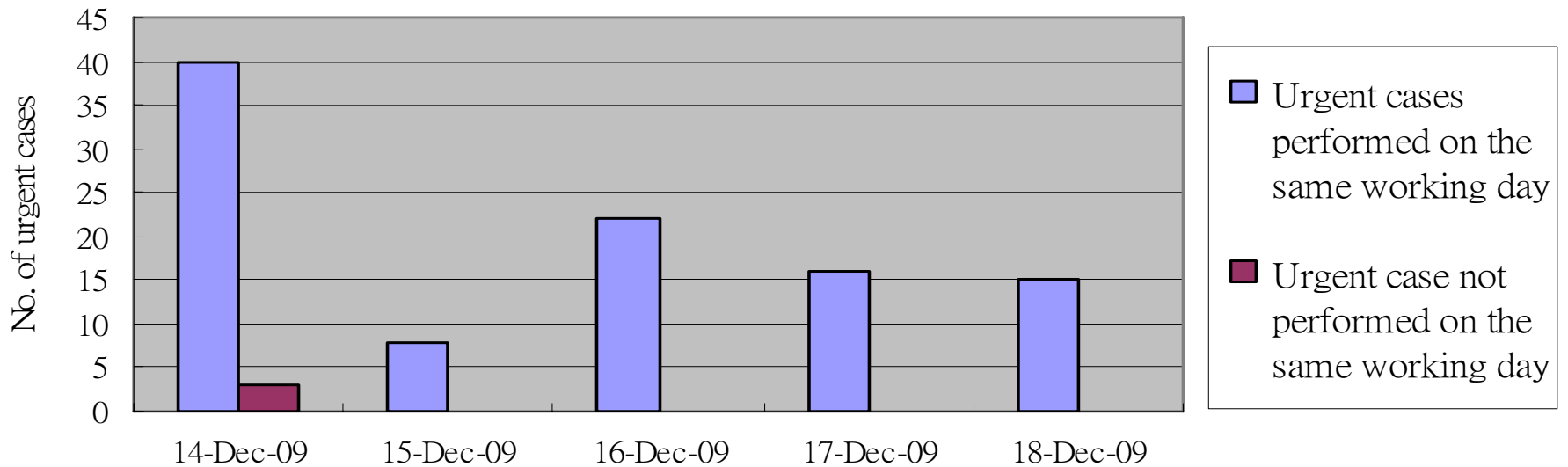
↑33%

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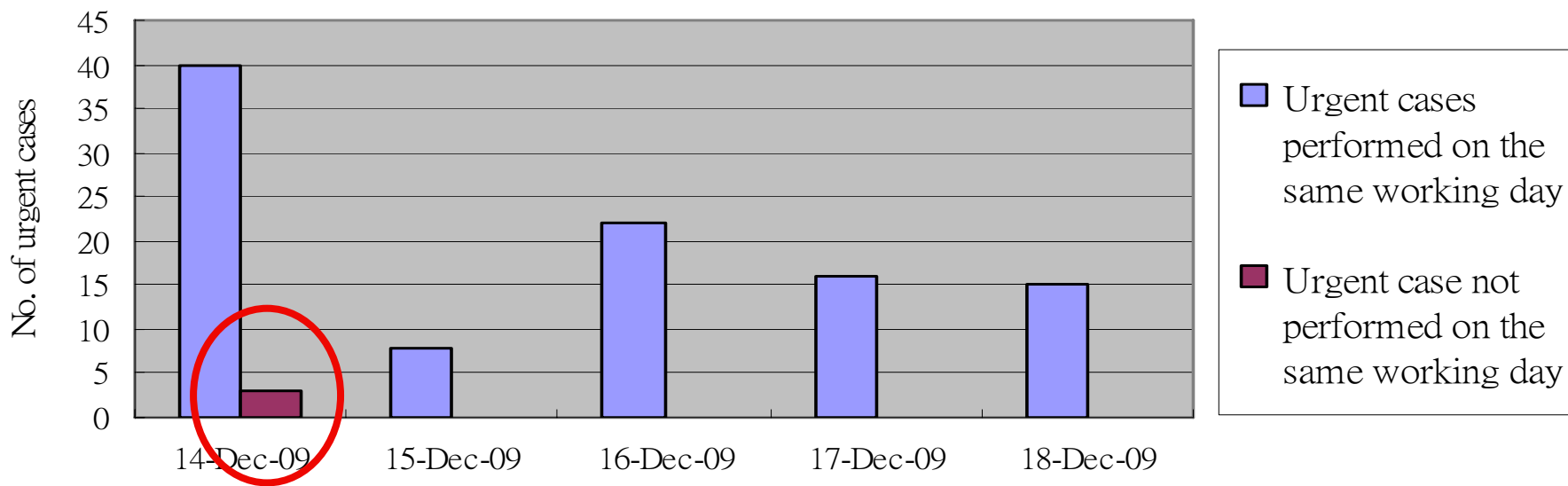
No. of urgent cases in March 09



No. of urgent cases in December 2009



No. of urgent cases in December 2009

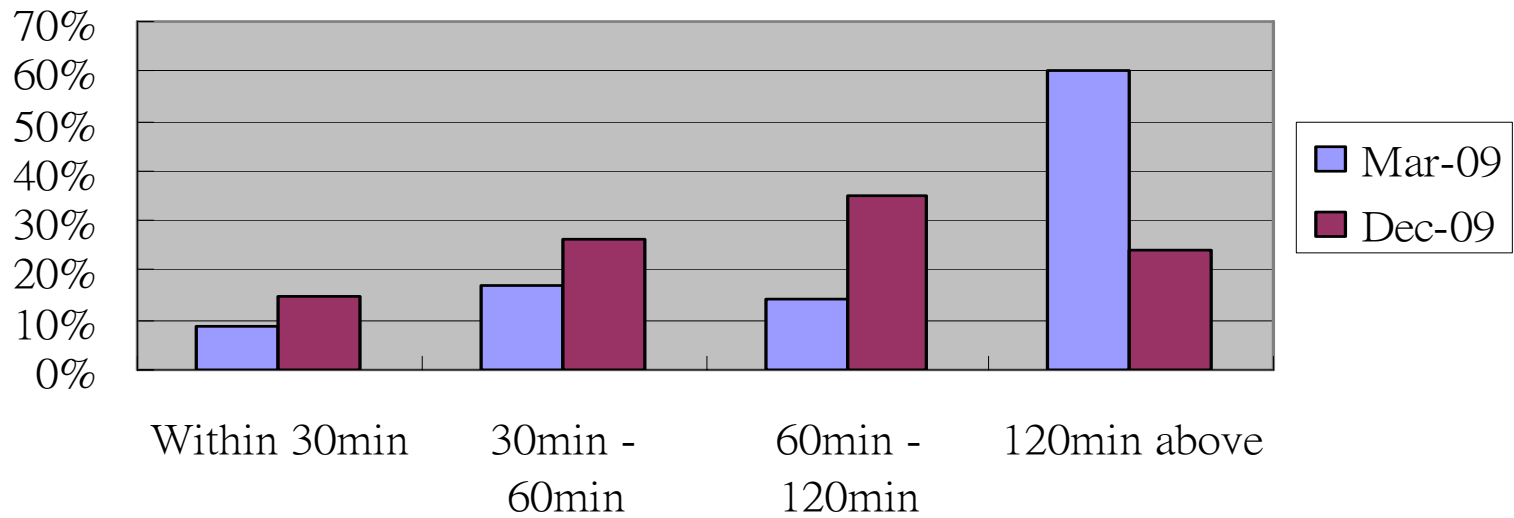


	Average time interval	
	From request initiation to patient receiving the ultrasound service	From urgent appointment booking to patient receiving the ultrasound service
Mar 09	173 min	63min
Dec 09	99 min	16min
% improved	42.8%	74.6%

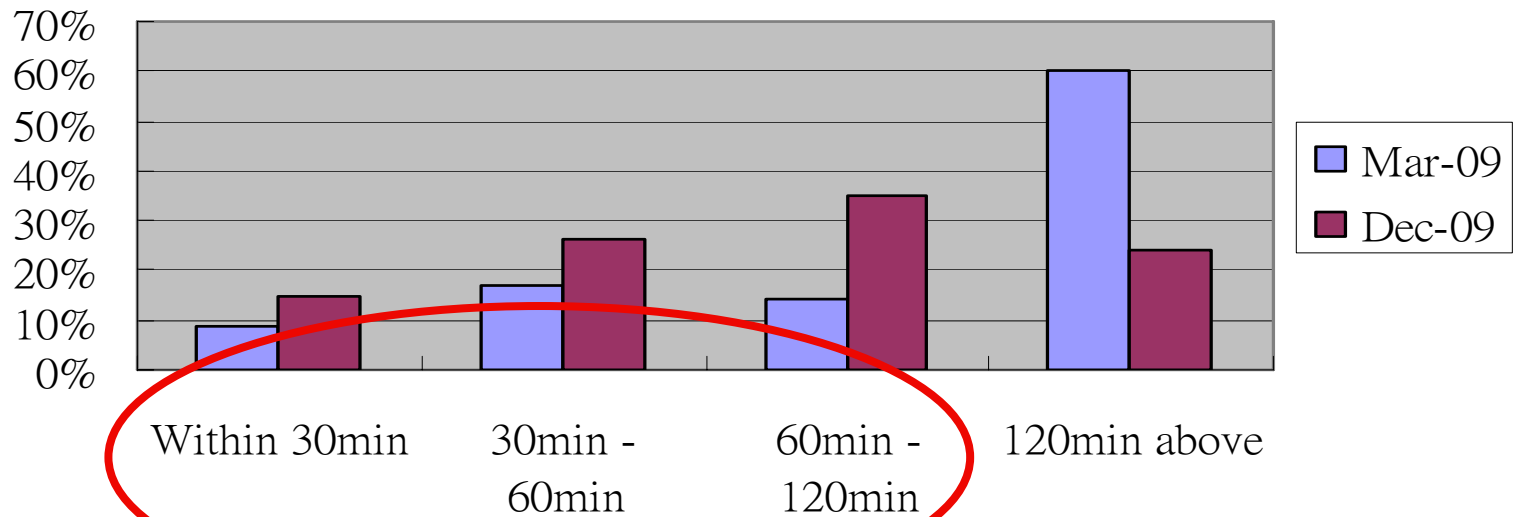
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Percentage of urgent ultrasound cases performed from request initiation to examination performed

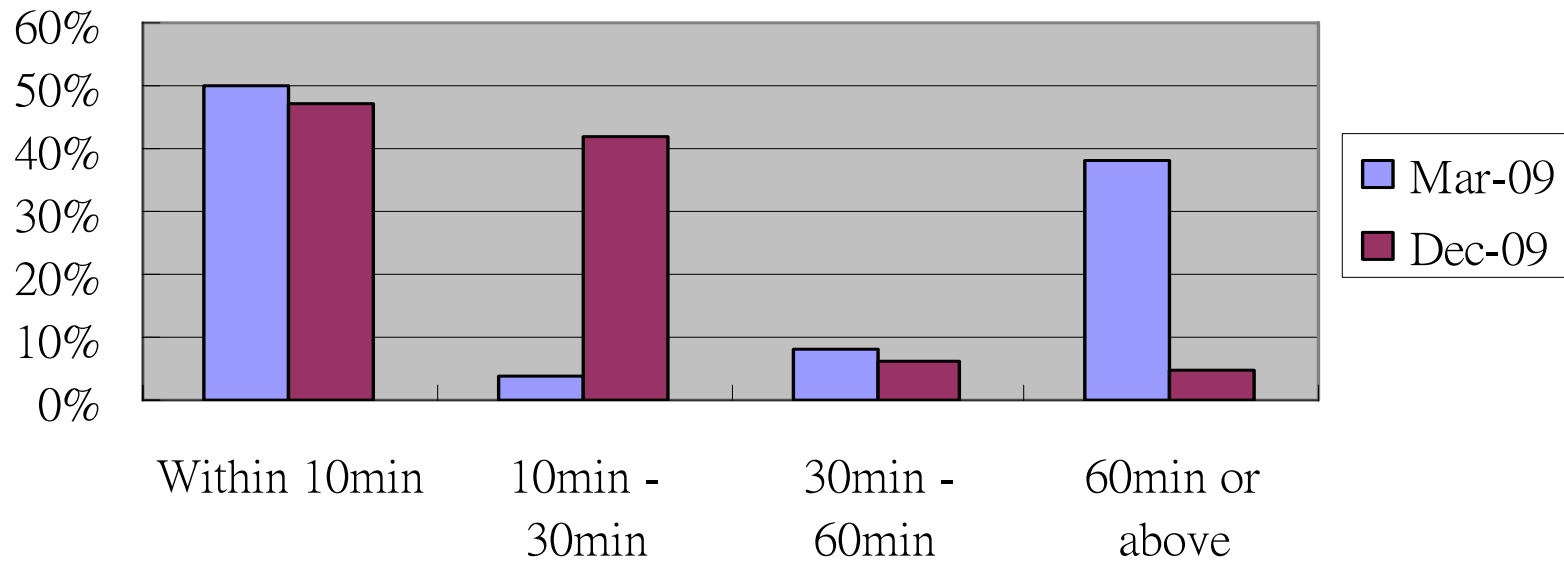


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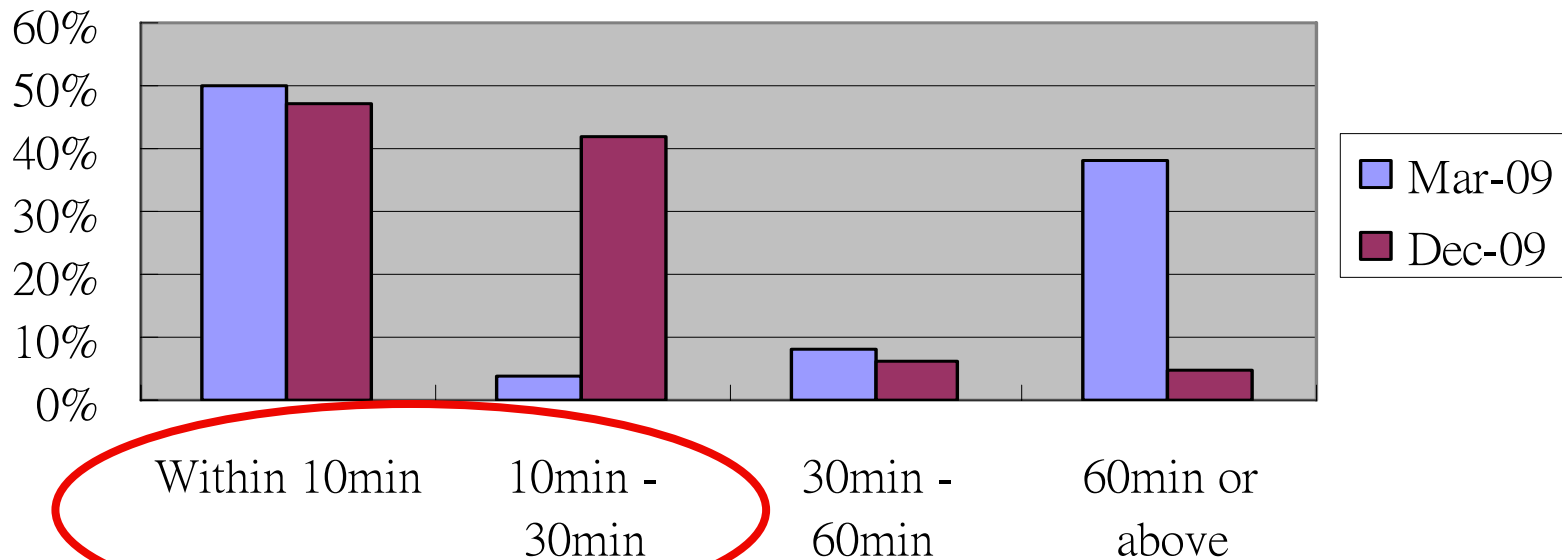


40 → 76%

Percentage of urgent ultrasound cases performed from appointment given to examination performed



Percentage of urgent ultrasound cases performed from appointment given to examination performed



54 → 89%

Results

- Simplification of workflow is very effective in shortening the waiting time of in-patients to receive urgent USG service


Summary

Changes:

- Allocate more resources for urgent in-patient ultrasound examinations
- Conventional face-to-face / phone discussion between referring clinicians and radiologists for urgent ultrasound requests no longer required

Results:

- In-patients have a much earlier access to urgent ultrasound service
- Simplification of urgent USG booking process saves precious time for both radiologists and referring clinicians
- Contribute positively to shorten hospital stay and efficient use of resources



THE END