



What goes up, must come down: A state-of-the-art electronic health record downtime and uptime procedure

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I start my shift and introduce myself to my patients. It is nearly time for the main medication round of the day.



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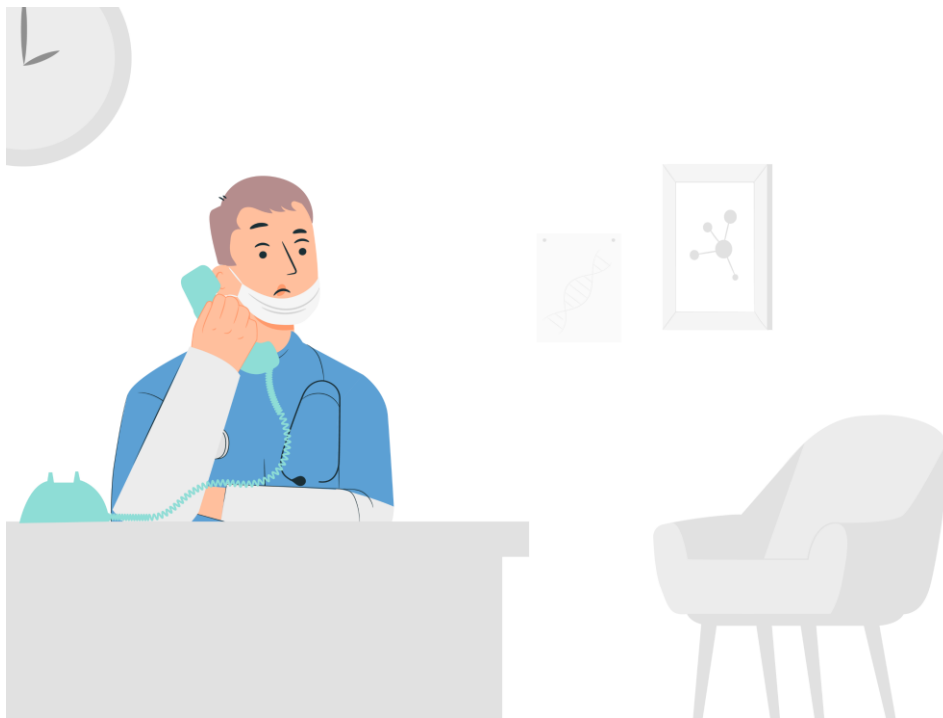
I explain what has happened to my patient and I leave the room to check if other staff are having problems. I can see staff running around looking for paper medication charts and





I contacted the service desk to report that the eMR is down. I start to review the downtime MAR and notice that some of the medicines charted do not seem correct. I contact pharmacy and the medical team to come to the ward and review the medication charts. It is now 9am and I still

haven't started my medication round



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Definitions

- Planned
- Unplanned
 - Partial
 - Complete
- Every unplanned downtime event is different



Downtime – A risky time for patients

Key clinical risks mapped to Australian NSQHS:

- Standard 4 – Medication safety
 - E.g. Continuity of medication management disrupted, allergy
- Standard 6 – Communicating for safety
 - Hybrid paper records post downtime, delayed discharge paperwork
 - Staff are becoming unfamiliar with documenting on paper charts
- Standard 8 – Recognising and responding to acute deterioration
 - E.g. Delays in updating altered calling criteria, delays in communicating end of life care



Hospital Activity and Downtime

- Recent 8-hour downtime example:

- 86 ED presentations
- 30 Admissions
- 4 Births
- 2 Deaths

(2200hrs Friday – 0600hrs Saturday)

Facility	Medications Administered
RPA	1255
CRGH	1035
TCH	297
Balmain	113
IRO	43
Total	2,743



Downtime survey

- We surveyed our clinical teams after a significant planned eMR downtime (10 hours)
- >300 responses
- 15% staff reported difficulty with paper medication management processes
- 76% staff felt confident with downtime procedures
- Communication of downtime and uptime remains a priority issue



Our Downtime Procedure

- Reviewed and updated annually
- Reviewed after any large planned downtime event
- Reviewed following any significant implementation
- Adheres to Contingency Planning SAFER Guide (recommended practices for safe use of eMRs)
 - Monitoring for safety during downtime events
- Follows NSW State Emergency Management Plan framework (EMPLAN)



Core components of EMPLAN

- Prevention
- Preparation
- Response
- Recovery
- Debrief



Preparation – Downtime Drills

- Target compliance = 100%
- Drill conducted quarterly
- 3 staff per area drilled
- Action plan needs to be developed if wards fail

No.	Question	Avg. Compliance
1	Designation of staff member audited:	
2	Outlines what to do if they notice something is wrong with the eMR (slowness, freezing, etc.)	100%
3	Knows the location of the eMR Downtime Kit	80%
4	Identifies the necessary forms to be completed during a Downtime	80%
5	Can describe the process of obtaining specialty-specific forms that are not located in the eMR Downtime kit in the event of a prolonged eMR Downtime	100%
6	Can identify the location of the local DTV	100%
7	Can log into the DTV	80%
8	Demonstrates checking the 'Last Update Time' and can describe the process if the upload has not occurred within 5 mins. (The last update time should be less than 5 minutes. If it is longer than 5 minutes, contact the State Wide Service Desk on 1300 28 55 33)	80%
9	Can search for a patient in the DTV	100%
10	Can select 1 patient from the ward list. Print out any available documents and patient summary page to verify printer functionality.	60%
11	Can interpret the medication orders correctly	80%
12	Describes Uptime procedures for their designation/position, and how they will be notified that the eMR is back up.	40%



Preparation – Back-up system daily audits

- 2 core reasons:
 - Staff familiarity with Downtime Viewer (DTV)
 - Instances where the DTV has not refreshed – prompt escalation to service desk

724 Downtime Viewer Audit		
Step	Task	Complete
1	Review DTV connections ensuring that the computer and printer are connected to the UPS (Uninterrupted Power Supply).	
2	Ensure that the UPS is plugged into essential (red) power and turned on.	
3	Confirm that the Downtime Viewer wallpaper is displayed on the PC. If the Downtime Viewer wallpaper is not displaying, contact the ICT Service desk on 9515 8877.	
4	Log into DTV - ensure that it launches correctly with the generic user name/password.	
5	Check the Last Update Time (located top right corner). The Last Update Time should be less than 5 minutes. If it is longer than 5 minutes, contact the ICT Service Desk on 9515 8877.	
6	In the Patient Search screen, search for an inpatient ward. The ward list of patients should include all current patient names and MRNs. If this list is incorrect, contact the ICT Service Desk on 9515 8877.	
7	Select 1 patient from the ward list. Print out any available document and patient summary page to verify printer functionality. If a page cannot be printed, contact the ICT Service Desk on 9515 8877.	



Preparation – Education & Training

- All staff must complete online eLearning module on eMR downtime (mandatory)
- Prior to planned downtime events:
 - Refresher training provided to all clinical areas
 - Auditing/drilling regime increases
- Staff need to be trained on how to use paper forms.
 - Many new clinicians have never used paper forms (e.g. documenting safe prescriptions and record medication administration correctly on paper)



Everyone has a role

- Task cards developed and laminated for all roles
- Located in downtime kits
- Revised following each downtime
- Area for improvement – education for Executive On-call roles

Downtime/Uptime Task Cards

Quick Reference Guides



Health
Sydney
Local Health District

Sydney Local Health District – Downtime and Uptime Task Card

Administrative Staff

Communicates with:

- ✓ Nurse Unit Manager, Admin Manager.

Key Responsibilities (and considerations):

- ✓ Receive notification of Downtime and confirm Downtime with Nurse Unit Manager / In-charge.
- ✓ Stop using the eMR, commence Downtime Procedures and remind all registration areas to use the PMI Offline database.
- ✓ Ensure areas have enough labels for existing inpatients.
- ✓ Remind clinical areas to use either patient ID sticker or write 3 core identifiers on all paper forms.

Actions:

- ✓ Assign MRN downtime allocation numbers.
- ✓ Find patient MRNs on PMI offline database, or with new patients use a Downtime MRN.
- ✓ Track patient admissions/ attendance/ transfers/ discharges.
- ✓ Manually create patient identification labels.
- ✓ Maintain Switch/ Reception patient enquiry lists and training.
- ✓ Manually schedule and create clinic appointments.

UPTIME Responsibilities:

- ✓ Update details/ encounter for MRNs allocated during downtime into the eMR.
- ✓ Add admissions/ transfers/ discharges to the eMR.
- ✓ Check and add additional patients that attended clinics.
- ✓ Check for potential duplicate MRNs.
- ✓ Scan relevant downtime forms for 'paperlite' areas.



Preparation – Downtime Kit - Checking

- Checks completed daily
- Kits require updating following each eMR change
- Issue – old paper forms not reflecting new digital workflows + staff unfamiliarity

PowerChart eMR – General Wards – Downtime Kit		
Quantity	Item	Check
Clinical Resources		
2	Downtime Patient Tracking List	
2	Downtime Medication Tracking List	
2	Doctor Task List	
1 (roll)	Clinical Review Stickers	
1 (roll)	Rapid Response Stickers	
10 sheets	'No Longer in Use' Downtime stickers (to place on paper charts during Uptime, to alert staff DTV is no longer valid)	
Documentation, Assessment and Observation Charts		
1 x packet	Standard Observation Chart (Adult, Maternity and/or Paediatric as required)	
1 x packet	Progress/ Clinical Notes	
1 x packet	Admission Assessment Form (Adult, Maternity and/or Paediatric as required)	
1 x packet	Waterlow Assessment Form (Adult Wards)	
1 x packet	Falls Risk Assessment Form (Adult Wards)	
1 x packet	Paediatric Risk Assessment Paediatric wards	
15 copies	Patient Property/Valuables Form (MR 2C)	
1 x packet	Daily Fluid Balance Chart (SMR 120001)	
2 x packets	Medication Reconciliation Chart (AMR140.500)	



Response

- Downtime activation – Code Yellow and MIM process
- Medication management – Reverts to National Inpatient Medication Chart (NIMC)
- Medical imaging downtime webpage – Activation enables clinicians to view images through intranet
- Offline patient searching – to retrieve existing patients medical record numbers
 - New patients get a downtime MRN



Response – Tracking Changes

SLHD Inpatient Downtime Event Tracking Form



Health
Sydney
Local Health District

Ward: _____

Downtime Period Start Time & Date: _____

Patient Label	Bed No	Transfer, New Admission, Discharge, Bed Moves. <i>Please indicate movement type, time and location (e.g. 1000hrs / Date - Admitted to Ward)</i>	Medication Changes <i>(new orders, ceased, IV fluid order [CRGH only])</i> Tick if ANY changes	Brief Details of Clinical Event/procedure <i>(ARREST/ MET call, Clinical Review, hypoglycaemia, New / changed ACC / ECG recorded, Resuscitation plan etc.)</i>	Diet orders New or changed	Transcribed into system in Uptime (add Initials)
Patient MRN: Patient Surname: Patient Given Name: <i>Complete details or affix patient label here</i>			<input type="checkbox"/>			



Recovery – Uptime Procedure

- Uptime planning occurs during management of downtime
- Uptime can only commence once formally announced
- Tracking form used to assist in essential data transcription into eMR
- Goal is to reconcile as quickly and safely as possible post downtime
- Command centre established to track Uptime across the LHD



Planning Uptime Resources

- Uptime teams – Doctor, Pharmacist & Nurse
- Prescribing, administering and reconciliation of meds in eMR post downtime
- LHD has developed a guide to staff teams
 - Downtime of 3 hours = 1 team to do uptime in 1 hour per clinical area (30 beds)

28-May				
Pharmacy		Medical	Nursing	Admin
Morning shift (4 hours) 7:00am-11:00am	on call (\$26.35)	Morning shift (4 hours) 7:00am-11:00am	Morning shift (4 hours) 7:00am-11:00am	
8	4	8	20	0
0	0	0	1	1
7	4	7	21	0
0	0	0	1	2
3	1	3	12	1
0	0	0	1	1
1	0	1	2	0
1	0	1	9	0
1	0	1	5	0
0	0	0	0	0
0	0	0	0	0
21	9	21	72	5



Debrief

- Post downtime events the following occurs:
 - Staff survey to understand sentiment and areas for improvement
 - Particularly useful for planned eMR downtimes
 - Internal DH&I debrief
 - Post Incident Review (PIR) undertaken and reviewed



Any questions?

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