

# Electronic Medical Record (EMR) in a Word Document

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Dr Jack Yu

Basic Physician Trainee


Lyell McEwin Hospital, NALHN Adelaide, SA Australia

RACP Congress 2019

# Contents:

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- HIMSS & current EMR adoption
- The template
- Confidentiality
- Pilot intervention results
- Where to from here?

STAGE	 EMR Adoption Model Cumulative Capabilities
7	Complete EMR; External HIE; Data Analytics, Governance, Disaster Recovery, Privacy and Security
6	Technology Enabled Medication, Blood Products, and Human Milk Administration; Risk Reporting; Full CDS
5	Physician documentation using structured templates; Intrusion/Device Protection
4	CPOE with CDS; Nursing and Allied Health Documentation; Basic Business Continuity
3	Nursing and Allied Health Documentation; eMAR; Role-Based Security
2	CDR; Internal Interoperability; Basic Security
1	Ancillaries - Laboratory, Pharmacy, and Radiology/Cardiology information systems; PACS; Digital non-DICOM image management
0	All three ancillaries not installed

# Current EMR Adoption

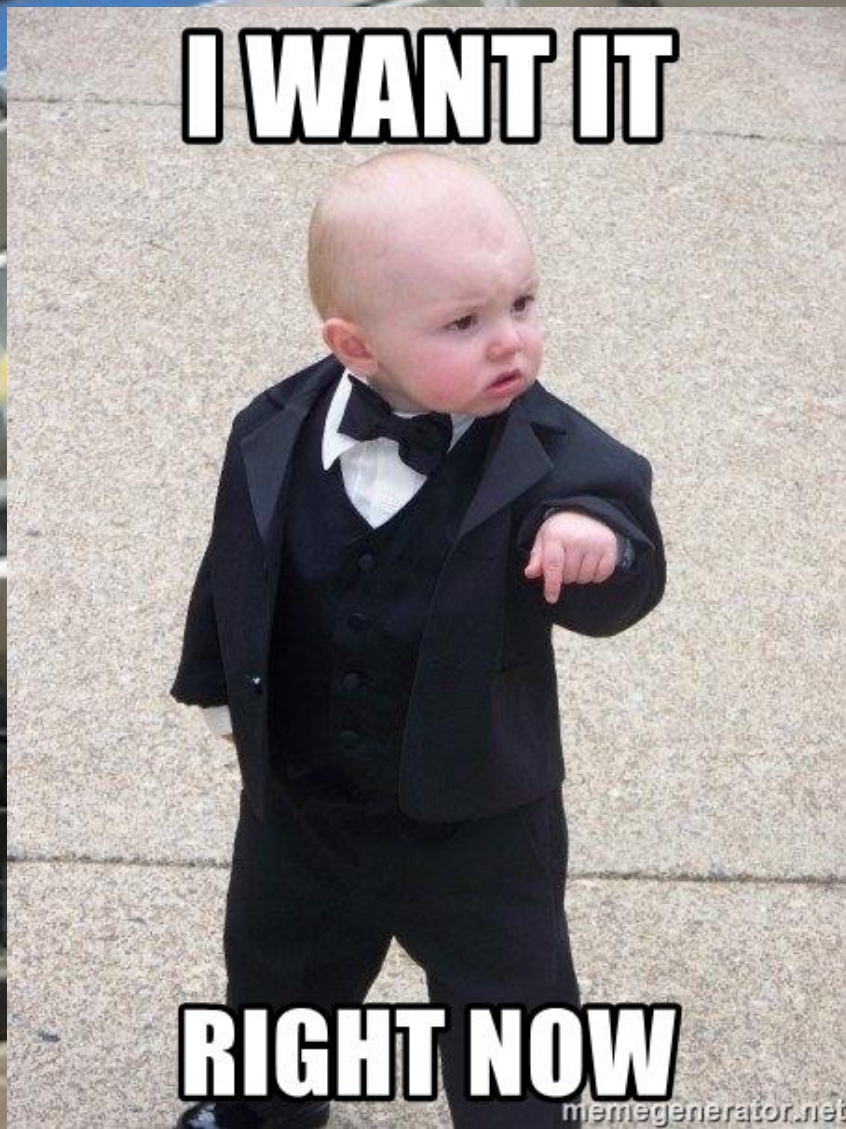
- Hospitals at Stage 7 of EMRAM
  - Hospitals in the **United States** – 351 (6.4%)
  - Hospital in **Australia** – 2

- Hospitals at Stage 6 of EMRAM
  - Hospitals in the **United States** – 1054 (20.2%)
  - Hospitals in **Australia** – 1

<b>5</b>	Physician documentation using structured templates; Intrusion/Device Protection
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- **New Zealand** has 3 district health boards at stage 5
- **EPAS** – South Australia’s EMR since 2011
  - Cost to date: AUD \$471 million
  - Not implemented at NALHN Lyell McEwin Hospital
  - Currently at Stage 5 of EMRAM





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# Objective: To develop a minimum cost EMR

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- Create my own program?

or

- Use existing technology
- Use existing hospital infrastructure

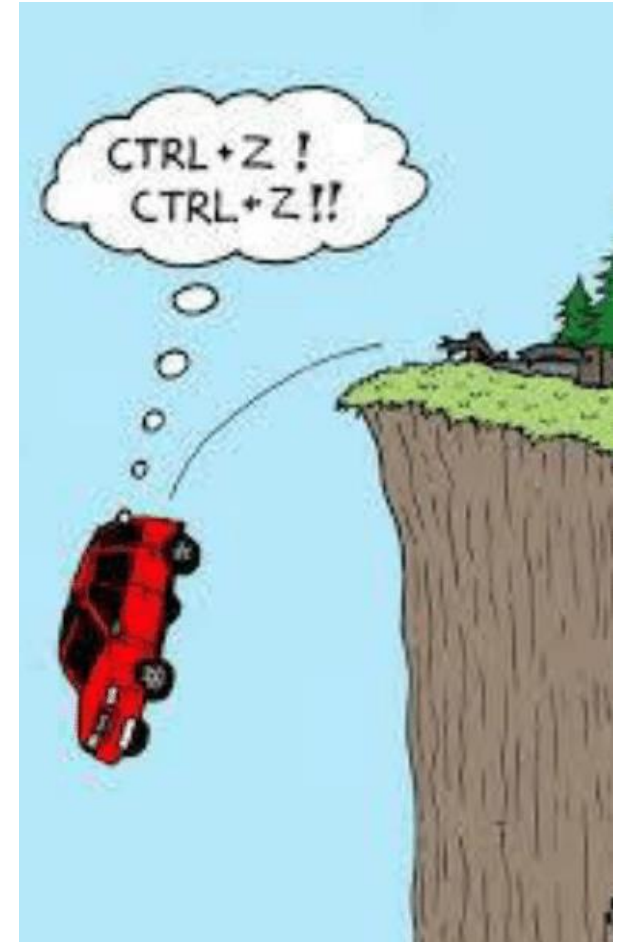


- Minimal change = minimal retraining = easier to implement

# Microsoft Word



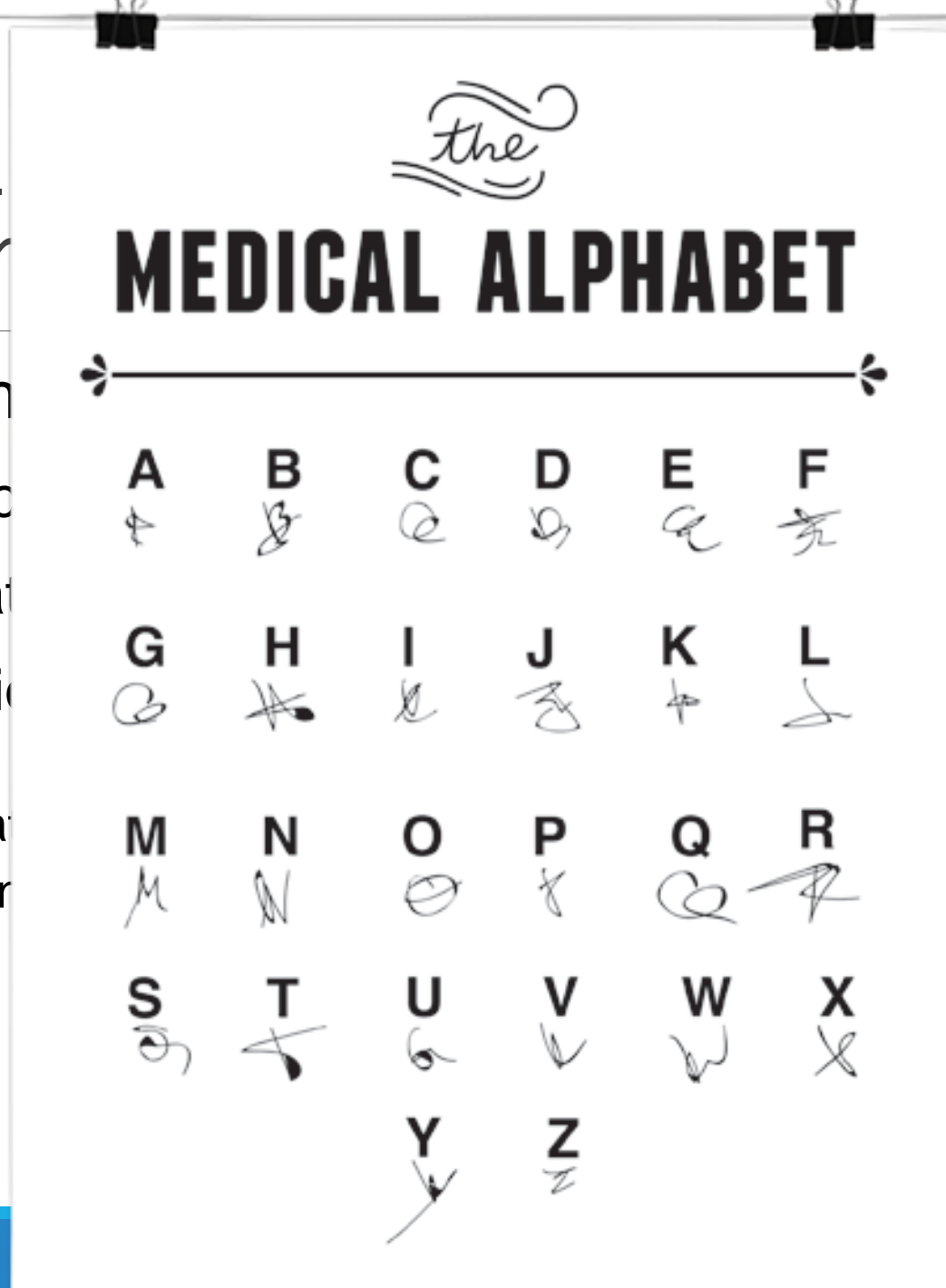
- Familiar word processing capabilities
- Spell check
- Ctrl + Z = Undo
  
- Widely available = Minimise Cost \$\$
- Widely used = Minimal retraining  
= Easier to implement



# Method: for electr

Why use a tem

- Easy to use & c
- Automation feat
- Ensures inclusio
  - Date & time
  - Doctor identifica
  - Doctor contact in



a template  
entation

ncy





UR99999  
Surname  
Name  
99/99/99                      Gender

01/06/2018

## Gen Med Progress Summary

09:00

Allied Health and Discharge Planning:

Physio: N/A	OT: N/A
Speech Path: ,	Social work: N/A
ACAT: N/A	Planned Discharge Location: Pending...

Profile:

Presentation:

Issues this admission:

#1 -

•

#2 -

•

UR99999  
Surname  
Name  
99/99/99                      Gender

01/06/2018

## Gen Med Ward Round

09:00

Dr. Consultant (Consultant #9), Dr. Advance Trainee (AT#24689), Dr. Med Reg (BPT#24869), Dr. Intern (Intern#1337)

Current Issues:

#1 -

#2 -

S/

Hb:

•

Plt:

WCC:

O/

CRP:

Na:

K:

Imp/

Mg:

PLAN/

Creat:

1.

Urea:

Alb:

Bil:

GGT:

AST:

ALT:

ALP:

UR99999  
Surname  
Name  
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01/06/2018  
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01/06/2018  
09:00



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Speech Path: ,	Social work: N/A
ACAT: N/A	Planned Discharge Location: Pending...

**Profile:**

**Presentation:**

**Issues this admission:**

- #1 -
  -
- #2 -
  -

UR123456  
Smith  
Coffee  
01/12/48          Male

01/06/2018  
09:00

### Gen Med Progress Summary

Allied Health and Discharge Planning:

Physio: Ongoing Review	Fluids	OT: Ongoing review
Speech Path: Ward diet, Thin		Social work: N/A
ACAT: N/A		Planned Discharge Location: Pending...

- Thin
- Mildly thick
- Moderately thick

**Profile:**  
**Presentation:**  
**Issues this admission:**  
#1 -  
•  
#2 -  
•

UR123456

Smith

Coffee

01/12/48

Male

01/06/2018

09:00

## Gen Med Progress Summary

Allied Health and Discharge Planning:

Physio: Ongoing Review

OT: Ongoing review

Speech Path: Ward diet, Thin

Social work: N/A

ACAT: N/A

Planned Discharge Location: Pending...

**Profile: 70 yo male from home with wife; independent with ADLs and mobility; 7step full resus**

**Presentation: Fall while mobilising to toilet at 4am. Head strike on sink. Called out to wife who called SAAS. No loss of consciousness. Dizzy on postural change but no palpitations. 3 days of dysuria with poor oral intake. No fever/rigors/sweats. No chest pain/shortness of breath.**

**Issues this admission:**

**#1 - UTI on oral antibiotics**

•

**#2 – Dehydration from poor oral intake – 2L IVT given on admission**

•

**#3 – Fall with head strike in setting of postural BP drop – resolved with IVT**

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**Issues this admission:**

**#1 - UTI on oral antibiotics**

- MCS: E.coli – pansensitive
- Started on Trimethoprim 300mg night for 7 nights
- Post void residual: 50 ml
- USS KUB: pending

**#2 – Dehydration from poor oral intake – 2L IVT given on admission**

- 2 L IVT given in ED
- Creatinine at baseline 80
- Eating and drinking normally on ward

**#3 – Fall with head strike in setting of postural BP drop – resolved with IVT**

- CTB: moderate small vessel ischaemic changes. Nil acute pathology.
- Postural BP drop resolved post IVT
- Pending physiotherapy review → ? RiTH

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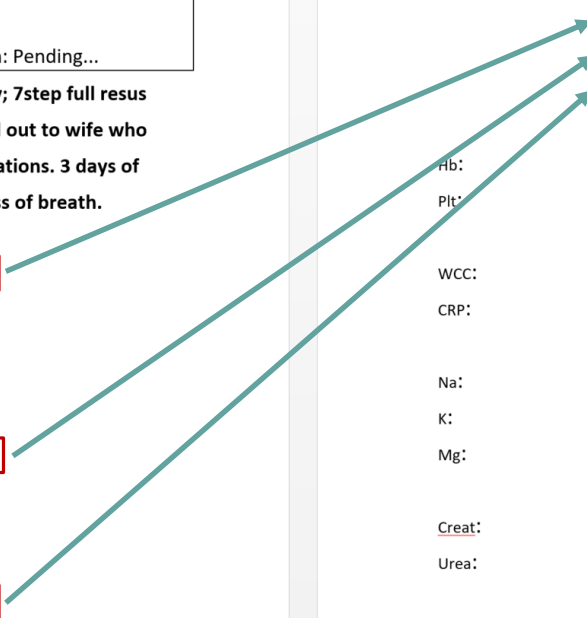
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S/  
 •  
 Hb:  
 Plt:  
 WCC: O/  
 CRP:  
 Na:  
 K:  
 Mg: Imp/  
 Creat: PLAN/  
 Urea: 1.  
 Alb:  
 Bil:  
 GGT:  
 AST:  
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UR123456

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Male

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AST:

ALT:

ALP:

O/

Imp/

PLAN/

1.



UR123456

Smith

Coffee

01/12/48

Male

01/06/2018

09:00

Doctor on rounds

Dr. Consultant (Consultant #9), Dr. Advance Trainee (AT#24689), Dr. Med Reg (BPT#24869), Dr. Intern (Intern#1337)

Dr. Consultant (Consultant #9)

Dr. Advance Trainee (AT#24689)

Dr. Med Reg (BPT#24869)

Dr. Med Resident (RMO#35790)

Dr. Intern (Intern#1337)

## Gen Med Ward Round

~~#2 – Dehydration from poor oral intake – 2L IVT given on admission~~

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S/

Hb: •

Plt:

WCC: O/

CRP:

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#### #1 - UTI on oral antibiotics

#### #2 – Dehydration from poor oral intake – 2L IVT given on admission

#### #3 – Fall with head strike in setting of postural BP drop – resolved with IVT

S/

Hb: 139

Plt: 325

WCC: 10

CRP: 68

- Slept well. No new issues. Bowels open this morning.
- No chest pain/shortness of breath
- Dysuria resolved
- Eating and drinking
- Loss of confidence regarding mobility; unwilling to mobilise without frame

Na: 138

K: 4.2

Mg: 0.72

Creat: 82

Urea: 7

Alb:

Bil:

GGT:

AST:

ALT:

ALP:

O/ Observations Stable and Afebrile, HR 80, RR 16, Sats 98% RA, T36.4C

BP Lying 128/64; BP Standing 132/66

Alert and oriented; JVP not elevated; moist mucous membranes

Chest clear

Abdomen soft and non-tender

Calves soft and non-tender, nil peripheral oedema

IV cannula insitu left cubital fossa; nil pain/erythema

Imp/ Clinically improved.

PLAN/

1. Continue antibiotics - PO Trimethoprim 300mg Night (day 2/7)
2. Await physiotherapy review with thanks; re: ?RiTH
3. Chase USS KUB
4. Remove IV cannula





UR123456  
Smith  
Coffee  
01/12/48 Male

01/06/2018

09:00

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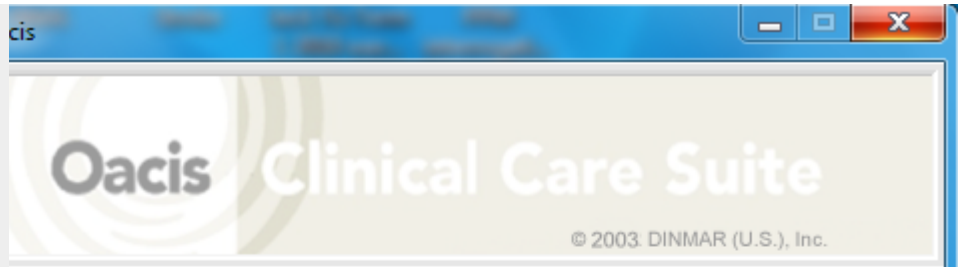
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PLAN/

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3. Chase USS KUB
4. Remove IV cannula



**Application Error**

**Unable to launch the application.**

**Name:** vOacis  
**Publisher:** EMERGIS  
**From:** http://oacis.had.sa.gov.au:

Ok Details

Name:  Facility:   
Password:  Location:   
Sign On

**Oacis Application**

**Oacis Application has stopped working**

A problem caused the program to stop working correctly. Windows will close the program and notify you if a solution is available.

Close program

**Error**

**X** The requested session is invalid. The application will now be shut down

OK

**Application Error**

**Unable to launch the application.**

Ok Details

Clinical Context: Clinical Context Manager not installed.

Join Clinical Context Join and Set Clinical Context Break Clinical Context

Exit  Select Single Patient Lookup Oacis 7.1 ?

01/06/2018

09:00

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Coffee

01/12/48

Male

vOACIS

File Roster List RTS Report User Tools

Separation Summary - Data Entry

Clinical Synopsis Investigations Management Plan Separation Notes Distribution History Amendment Reason

Summary Patient Details Problem List Procedures

**Clinical Synopsis:**

Profile: 70 yo male from home with wife; independent with ADLs and mobility; 7step full resus.  
Presentation: Fall while mobilising to toilet at 4am. Head strike on sink. Called out to wife who called SAAS. No LOC. Dizzy on postural change but no palpitations. 3 days of dysuria with poor oral intake. No fever/rigors/sweats. No chest pain/SOB.  
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- Postural BP drop resolved post IVT
- Pending physio review



Workstation  
on Wheels  
“WOW”

Or

Computer  
on Wheels





# Confidentiality

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- Uses hospital IT network, and therefore its cyber security
- Restricted access folder
  - Requires personal login to computer
  - Requires departmental permission for IT to grant access
- Deletion of soft copies
  - Computer templates are deleted upon discharge summary completion
- Records are only kept in paper form in clinical files
- Access permits are time restricted to the period of your rotation on the medical team



# Pilot interventional study

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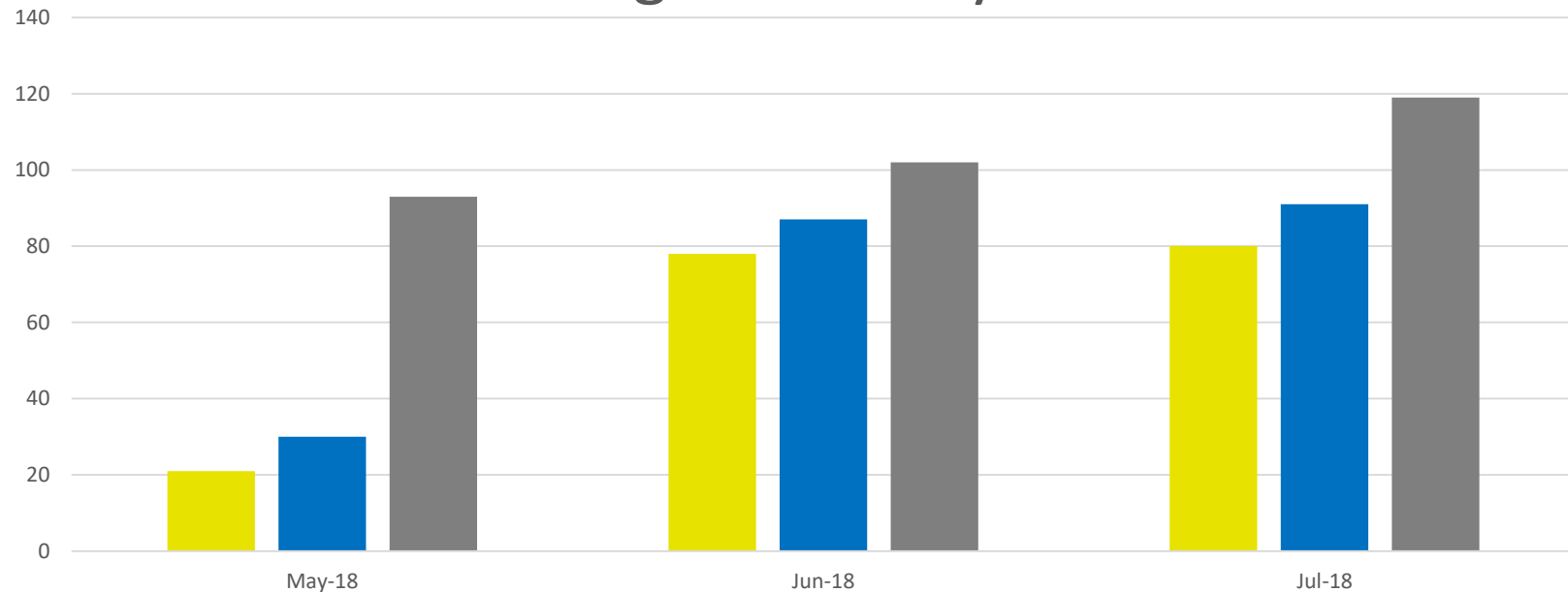


- Pre-intervention month: May 2018
- Intervention months: June and July 2018
- General Medical Ward, Lyell McEwin Hospital



# Results: Pre-post intervention data comparison

## Discharge Summary KPI



	May-18	Jun-18	Jul-18
■ 24 hour	21	78	80
■ 48 hour	30	87	91
■ Total summaries	93	102	119


## Computer Note Feedback from Ward 1D Nurses

- I noticed them and I can read and understand so much better
- I love them , for a few reasons  
I can read the plan clearly , Doctor writing is hard to read at times not now  
I like how after they review each pod you know the plan so as bed side nurse you can go read all plans in your pod at once . The only thing is if they make changes from their original note they need to update them not just tell us on the floor 😊 I like them
- Love them.  
Well set out. Easy to read - hallelujah!!  
Shame it wastes the page before it is printed on. Can't have everything 🤔

# Where to from here?

- Inclusion of admission process into the template
- Inclusion of medication charts
- Stepping stone to EPAS arrival

Date	Medicine (print generic name)	Tick if slow release
4/07/18	Escitalopram	<input type="checkbox"/>
Route	Dose	Frequency and NOW enter times
Oral	10mg	Daily
Indication	Pharmacy	
Depression		
Prescriber signature	Print your name	Contact #99999
Date	Medicine (print generic name)	Tick if slow release
4/07/18	Multivitamin	<input type="checkbox"/>
Route	Dose	Frequency and NOW enter times
Oral	1 tab	Daily
Indication	Pharmacy	
Supplements		
Prescriber signature	Print your name	



# Conclusion:

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## Electronic medical records in a Word document

- This pilot intervention was a successful proof of concept
- Cost of our intervention
  - Conception and creation of the template = \$0
  - Hospital infrastructure integration = \$0
  - Implementation with minimal staff retraining = \$0
  - ~20 sheets of paper to get proper alignment and printing orientation = \$2.00
  - Average cost of 1 cup of coffee in Adelaide = \$3.50
- It is possible to attain the benefits of EMR for minimum cost

# References

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Thank you

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