



# Virtual Clinical Pharmacy Addressing Workforce Challenges and Medication Safety Risks in Country WA

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## Introduction

The Pilbara region of WA is vast and remote hospitals are chronically under resourced. Inland Pilbara sites are without an on-site Pharmacist despite a position being available for two years. As a result, staff and patients are prone to medication safety risks and have poor compliance with national standards.

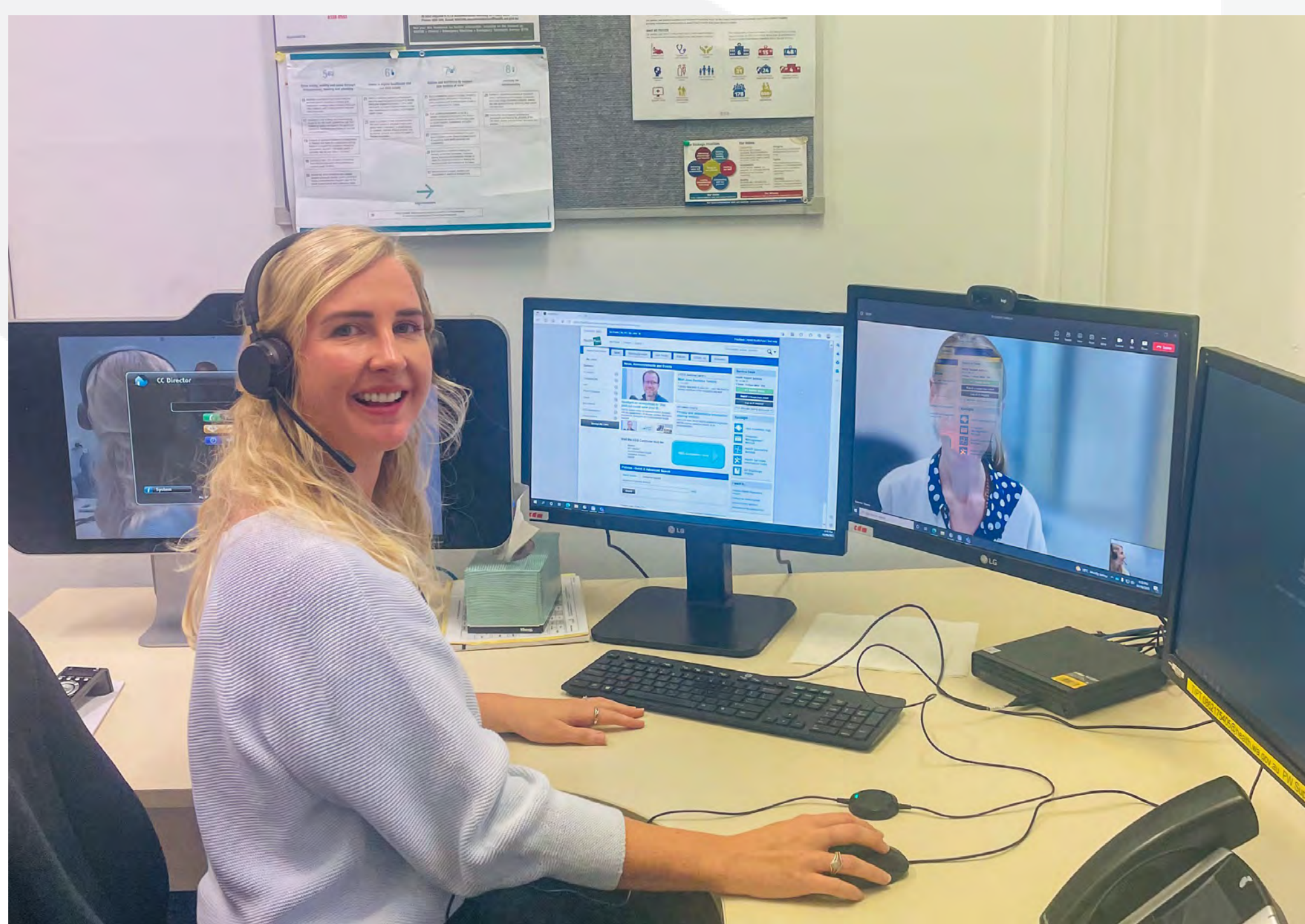
An innovative, sustainable and economical solution to these persistent challenges was the introduction of a Virtual Clinical Pharmacy Service in July 2023. The current service utilises existing technology allowing an off-site pharmacist to complete the core functions of a clinical pharmacist in a Telehealth capacity.

The pilot is in its early phases however preliminary evidence supports improved compliance with medication safety indicators, antimicrobial stewardship and improved support for site clinicians and patients. Future plans involve integration of Assisted Reality Eyewear to support real-time visibility, virtual checks and local upskilling.

## Aim

To assess the impact and feasibility of a novel Virtual Clinical Pharmacy Service for Country WA. A future study will examine if the use of “smart glass” technology provides gains in efficiency, risk mitigation and scope of the virtual service.

Success of the pilot will inform a sustainable and adaptable model which can be expanded to other sites with similar resourcing and degree of clinical risk.



#MM2023SHPA

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## Methods

Utilise Medication Reconciliation and Antimicrobial Stewardship audit tools to measure compliance with key indicators across the implementation phases, as well as collate qualitative feedback from site staff.

Pre-implementation	Post-implementation	Future-implementation
<ul style="list-style-type: none"> <li>• Nil dedicated service</li> <li>• Ad hoc referral from remote site</li> <li>• Ad hoc medication reconciliation by Regional Resource Centre</li> <li>• Email transmission of medical records and charts</li> <li>• Focus on BPMH only</li> <li>• Nil updating of current medication list on online systems</li> <li>• Nil utilisation of VC technology</li> <li>• Nil closed loop process</li> </ul>	<ul style="list-style-type: none"> <li>• Dedicated hybrid service – primarily virtual with 4-6 weekly deployment</li> <li>• Active follow up of all inpatients M-F</li> <li>• Email transmission of medical records and charts</li> <li>• Comprising all elements of medication reconciliation and clinical review</li> <li>• Current medications updated and reconciled on online systems</li> <li>• Utilisation of existing VC technology</li> <li>• Introduction of Electronic Prescribing and Antimicrobial Prescribing Tool</li> </ul>	<ul style="list-style-type: none"> <li>• Dedicated hybrid service continues</li> <li>• Integration of Assisted Reality Eyewear permitting: <ul style="list-style-type: none"> <li>• Real-time visibility of medication charts and patient records</li> <li>• Virtual ward rounds</li> <li>• Handsfree audio-visual link with site staff</li> <li>• Local upskilling</li> <li>• Virtual safety and compliance medication checks</li> </ul> </li> <li>• Potential for extended hours service</li> </ul>

## Results Snap Shot

Measure	Jan – June 2023 Pre-implementation N= 20	July – Oct 2023 Implementation (prelim data) N = 15	Jan – June 2024 FUTURE....
<b>Admission and Clinical Review</b>			
Complete medication history documented and confirmed	14.3%	81%	?
Evidence of medication reconciliation by day 2 of admission	24%	62.5%	
Evidence of clinical pharmacist review by day 2 of admission	9.5%	62.5%	
Number of unresolved medication discrepancies	61	6	
% of patients admitted just prior to or over weekend/PH	47%	43%	
<b>Discharge and Patient Education</b>			
Discharge summary reflective of planned discharge medication	38%	69%	?
Evidence of medication reconciliation on discharge	33%	73%	
Number of unresolved medication discrepancies	53	18	
Evidence of education/communication to patient/pharmacy	14.3%	53%	
% of patients discharged over weekend/PH/Monday AM	62%	27%	
<b>National Antimicrobial Prescribing Survey compliance</b>	<b>27% optimal</b>	<b>70% optimal</b>	
<b>Site Staff Comments</b>	“Referral process doesn’t work” “Unsure who to call with questions” “Medications lists are often incorrect” “Unsure what to do if stock unavailable”	“So nice to have a pharmacist” “Notes are very helpful” “Appreciate interventions” “Confidence in medication lists”	“Welcome to the future” “Super exciting” “That is going to streamline everything” “Virtual checks will be a gamechanger”

## Discussion and Future

Despite a small sample size, the above results demonstrate improved compliance with a number of medication safety and antimicrobial stewardship indicators. The majority of non-compliance with the current Virtual Clinical Pharmacy Service relates to weekend admission and discharge, highlighting ongoing risks in periods without pharmacist cover.

The incorporation of Assisted Reality Eyewear is expected to address some of the barriers, risks and inefficiencies with the current model. Future studies will aim to capture these benefits as well as clinical interventions and virtual checks. The platform provides real-time visibility, further supporting safe medication practices and reducing pressure on frontline staff.

