



AGENCY FOR
**CLINICAL
INNOVATION**

TELESTROKE

Northern Sector Proof of Concept

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Landscape



65% of stroke survivors living with a disability

Significant cost of **acute** stroke care in NSW in 16/17 was \$219.5m

(ABM portal)



Thrombolysis and Endovascular Clot Retrieval

Impact: mortality and disability reduction for a selected cohort given in appropriate timeframe

Thrombolysis Rates

2017 National Stroke Audit

Acute Services

Use of
thrombolysis
increased

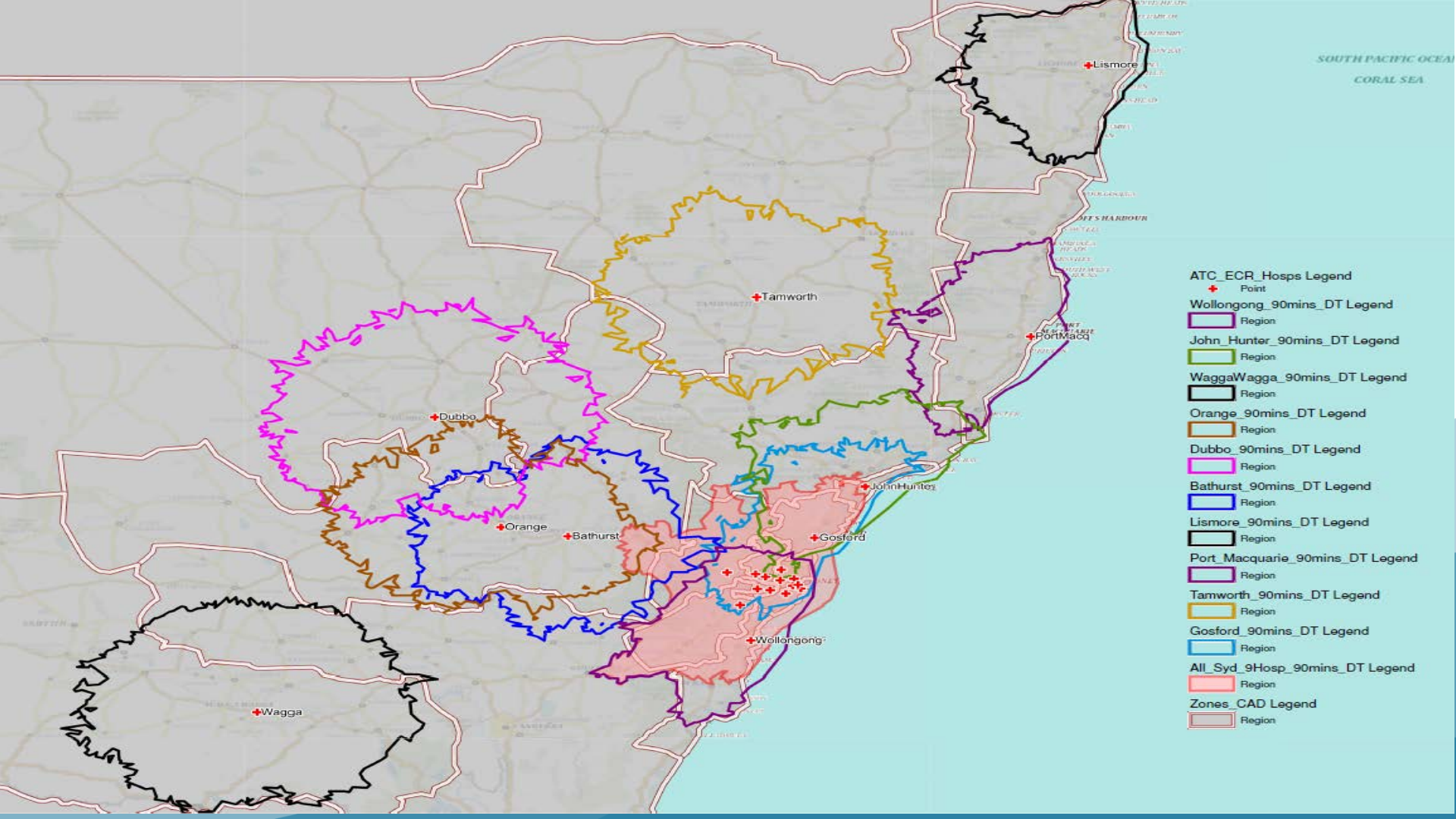


NSW
11%
2017

See full results at strokefoundation.org.au

Population changes

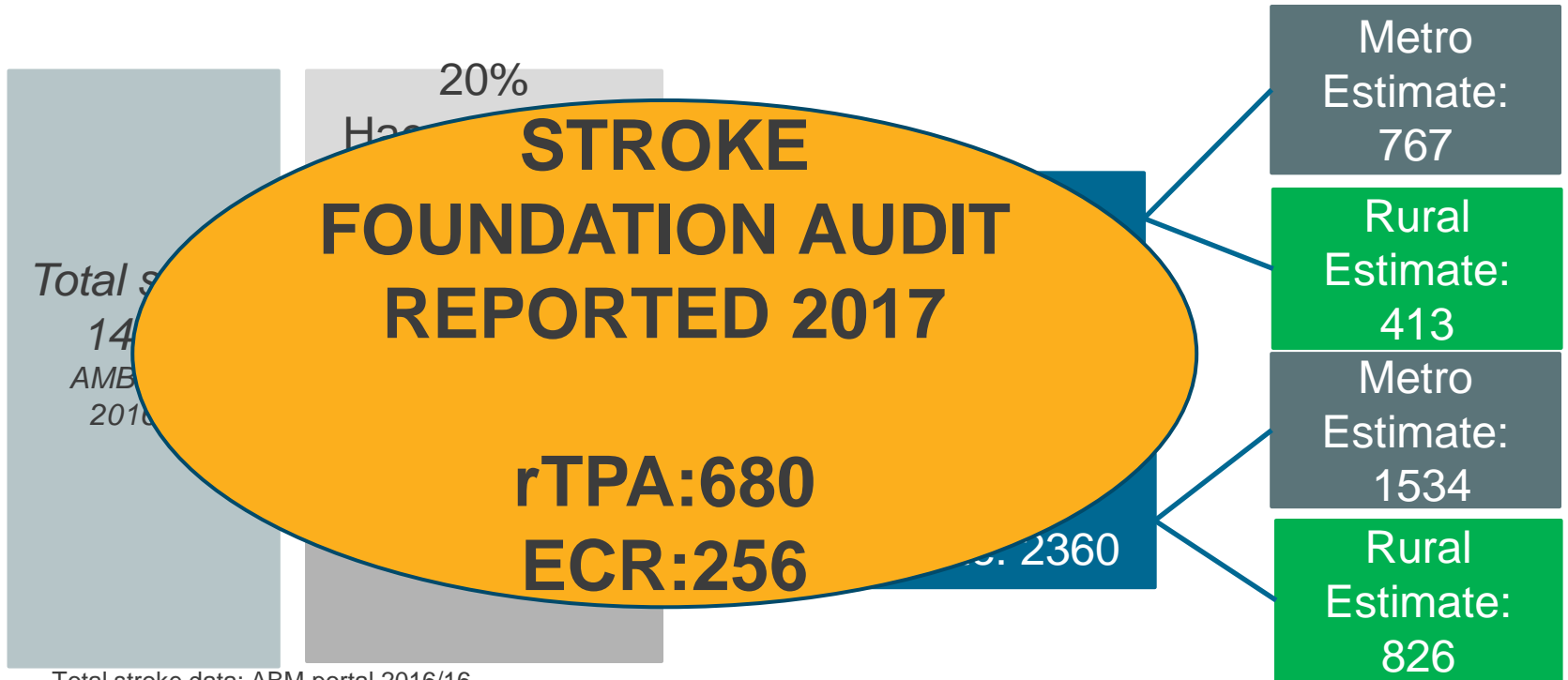




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 Region

ECR Site	In-hours referrals	After-hours referrals (Initial)
Prince of Wales Please call - 1800 4 STROKE	South Eastern Sydney	South Eastern Sydney
	St Vincent's Hospitals	St Vincent's Hospitals
	Illawarra Shoalhaven	Illawarra Shoalhaven
	Southern NSW	Southern NSW
Liverpool Please call - 1800 4 STROKE	SWS	South Western Sydney
		Western Sydney
		Nepean Blue Mountains
Royal Prince Alfred 02 9515 6111 until <u>31 July 2017</u> 1300 ECRNOW (1300 327 669) from <u>1 August 2017</u>	Sydney	Sydney
	Western NSW	Western NSW
	Murrumbidgee	Murrumbidgee
		Northern Sydney
Royal North Shore Please call - 1800 738 764	Northern Sydney	No after-hours service currently
	Western Sydney	
Westmead Please call - 1800 738 764	Western Sydney	No after-hours service currently
	Nepean Blue Mountains	
	Northern Sydney	
John Hunter Hospital Please call - 02 4921 3000	Hunter New England	Hunter New England
	Central Coast	Central Coast
	Mid North Coast	Mid North Coast
	Northern NSW	Northern NSW
Gold Coast 	Northern NSW	Northern NSW
	ACT 	Murrumbidgee
Victoria 	Murrumbidgee	Murrumbidgee

NSW: Target activity



Total stroke data: ABM portal 2016/16
Stroke type based on 80:20 split
Metro/rural split ratio 65:35 from health report NSW
<http://www.health.nsw.gov.au/annualreport/Publications/2017/preface.pdf>

How can we provide acute stroke assessment, neurological diagnosis, and time critical treatment in rural and remote communities

How can we bring specialist resources to the rural hospitals and get patients quickly to the appropriate pathway to access the highest level of care they require?



1. Pre-hospital:

- Distances to Stroke Hospitals
- Protocols ANSW (who to take where)

2. Access to Stroke Physician expertise

3. Access to Imaging and Post Processing

4. Change management

- shifting business processes to integrate a virtual stroke physician

5. Cross LHD IT system barriers and support models

- Multiple logins
- VPNs
- PACs/RIS
- EMR

6. Transport and Retrievals

7. Funding model for virtual stroke team

1. Pre-hospital -Collaboration with ANSW

- Pre-notification systems
- Defining protocols
- Improve handover

2. Access to Stroke Expertise Workforce

- Local LHD service
- ATC/ ECR centres
- **Establish a Supra LHD virtual Stroke Team**

3. Imaging

- Recommendation re: post processing in all stroke hospitals
- Comparison of products
- Reviewing consistency of implementation and support models
- Interface with existing state wide solutions (RIS/PACS)

4. Change management

- Executive support
- Stakeholder engagement
- Developing a toolkit and education resources

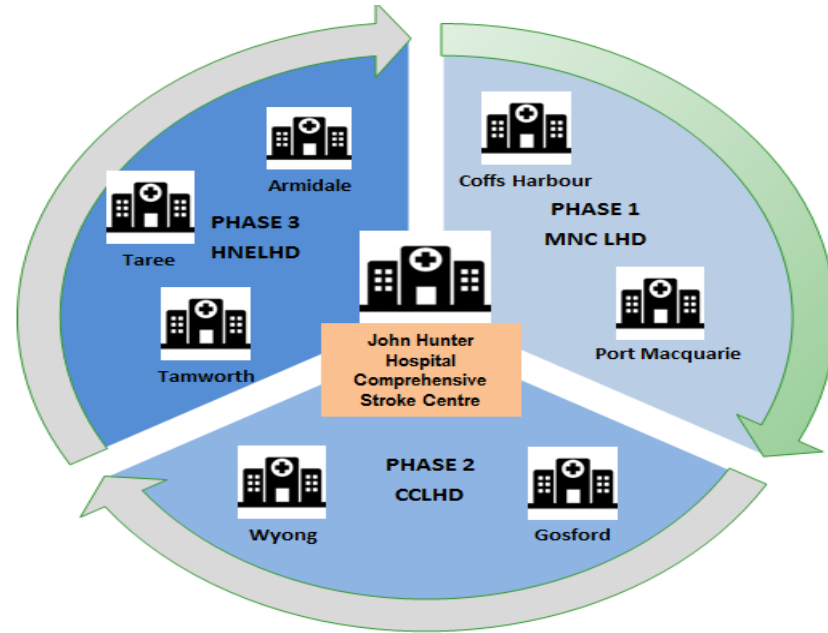
5. Cross Border IT System barriers

- Leverage statewide identity, HWAN and SFB to overcome barriers
- Familiar single point of access using Telehealth/ SFB
- Screen sharing local LHD systems (imaging , EMR, meds)
- Collaboration with local teams to utilise systems
- Cross train and up skill junior staff
- Real time patient and carer view and interaction

Northern Sector Telestroke Proof of concept

Northern Sector Telestroke – POC

- 2 LHD involved being implemented in a phased approach
- +John Hunter Hospital as the Comprehensive Stroke Service
- Virtual team of Stroke Neurologists



Northern Sector Telestroke Project

Problem Definition

Establishing a Telestroke service in the northern sector of NSW to provide hyper-acute stroke patients with timely access to neurological assessment, treatment and management.

Strategic Objectives

Delivering truly integrated care
(NSW State Health Plan: Towards 2021)

Delivery of the right care, in the right place, at the right time for everyone.
(NSW Health Integrated Care Strategy 2014-2017)

Delivering healthy rural communities, Access to high quality care for rural populations, Integrated rural health services & Improve rural eHealth.
(NSW Rural Health Plan – Towards 2021)

Investing in eHealth to deliver better and safer clinical care for patients no matter where they live, while also driving improved and sustainable network efficiencies.
(eHealth NSW's A Blueprint for eHealth in NSW)

Use the power of electronic information to help ensure that patients get the right care, involve the right clinicians, at the right time, to deliver the right outcomes in rural NSW
(eHealth NSW Rural eHealth Program 2015-2018)

Project Inputs - Outputs

Provide access to stroke neurologist consult 24/7 to access and treat suspected stroke patients

Provide ability to review imaging, review patient and provide the authority to thrombolysie in a regional centre with no or limited Neurologist support

Develop an inter LHD model for the use of Telestroke in the treatment of hyper-acute stroke patients .

Establish clear patient referral pathways between local EDs and the Comprehensive Stroke Centre(CSC) at John Hunter Hospital to ensure timely access to Endovascular clot retrieval services

Establish Northern Sector Telestroke processes including but not limited to governance, workflows, eligibility criteria for accessing stroke reperfusion therapies & escalation criteria to ensure delivery of safe patient care

Review, design, install and support processes associated with Telestroke Technology requirements

Outcomes



REGIONAL
TELESTROKE
SITES

Phase 1



Coffs Harbour



Port Macquarie



Gosford



Wyong



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Phase 2

Phase 3 & 4



SUPRA-LHD
TEAM

VIRTUAL TELESTROKE TEAM (24/7 Stroke Physician)



24/7
ENDOVASULAR
CLOT RETRIEVAL
SERVICES

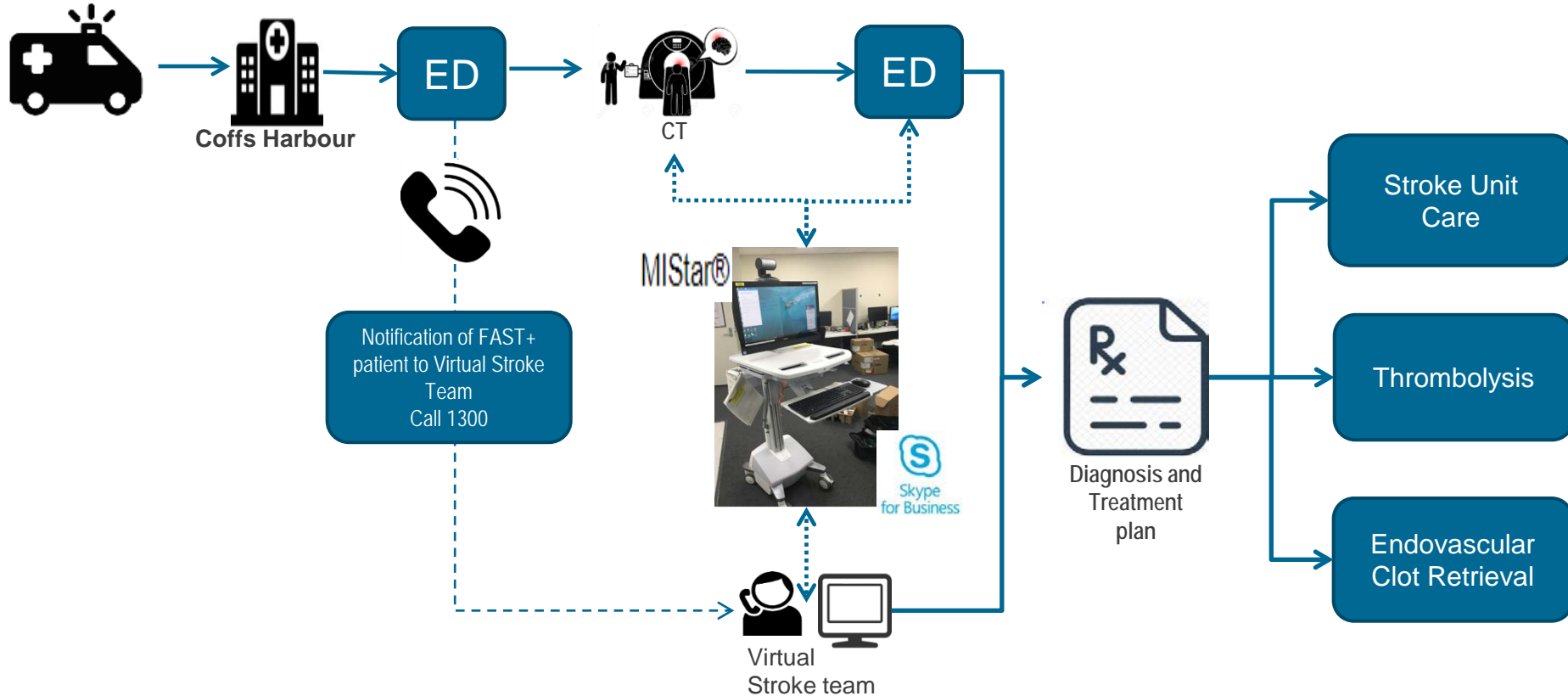


John Hunter
Hospital



ALL ECR
CENTRES

What Happens



Tecnology

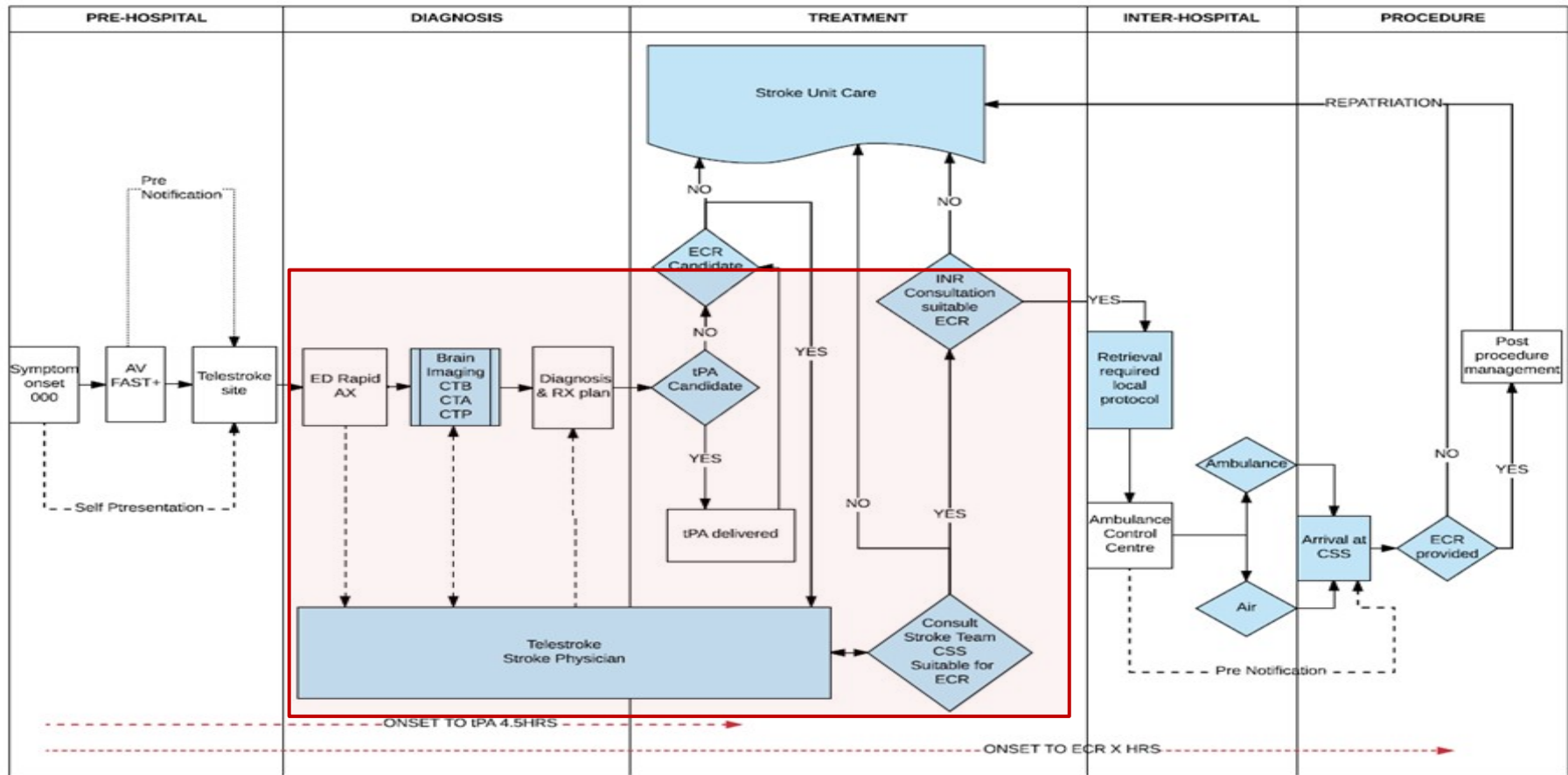


Proof Of Concept - Outcomes



- Establish and evaluate the **Inter-LHD telestroke model**
- Demonstrate ability to **remotely perform stroke assessment, diagnosis and treatment**
- Demonstrate ability to **review timely imaging**
- Implementation of **post processing software** to support
- Establish and evaluate the use of **Skype For Business** as a technology support platform
- Develop a **Telestroke Model** and tool kit for further implementation
- Develop a **Telestroke business case** for escalation to MOH

NSW STROKE MODEL OF CARE - TELESTROKE PATHWAY



Video



<https://vimeo.com/257646502>

THANK YOU



Northern Sector Telestroke Pilot sub- working group

Name	Position
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Bill O'Brien	Stroke Clinical Lead CCLHD
Amanda Buzio	Stroke CNC MNCLHD – Coffs Harbour
Kim Parrey	Stroke CNC MNCLHD- Port Macquarie
James Evans	Neurologist Gosford
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Ashley Young	Telehealth Manager HNELHD
Donna Parkes	ACI Telehealth Manager

QUESTIONS

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