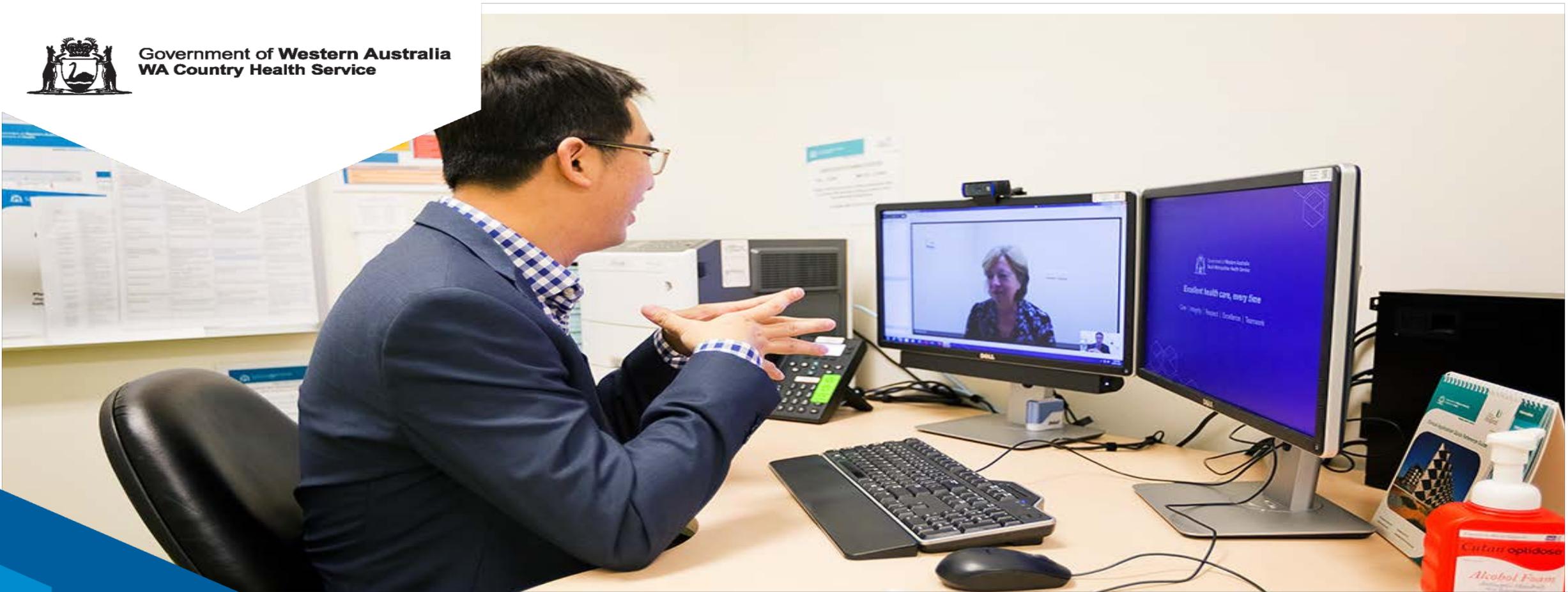




Government of Western Australia
WA Country Health Service



TeleOncology and Overcoming the Barriers

Dr Wei-Sen Lam

Director, Teletrials WACHS

Head of Service, Medical Oncology,
Fiona Stanley Hospital

Medical Oncologist, Esperance
Hospital



I acknowledge the Aboriginal people of the many traditional lands and language groups of Western Australia.

It acknowledges the wisdom of Aboriginal Elders both past and present and pays respect to Aboriginal communities of today



Objectives

- Background of cancer services in regional/remote WA
- Barriers to regional cancer care
- New/Developing services
 - TeleChemotherapy
 - Telelymphoedema
 - Teletrials



Statistics

- Country Aboriginal women are 1.6 more and Aboriginal men are 1.4 times more likely to die from cancer
 - Lung most common in males, 2nd most common in women
 - Breast cancer most common in women
- Regional and Remote areas have the highest cancer death rates
 - 191.8 deaths per 100,000 compared to 166.7 in metro areas (2009-2012)
- Low socio-economic populations
 - WACHS covers are a large area of lower socio-economic status
 - Risk greater (190 vs 149 deaths per 100,000 people)



BARRIERS TO GOOD CANCER OUTCOMES

- Early Presentation
- Timely Diagnosis
- Access to Treatment



BMJ Open Factors contributing to delayed diagnosis of cancer among Aboriginal people in Australia: a qualitative study

Shaouli Shahid,^{1,2} Tiew-Hwa Katherine Teng,² Dawn Bessarab,³ Samar Aoun,⁴ Siddhartha Baxi,⁵ Sandra C Thompson²

- Contextual Factors
 - Socioeconomic
 - Reduced willingness and capacity to access health services resulting in delay to diagnosis
 - Historical
 - Impact of colonisation and racism



- Health Service/system-related factors
 - Access to medical services
 - Availability of doctors/hospitals
 - Lack of culturally safe environment
 - Shortage of aboriginal health professions
 - Retention of health professionals



- Patient appraisal of symptoms and decision-making
 - Symptoms appraisal
 - Cultural factors
 - Fear, shame and denial
 - Psychological trauma



KEYS TO IMPROVING REGIONAL CANCER CARE

- Earlier diagnosis and linkage to cancer service pathways from primary care sector
- Cancer Awareness and Health Promotion
- Adopting alternative innovative models of cancer care using patient navigators and telehealth services



What is the plan?





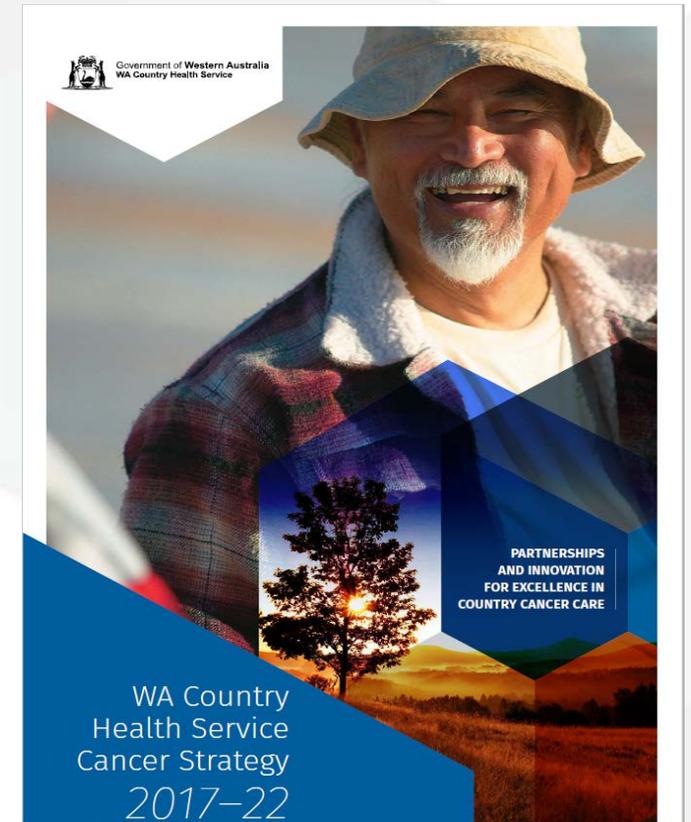
Directions in sustainable health review

- New ways to support equity in country health
- Develop partnerships for Aboriginal health outcomes
- Create and support the right culture
- Greater use of technology, data and innovation to support consumers, clinicians and drive change
- Build financial sustainability, strong governance, systems and Statewide support services



“Right care delivered at the right place close to home”

- Risk of dying from cancer greater in rural and remote areas
- Related to
 - Prevention
 - Timely cancer diagnosis
 - Service access
 - Support of treatment





Right care, right place, right time

- Supported treatment journey for country patients
- Robust governance of country cancer services

Direction | 2

RIGHT CARE, RIGHT TIME, RIGHT PLACE

Evidence based cancer treatment at the right time in the right place by the right team of skilled health professionals.

OUTCOMES

Supported treatment journey for country people

- Patients have timely access to their first specialist appointment and diagnostic tests.
- All patients have a documented specialist multidisciplinary team (MDT) treatment plan in accordance with the optimal cancer care pathway, targeted to their individual needs and shared with the patient's general practitioner (GP).
- Patients receive treatment and supportive services that comply with evidence-based standards and guidelines.
- Cancer treatment services for common cancers are provided closer to home and on country wherever possible and patients are supported to access travel subsidies.
- Patients are provided with a treatment summary and follow-up care plan post treatment.
- Patients are screened for psychosocial distress and supportive services are accessible to all patients and their families.

Robust governance of country cancer services

- WACHS has formal service agreements with Metropolitan Health Services that clearly document referral and care pathways for country cancer patients and shared access to patient records between each WACHS region and the state cancer centres.
- Each WACHS region has developed and implemented a clinical services plan that details the level of cancer care to be provided, congruent with the **WA Health Clinical Services Framework 2014-2024**.
- A WACHS Cancer Clinical Governance Group supports evidence-based cancer care, governance and models across all WACHS regions; monitoring, evaluation and benchmarking of regional cancer services; and shares the organisation's performance with communities.
- Consumers participate in the evaluation of country cancer services.



Medical Oncologist Wai San Lam is the Clinical Lead for WACHS TeleOncology service, helping country cancer patients have better access to healthcare.



Innovation, Technology and Partnerships

- Telehealth
- New services in new locations with innovative delivery of cancer services
- Better knowledge sharing, partnerships and research

Direction | 4

INNOVATION, TECHNOLOGY AND PARTNERSHIPS

The use of innovative technology, new services and partnerships to expand cancer services across all regions will bring care closer to home and on country for WACHS patients.

Telehealth is driving innovation in country cancer care. TeleOncology enables country patients to have appointments with their cancer specialists via telehealth from their nearest town. TeleChemotherapy allows country patients to receive chemotherapy locally, supervised by cancer specialists and nurses using telehealth, reducing the need for patients to be away from home during treatment.

Partnerships in cancer research and development will be nurtured and translated into policy and practice for country cancer services. Where new service models are introduced, they will be rigorously evaluated to ensure they meet the needs of patients and the local community.

OUTCOMES

New services in new locations

- Narrogin and Northam have new Regional Cancer Units.
- The Kimberley and Pilbara regions have new low risk chemotherapy and supportive treatment services, where there were previously no existing cancer treatment services.
- The Midwest, Goldfields and Great Southern regions have access to radiation oncology and haematology consultation services.
- South West patients have improved access to publicly funded cancer diagnostics, consultation and treatment services.

 *“There is real potential to change the treatment experience of country patients, to enable them to attend some of their outpatient clinics from their home towns.”*

Medical Oncologist, Fiona Stanley Hospital





WHAT ARE THE PROBLEMS?





BARRIERS TO TELEHEALTH

- Health Professionals
 - Preference of traditional way of providing medical services
 - Lack of trust in technologies
 - Telehealth is time consuming
 - Lack of IT skills
 - Lack of incentives
 - Malpractice liability



- Technology
 - Equipment
 - VC Platform
 - Internet
 - Staff to support telehealth



INFRASTRUCTURE

- Development of working party
- Meeting stakeholders
- Procurement of equipment



CLINICAL ENGAGEMENT

- Meet people

84% increase in TeleOncology service events (16/17 to 18/19)



WHAT HAVE WE ACHIEVED?





TELECHEMOTHERAPY

- WA TeleChemotherapy Model
 - Based off QReCS
 - WACHS TeleChemotherapy Guideline endorsed outlining model & treatment protocols accepted
 - Pathway and workforce;
 - Referral into service & suitability triage
 - Review by Medical Oncology via telehealth
 - Supervision by senior chemotherapy competent nurse
 - Oversight by senior oncology pharmacist
 - Administration of chemotherapy by local upskilled nursing staff





KEY REQUIREMENTS

- Strategy and governance
- Financial Considerations
- Workforce
- Oncology systemic therapies management
- Telehealth readiness
- Oncology systemic therapies readiness
- Digital Health
- Hazardous chemical legislation and considerations
- Education and training
- Documentation and discharge



TeleChemotherapy in QLD





Government of Western Australia
WA Country Health Service

INTERNAL MEDICINE JOURNAL



Medical oncology clinics through videoconferencing: an acceptable telehealth model for rural patients and health workers

S. Sabesan,^{1,2} K. Simcox¹ and I. Marr²

¹Department of Medical Oncology, Townsville Cancer Centre, The Townsville Hospital and ²School of Medicine and Dentistry, James Cook University, Townsville, Queensland, Australia



Comparison between face to face and videoconferencing

- “Consultation looks smooth and spontaneous”
- “Rapport and relationship are easily established”
- “Because patients are in their own environment with family members present with local health workers accompanying them, they are relaxed enough to be engaged”



Potential problems

- Coordination is important for smooth running
- Minor hearing difficulties could arise, but attending team members could fill in the gaps
- Doctors with lack of communication skills will find it difficult to engage with patients
- Technical difficulties could be frustrating



Commentary

Are teleoncology models merely about avoiding long distance travel for patients?

S. SABESAN, BMBS, FRACP, Townsville Cancer Centre @ Tropical Centre for Telehealth Practice and Research, Townsville Hospital, Townsville, and College of Medicine and Dentistry, James Cook University, Townsville, & J. KELLY, RN, RM, BN, MA, MPH, PHD, College of Medicine and Dentistry, James Cook University, Townsville, and Centre for Nursing and Midwifery Research, James Cook University, Townsville, Australia

- Benefit of avoiding inconvenience of long distance of travel
- Patients and clinicians need to be assured that the quality of service is the same
- Positive responses for quality of consultation, communication and relationships, familiarity with technology and local support
- Improvement in waiting times, rural service capability



Do teleoncology models of care enable safe delivery of chemotherapy in rural towns?

- Assessment of dose intensity and toxicity profiles for patients undergoing chemotherapy in a tertiary centre vs remote chemotherapy unit

3 Chemotherapy doses and rates of side effects, by treatment intent and hospital

	Palliative (116 patients)		Curative/adjuvant (90 patients)	
	Mount Isa	Townsville	Mount Isa	Townsville
Number of patients	55	61	34	56
Cycles per line (mean ± SD)	4.37 ± 2.41	4.47 ± 5.20	7.0 ± 5.02	5.70 ± 4.29
Number of lines (mean ± SD)	1.44 ± 0.76	1.45 ± 0.75	1.08 ± 0.29	1.27 ± 0.55
Total number of cycles	367	388	259	411
Rate of serious side effects (per patient)	5.4%	15%	2.9%	3.6%
Hospital admissions				
Total number	24	33	6	17
Proportion of patients	36%	43%	15%	27%
Dose intensity, percentage* (mean ± SD)	97.4 ± 24.0	98.2 ± 16.1	84.4 ± 25.9	88.1 ± 25.9

*Actual dose, compared with planned dose. $P > 0.05$ for all between-group comparisons. ♦

- No significant differences in demographic characteristics, mean number of treatment cycles, dose intensities, side effects and hospital admissions

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Research

Cost savings from a telemedicine model of care in northern Queensland, Australia

Abstract

Objective: To conduct a cost analysis of a telemedicine model for cancer care (teleoncology) in northern Queensland, Australia, compared with the usual model of care from the perspective of the Townsville and other participating hospital and health services.

Design: Retrospective cost–savings analysis; and a one-way sensitivity analysis performed to test the robustness of findings in net savings.

Participants and setting: Records of all patients managed by means of teleoncology at the Townsville Cancer Centre (TCC) and its six rural satellite centres in northern Queensland, Australia between 1 March 2007 and 30 November 2011.

Main outcome measures: Costs for set-up and staffing to manage the service, and savings from avoidance of travel expenses for specialist oncologists, patients and their escorts, and for aeromedical retrievals.

Results: There were 605 teleoncology consultations with 147 patients over 56 months, at a total cost of \$442 276. The cost for project establishment was \$36 000, equipment/maintenance was \$143 271, and staff was \$261 520. The estimated travel expense avoided was \$762 394; this figure included the costs of travel for patients and escorts of \$658 760, aeromedical retrievals of \$52 400 and travel for specialists of \$47 634, as well as an estimate of accommodation costs for a proportion of patients of \$3600. This resulted in a net saving of \$320 118. Costs would have to increase by 72% to negate the savings.

Conclusion: The teleoncology model of care at the TCC resulted in net savings, mainly due to avoidance of travel costs. Such savings could be redirected to enhancing rural resources and service capabilities. This teleoncology model is applicable to geographically distant areas requiring lengthy travel.



Cost savings from a telemedicine model of care in northern Queensland, Australia

MJA 199 (6) · 16 September 2013

1 Costs of the Townsville teleoncology model over 56 months from 1 March 2007 to 30 November 2011

Type of cost	Cost per centre	Cost for six centres	Total
Project establishment	\$6 000	\$6000 × 6	\$36 000
Equipment	\$20 376	\$20 376 × 6	\$122 256
Maintenance	\$750 per year	\$750 × 6 × 4.6	\$21 015
Communication	0	0	0
Teleoncology coordinator for TCC	\$48 000 per year	\$48 000 × 4.6	\$224 160
Nurse in Mt Isa (0.1 FTE)	\$8 000 per year	\$8 000 × 4.6	\$37 360
Total cost for the study period			\$442 276

TCC = Townsville Cancer Centre. FTE = full-time equivalent. ◆

3 Estimation of savings of Townsville teleoncology model over 56 months from 1 March 2007 to 30 November 2011

Description of expenses prevented	Calculation of cost	Total
Return travel cost for patient and one escort to Townsville*		\$658760
Mt Isa	516 × 2 × \$600 = \$619200	
Hughenden	11 × 2 × \$260 = \$5720	
Winton	21 × 2 × \$320 = \$13440	
Doomadgee	3 × 2 × \$1150 = \$6900	
Normanton	8 × 2 × \$480 = \$7680	
Mornington Island	4 × 2 × \$580 = \$4640	
Palm Island	1 × 2 × \$110 = \$220	
Karumba	1 × 2 × \$480 = \$960	
Overnight accommodation in Townsville† (10% of total consultations)	\$60 × 2 × 30	\$3600
Urgent aeromedical retrieval of four patients from Mt Isa	\$13 100 × 4	\$52400
Specialist/registrars travel once every 3 weeks for 56 months‡	17 × \$600 × 4.67	\$47634
Total savings for the study period		\$762394

* Number of consultations × 2 (patient and escort) × return travel cost. † 10% of total consultations × 2 (patient and escort) × the subsidy amount. ‡ Number of visits per year × return travel cost. ◆



Living with cancer in outback Queensland

ABC North West Qld By Harriet Tatham

Updated Mon 8 Aug 2016, 12:06pm



PHOTO: Hughenden Hospital has just 15 beds, servicing a population of 1,000 residents, including cancer patient Jane Charuba. (ABC North Qld: Harriet Tatham)

Jane Charuba lives in Hughenden, outback Queensland — 400 kilometres from the nearest city and 400 kilometres from the nearest oncology unit.

RELATED STORY: Townsville tele-health chemotherapy helps beat cancer in the bush

Regular treatments delivering better health outcomes

The world-first rural chemotherapy service was introduced to Hughenden Hospital in April 2016.

Local nurses communicate via video-link with oncologist and program lead Sabe Sabesan, enabling Hughenden's sole cancer patient to have life-saving medical treatment from home.

Ben Lawrence, director of nursing at Hughenden Hospital, said the service was drastically improving patient care.

"The specialists in Townsville video-conference in, and the patient can be sitting here in their home town receiving the treatment they would usually receive in a tertiary hospital," he said.

Maintaining normalcy while living with cancer

Queensland Health said tele-chemotherapy was currently run out of four tertiary hospitals, servicing 14 rural communities and around 60 cancer patients.

Ms Charuba said while remote treatment could seem daunting, it had enabled her to live a normal life.

"I drive myself to the hospital and I drive myself home, or I go back to the shop after chemo, and I'm not feeling terrible," she said.

Best option for remote patients

Ms Charuba said tele-chemotherapy was a small step towards tackling rural disadvantage.

"Instead of trying to move people to the cities and overcrowd the cities, they should be pushing these services to the bush, because this is the people that grow our food," she said.

"This is the best option for remote chemo patients."



Telehealth service saves lives and time on the road in regional NSW

ABC Western Plains | By Jen Browning

Posted Fri at 7:06am



PHOTO: Steven Mills can now have life-saving chemotherapy in Coonabarabran thanks to a telehealth trial.
(ABC Western Plains: Jen Browning)

When Steven Mills was diagnosed with cancer more than a decade ago, he had to drive more than four hours to receive his chemotherapy treatment in Dubbo.

Cancer patient Steven Mills estimates he's avoided driving 4,500km since November by receiving treatment via telehealth

Dr Honeyball said it had already saved patients' lives, who otherwise would have refused treatment if they had to travel.

"I have had patients say that they would have elected not to have life-extending treatment had they needed to travel to Dubbo," he said.

Percey Milson is 72 and has stage 4 lung cancer. He used to have to travel to Tamworth for treatment and had it not been for the Coonabarabran service, he said he would have stopped treatment by now.

"I'd get home from Tamworth at 8 o'clock at night and I'd be buggered, I'd have to sleep for two days," he said.



Cancer treatment video link trial to save patients the 1,500km trek to Perth for chemotherapy

ABC Pilbara By Rebecca Parish

Posted Thu 26 Sep 2010, 9:45am



PHOTO: Clinical nurse manager Susan Niewoudt consults with Perth oncologist Dr Wei-Sen Lam via telehealth. (ABC Pilbara: Rebecca Parish)

"To be given this opportunity, to be able to finish the treatments actually in my home town, just takes away some of that stress that you get with the whole journey of the cancer," she said.



TeleChemotherapy comes to Narrogin and Broome

28.04.2020 08:22 Age: 12
days

- Low-risk chemotherapy via telehealth now available at Narrogin Health Campus and Broome Hospital
- Care closer to home for eligible Kimberley and Wheatbelt cancer patients
- Kimberley travel restrictions make the availability of TeleChemotherapy in Broome vital to some local cancer patients

Innovative telehealth technology and a skilled local workforce have created the opportunity for low-risk chemotherapy services to be administered at Broome Hospital, as well as the newly redeveloped \$50 million Narrogin Health Service.



L-R: Monique Fitzpatrick (TeleChemotherapy Nurse), Noel Swart (patient), Jesmyne Galanti (TeleChemotherapy Nurse), Dr Wei-Sen Lam (Medical Oncologist).



Narrogin Observer

Video boon for chemo patients

Kellie Balaam Narrogin Observer

Thursday, 7 May 2020 1:48PM



 NHS nurse director Kerry Fisher and clinical nurse manager Claire O'Dea with the new telehealth system.



Low-risk chemotherapy has just got more efficient for local patients, with innovative telehealth technology now available at the Narrogin Health Service.

TeleChemotherapy is a model of care that enables some cancer patients to receive low-risk chemotherapy locally with the support of specialist Perth-based clinicians via videoconferencing technology.



TELELYMPHOEDEMA

- A partnership between WA Country Health Service Great Southern and Goldfields regions and Fiona Stanley Hospital.
- Aims to improve clinical care of malignancy related lymphoedema for breast cancer patients by increasing timely and equitable access to specialist lymphoedema support.
- 3 VC upskilling sessions delivered to WACHS allied health staff
- First patient referral received October 2019

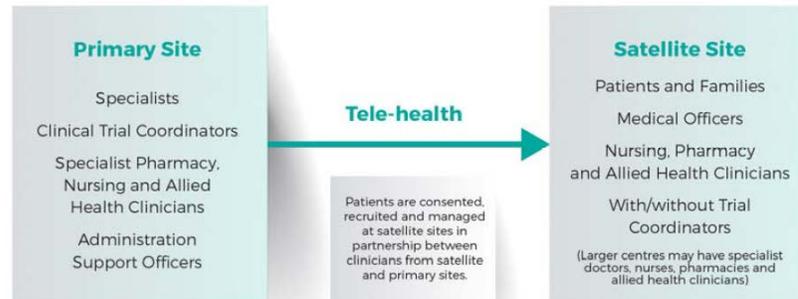




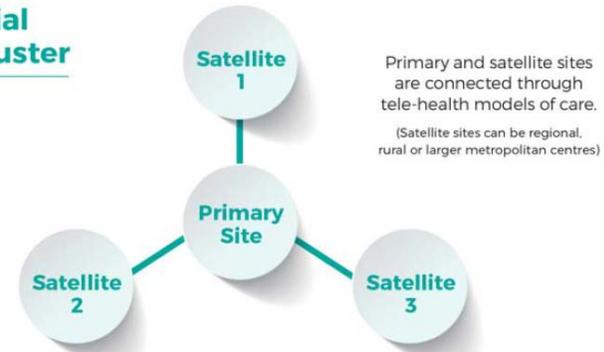
TELETRIALS

- Australasian TeleTrials Model developed by the Clinical Oncology Society of Australia Regional and Rural Group
- Use of telehealth to connect regional and rural sites to major centres and provide trial medications closer to home.

Australasian Tele-trial Model



Trial Cluster

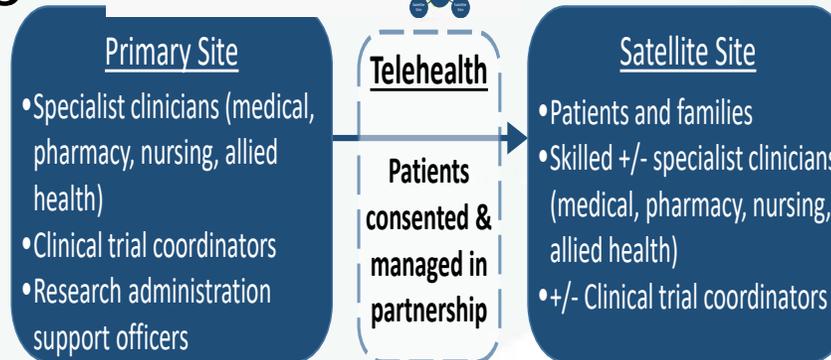
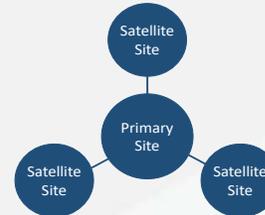


This project is supported by the Western Australian Health Translation Network and the Australian Government's Medical Research Future Fund (MRFF) as part of the Rapid Applied Research Translation program.

Australian Teletrial Program

Regional Clinical Trial Coordinating Centres

- Queensland
- Victoria
- Tasmania
- South Australia
- Western Australia
- Northern Territory



National Components

- Policy harmonisation
- Education & regional capacity building
- Incentives program
- Program evaluation
- National governance





- Medical Research Future Fund (MRFF) grant to develop the Australian Teletrial Program
- Future priorities:
 - Establishment of Regional Clinical Trial Coordinating Centre (RCCC)
 - Educational and training
 - Support Satellite sites
 - Develop support for logistics such as corer and transportation of medications
 - Policy Harmonisation
 - Incentives Program





Closing Remarks

- Increased engagement, passion and drive to improve services
- Evidence shows similar clinical outcomes with increased benefits to patients
- Innovation is key