

Telehealth as core business

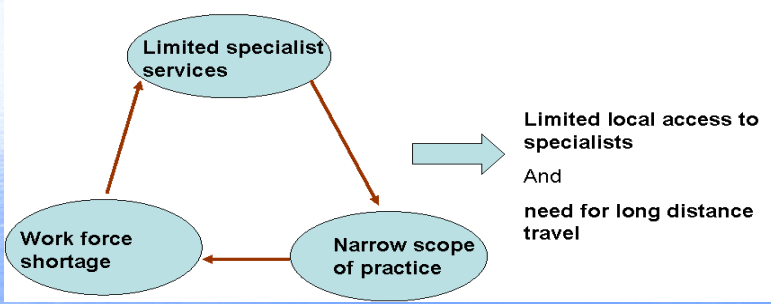
A/Prof Sabe Sabesan,
Clinical Dean,
Townsville Clinical School, James Cook University

Senior Staff Medical Oncologist,
Townsville Cancer Centre,

Program lead,
Tropical Centre for Telehealth Practice and Research,
Townsville Hospital



Main issue is disparity in access to specialist services by rural and remote patients



This is where Telehealth proves to be a solution for all clinicians and managers

Specialty	Setting	Type of services
Neurology ¹⁶	Rural/remote Community hospitals	<ul style="list-style-type: none"> • Consultation • Supervision of thrombolysis
Medical Oncology ^{14,17,18}	Rural/remote	<ul style="list-style-type: none"> • New, routine and urgent consultations • Supervision of chemotherapy
Diabetes ¹⁹	Home, rural/remote and community	<ul style="list-style-type: none"> • Consultations • Monitoring of diabetes control
Nephrology ²⁰	Home, rural/remote and community	<ul style="list-style-type: none"> • Consultations • Monitoring of dialysis
Geriatrics ¹²	Nursing homes, rural/remote, community	<ul style="list-style-type: none"> • New and review consultations

Table 1: Summary of telehealth in selected internal medicine sub-specialities

Many other fields

Paediatrics,

Surgery,

Mental health,

Radiology,

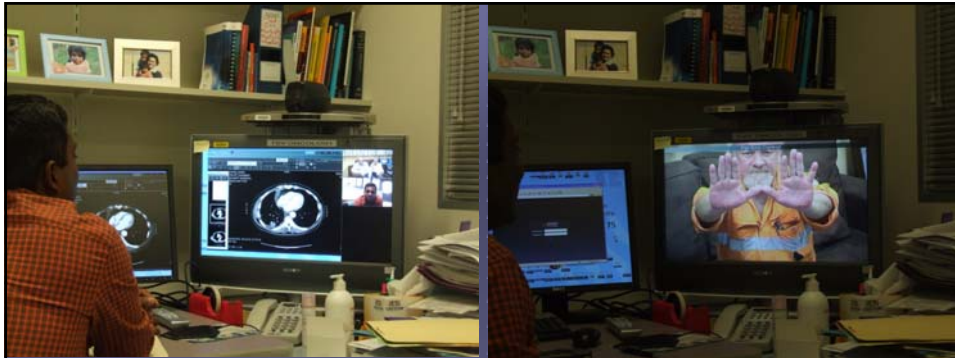
Dermatology

Emergency

O&G

And the list goes on.

Include nursing and allied health.



Models of care:

1. Telehealth complementing FTF and outreach,
2. Telehealth replacing FTF (TSV-Mt ISA model, J telemedicine and telecare 2014)
3. Telehealth for reviews
4. Multidisciplinary meetings



Since the service began^{1,2}:

- 200 patients, including 30 Indigenous patients, in >1000 consultations
- The last 80 patients were managed solely via video link
- 12 urgent cases, treated urgently in Mount Isa via V/C, avoiding transfer.----now ward rounds, ward consults
- 95 patients were treated with chemotherapy in Mount Isa.
- Locum cover for Mackay and Cairns

Sabesan S et al, Videoconferencing for medical oncology: acceptable model for patients and health workers, *Internal medicine journal*, 2012, 42(7):780-785.

Sabe Sabesan and Sean Brennan , Chapter 13, title: Tele oncology for cancer care in rural Australia, page 289-306, Book: Telemedicine techniques and applications (ISBN 978-953-307-354-5), In Tech publishers 2011².

J Mooi, L Whop ,P Valery ,S Sabesan, Teleoncology: Indigenous perspective, *Aust J rural health*, 2012,20:265-269

Sabesan S et al, Telemedicine for cancer care in NQ: bringing cancer care home, *Aust J rural health*, 2012,20:259-264.

Satisfaction studies

Small studies, consistently showing satisfaction by patients and health professionals

Cost benefits

Systematic reviews of pooled studies suggest “cost benefit is inconclusive”

Two Australian studies of services covering large travel distances report savings: Smith et al (BMC health service research), Thaker et al(MJA).

Cost effectiveness or cost comparison

Type of cost	Cost per centre (AUD)	Cost for 6 centres	Total (AUD)
Project establishment	6000	6000 x 6	36000
Equipment	20376	20376 x 6	122256
Maintenance	750 per year	750 x 6 x 4.6	21015
Communication	0	0	0
Teleoncology coordinator for TCC*	48000 per year	48,000 x 4.6	224160
Nurse in Mt Isa(0.1FTE)	8000 per year	8000 x 4.6	37360
Total cost for the study period			442,276

*TCC, Townsville Cancer Centre; Study period was 4.6 years.

Description of expenses prevented	Calculation of cost	Total (AUD)
Return travel cost for patient and one escort to Townsville.	Mt Isa: 516 x 2 x 600 = 619200 Hughenden: 11 x 2 x 260 = 5720 Winton: 21 x 2 x 320 = 13440 Doomadgee: 3 x 2 x 1150 = 6900 Normanton: 8 x 2 x 480 = 7680 Morrington Island: 4 x 2 x 580 = 4640 Palm Island: 1 x 2 x 110 = 220 Karumba: 1 x 2 x 480 = 960 120 x 30	658760
Overnight accommodation at Townsville (10% of total consultations)		3600
Urgent aeromedical retrieval of four patients from Mt. Isa	13100 x 4	52400
Specialist/registrar travel once every three weeks for 4.6 years	17x600 x 4.6	47634
Total savings for the study period(4.6y)		762,394

Thaker, Olver and Sabesan, MIA 2013.

Safety of remote supervision of chemotherapy:

Same dose intensities and toxicities as the literature

Comparison with Townsville reveal same findings.

Chan B and Sabesan S, Safety of remote supervision of chemotherapy using teleoncology, Proceedings of COSA 2012.

Telestroke studies report same outcomes and same rate of complications.

Accuracy of diagnosis and clinical findings

Proxy for physical examination,

Use of other information including radiology images,

Observation

Scandinavian Head and neck cancer study-

High concordance rates between remote assessment and in-person assessment

Improvements in timeliness of access

AJRH,2014:22,156-159.

Pre 2007: all patients needed to travel to Townsville,

2007-2009:

Travel to Townsville for first review, 90% of new Townsville patients seen within one week

Median waiting time for Mt Isa patients was 17 days(7-28 days), 50% within one week

Patient group	Number
Requiring in-patient inter hospital transfers from Mt Isa to Townsville	6
Requiring flights within one week for outpatient clinic review in Townsville	8
Deemed unfit for flying and referred to palliative care in Mt Isa	3
Requiring reviews through routine clinic process	43
Total	60

2009: No need for travel policy

Nature of new patients in relation to urgency of reviews: 2009-2011

Nature of referral of new patients	Number	Number of patients seen within one week of referral	Examples of cancers
urgent reviews	11	11/11 (All within 24 hours)	Metastatic SCLC, NSCLC, H&N, Colon and GTD
routine clinic referral process	59	54/59	Most types
Total	70	65/70(93%)	

SCLC-Small cell lung cancer, NSCLC-Non small cell lung cancer, H&N-Head and neck cancer, GTD-Gestational trophoblastic disease

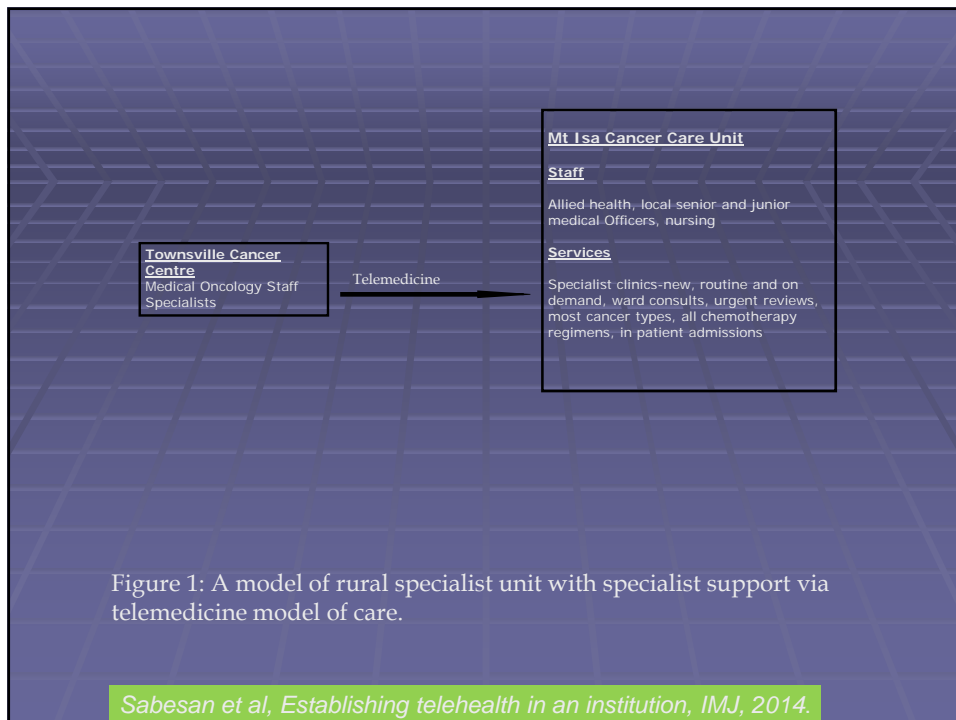
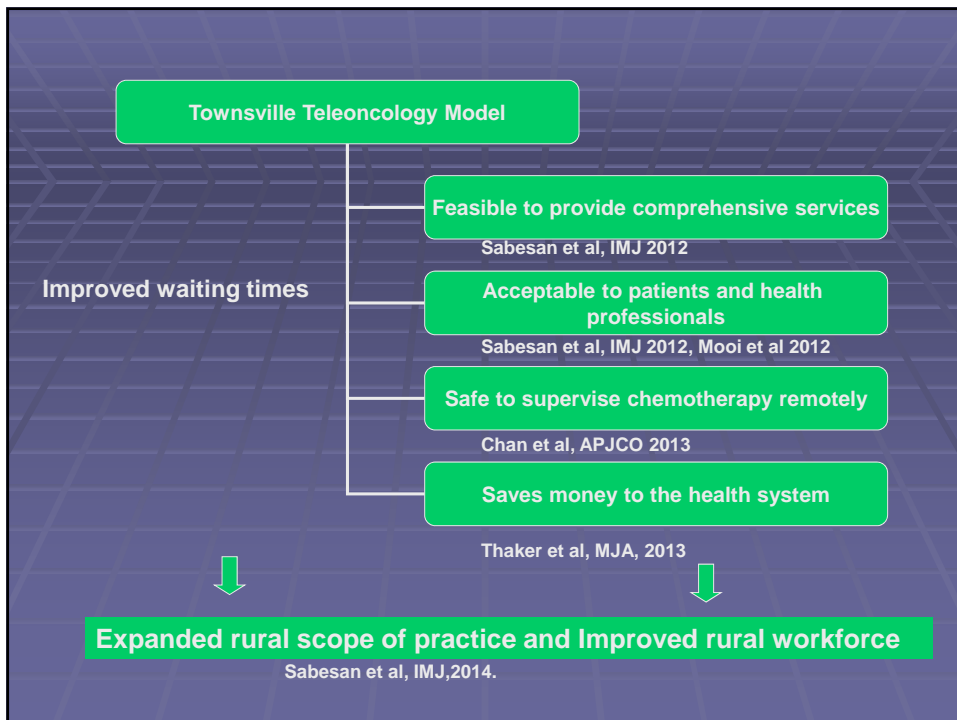
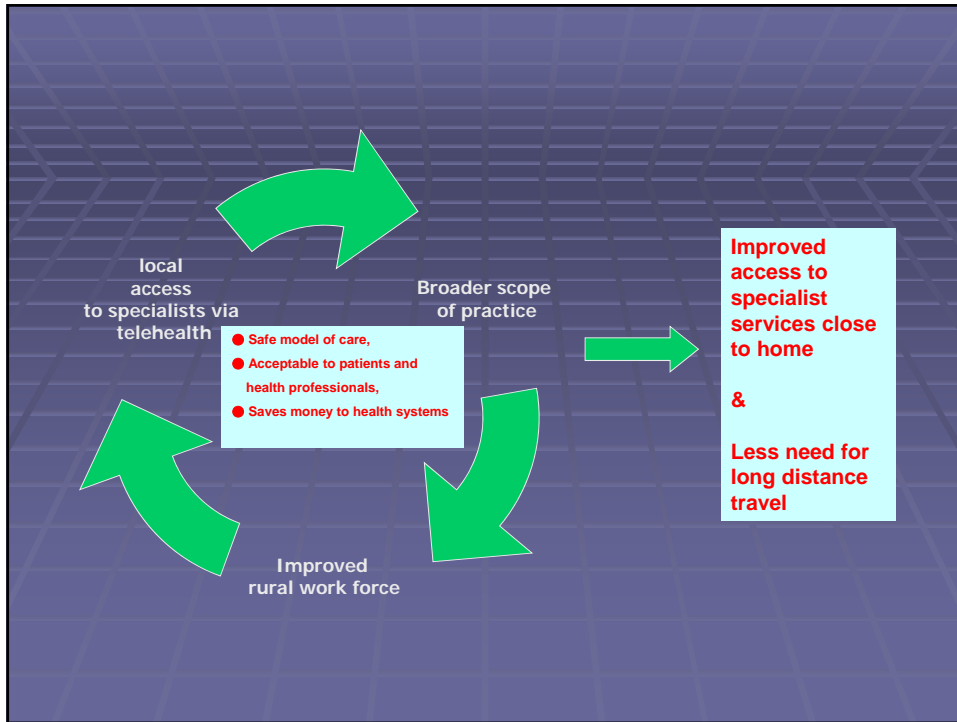


Figure 1: A model of rural specialist unit with specialist support via telemedicine model of care.

Sabesan et al, Establishing telehealth in an institution, IMJ, 2014.



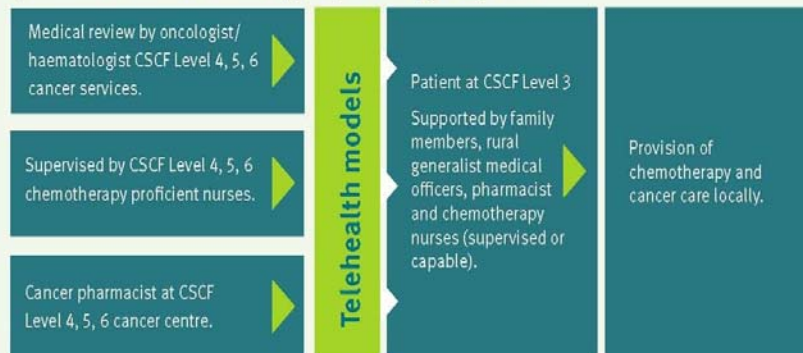
Integrating telehealth into core business of HHSs, departments and clinicians.

suggestions from personal experience:

1. Resources for rural site-aim to build rural systems
2. Resources(admin and IT support and others) for providing site remembering the fact that telehealth consultations are not entirely “new activities”
3. Define appropriate KPIs for HHSs, departments and clinicians
 - standing agenda items in departmental and hospital management meetings
 - job descriptions to reflect telehealth, teaching and research
4. Clear governance on models of care, training and QA activities
5. Maximise revenue from medicare, ABF and QH
6. Reinvest savings on travel subsidy schemes in growth of the models

New models of care

Queensland remote chemotherapy supervision (QReCS) model



CSCF = Clinical Services Capability Framework (Cancer Services)



Professional support and supervision

- Telesupervision is one option
- Every case is a training case in telehealth and skills is transferred
- Increased graduate numbers ---need for creating training places at rural sites---until adequate number of supervisors are attracted to these sites--- alternative supervision models are needed.

Qualitative study of the Townsville Teleoncology model of supervision

5 Major Themes

Sub-themes

- 1. Positive learning environment
- 2. Beginning the learning relationship
- 3. Stimulus for learning
- 4. Costs
- 5. Practicalities of Telesupervision

Summary:

Enough evidence for the place of telehealth models in health care,

Implementation requires appropriate KPIs and adequate resources

Look for new models of care

