

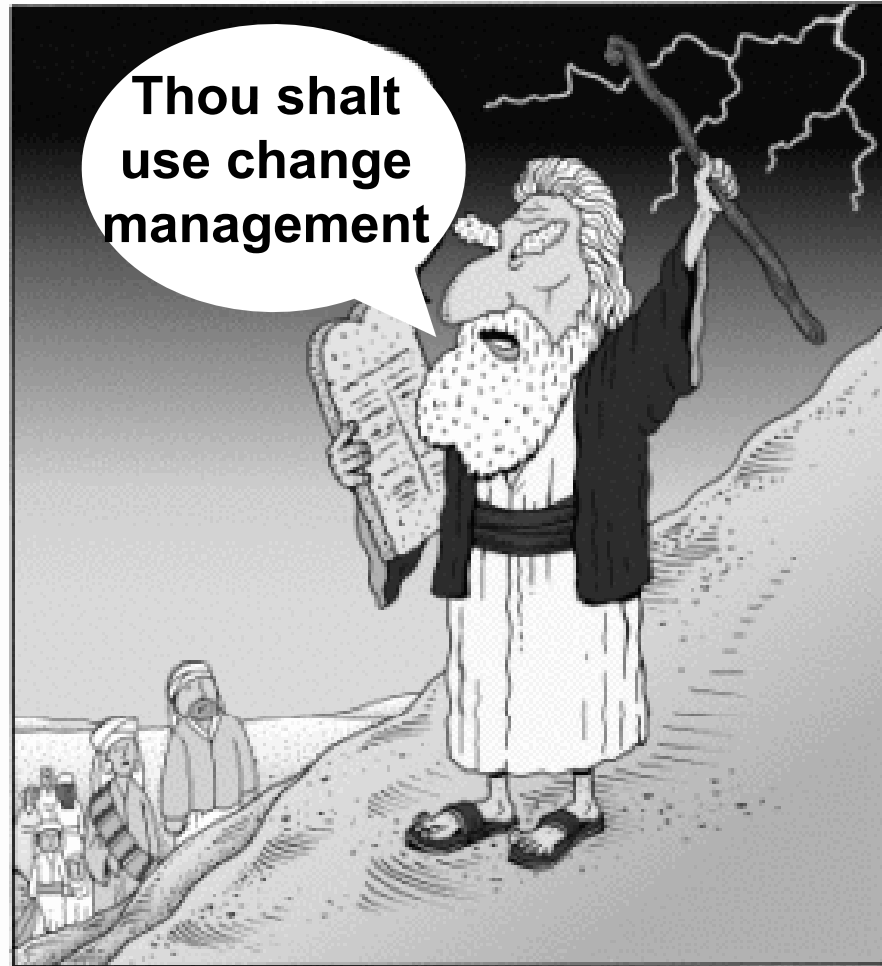
Telemedicine in KwaZulu-Natal

the Past, the Present, the Future

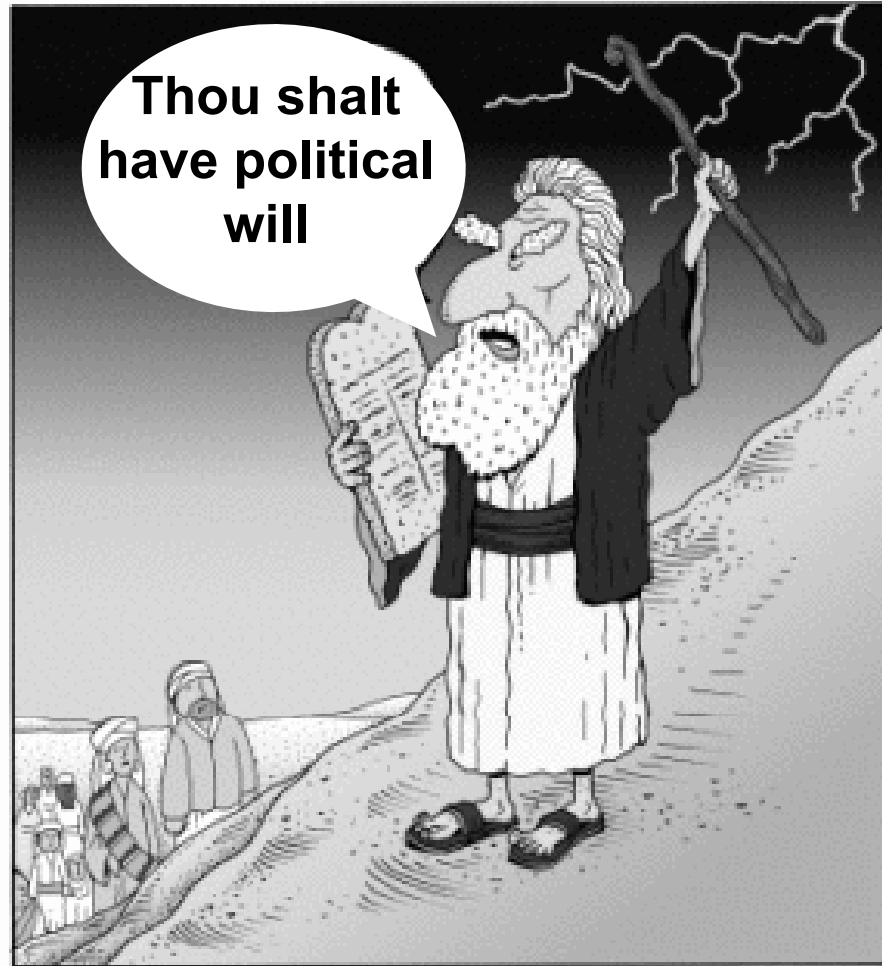
Maurice Mars

Dept of TeleHealth
Nelson R Mandela School of Medicine

The Eleventh Commandment



The Twelfth Commandment



Telemedicine

**“the use of medical information
exchanged from one site to another
via electronic communications to
improve patients' health status.”**

American Telemedicine Association



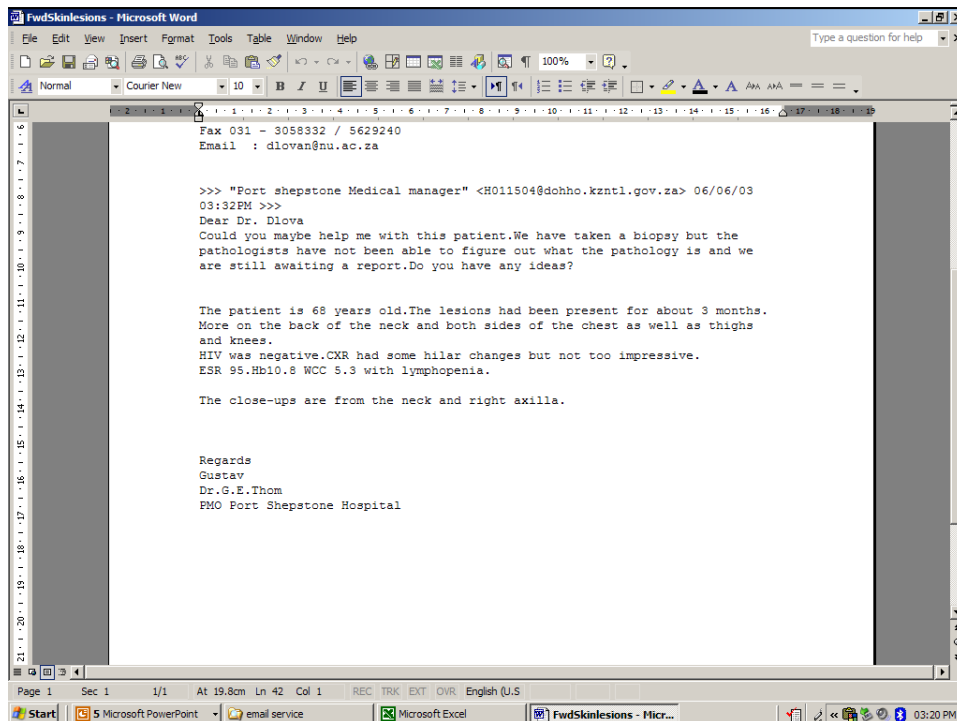
Underlying Principles of Telemedicine

The interaction can be
Live = **synchronous** or realtime



Underlying Principles of Telemedicine

Pre-recorded = asynchronous or
Store and forward



The Problem



Telemedicine - A Possible Solution ?



**No prior scans available for comparison.
In my experience such an appearance
warrants urgent surgical intervention.**



Telemedicine

Improved rural healthcare

Reduce transportation

Increase access to specialists

Support isolated doctors

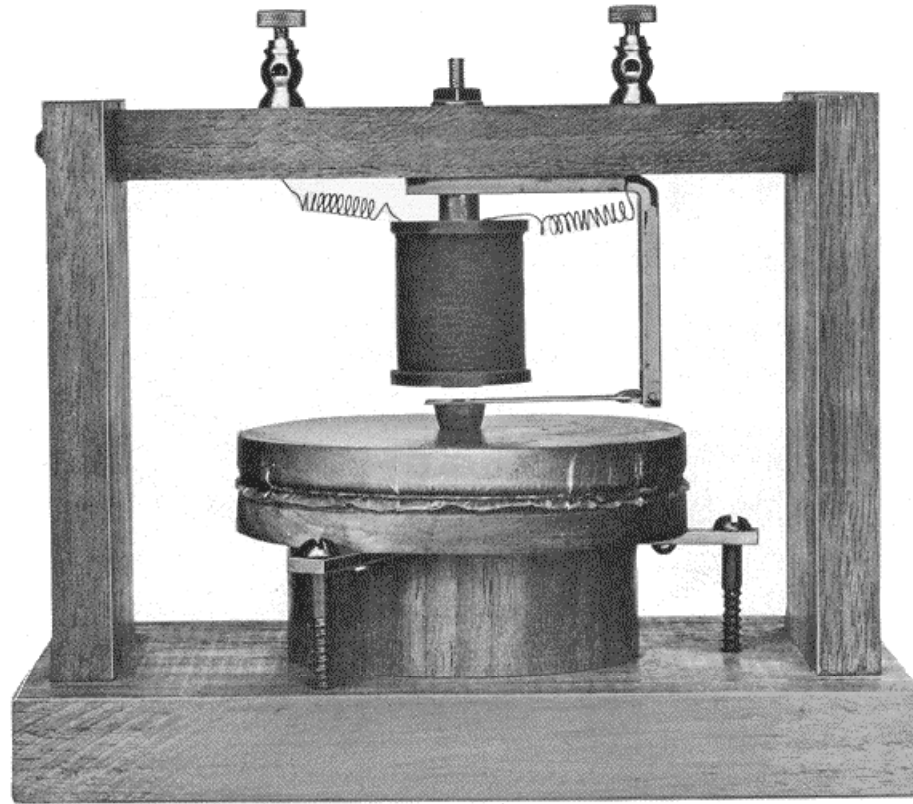
Overcome Dr shortages

Deliver education

Facilitate research



Telemedicine History



Telemedicine History



Telemedicine History



Willem Einthoven

Telecardiogram

Trans – phone ECG

Arch Internat Physiol 1906

TelePsychiatry History

1953 - Tucker in California used CCTV as a tool for “mass therapy” because of the “increasingly difficult situation of overcrowding and understaffing faced by most mental hospitals”



Electrotherapy Education - 1955



Telemedicine – The Start



health

Department:
Health
REPUBLIC OF SOUTH AFRICA

ISDN based 256 kbs⁻¹

Store and forward teleradiology

Antenatal Tele-ultrasonography

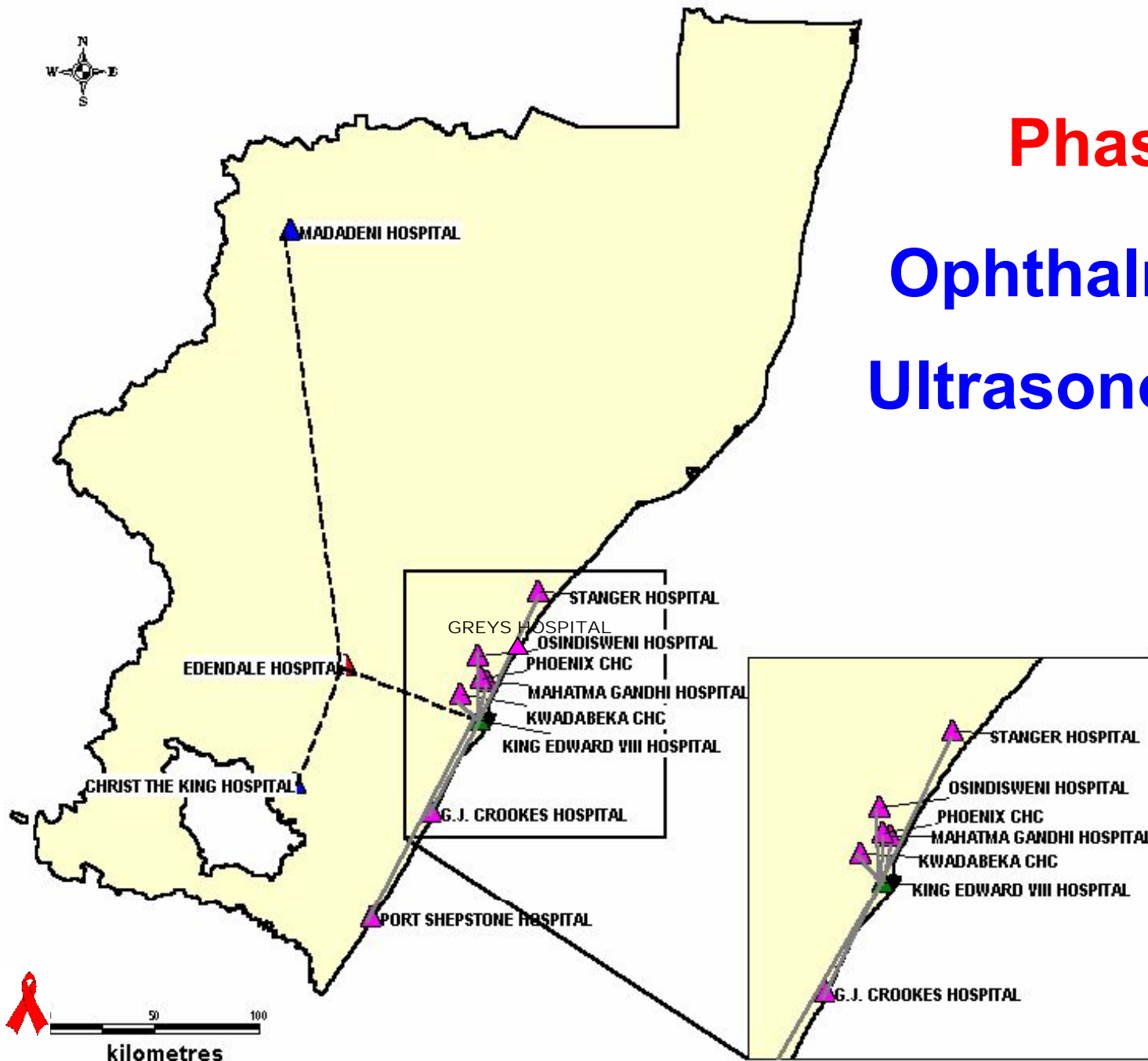
Telepathology

Tele-ophthalmology

KWAZULU-NATAL TELEMEDICINE SITES

Phase 1

**Ophthalmology
Ultrasonography**





Telemedicine in South Africa: success or failure?

S M Gulube* and S Wynchank†

*Medical Research Council, Pretoria; †Medical Research Council, Cape Town, South Africa

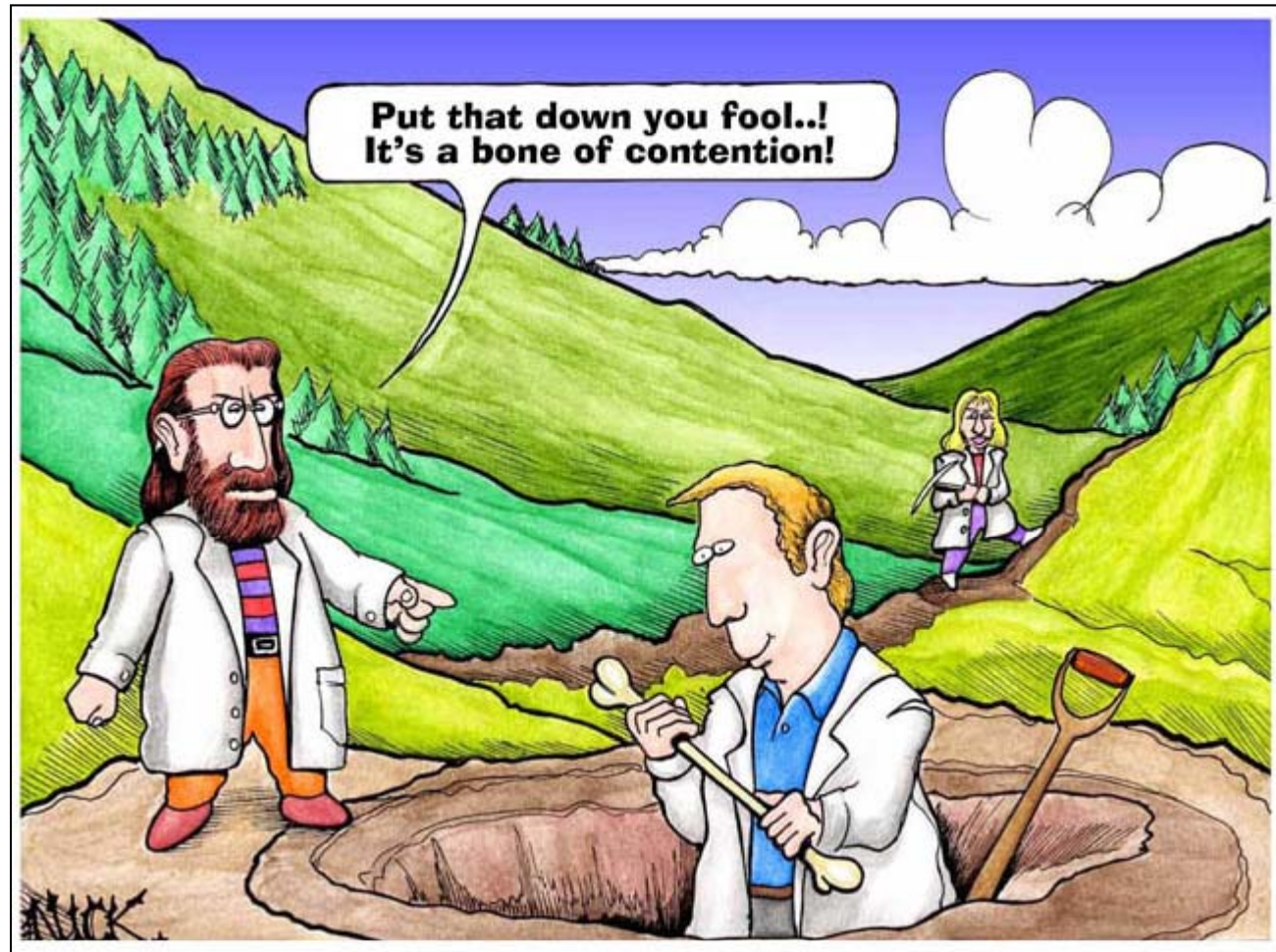
**“Problems relate to the technical and
organizational challenges...”**

J Telemed Telecare 2001

Telemedicine a Solution ?



Telemedicine in the Developing World



The Problem



**Can one justify
spending money
on ICT solutions ?**



Reasonable Expectations



Realistic or Idealistic

Pragmatic or Impractical

Beware the enthusiast



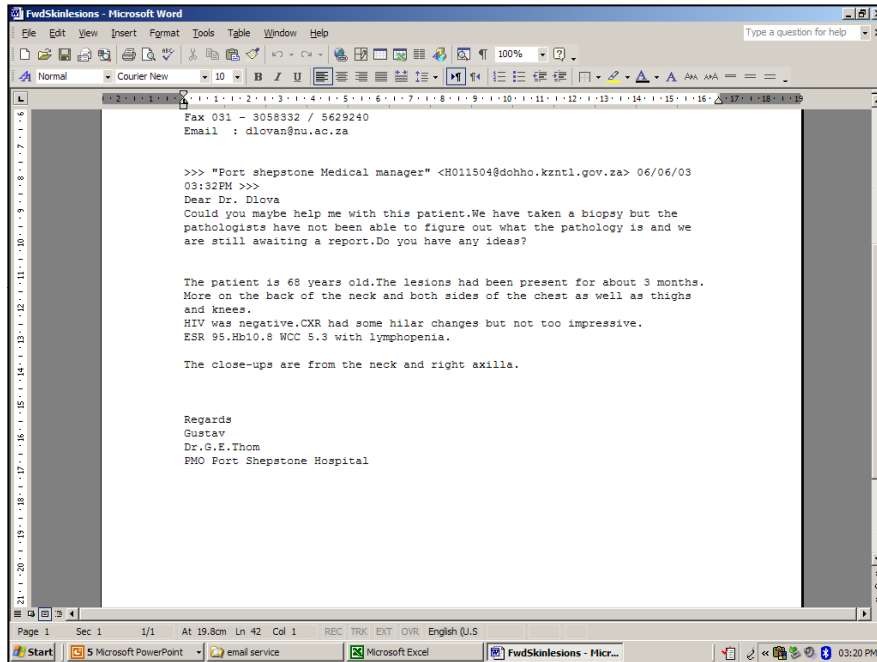
Reasonable Expectations ?



Remote telesurgery



Reasonable Expectations ?

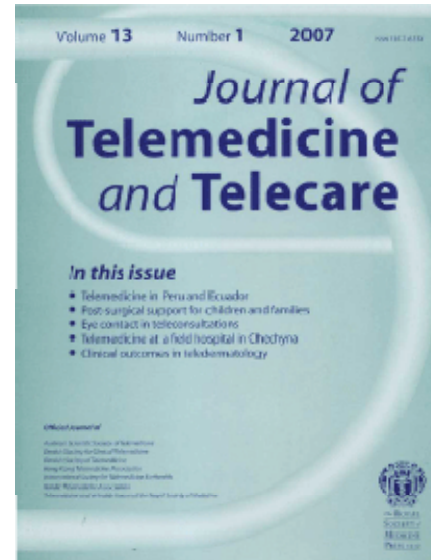
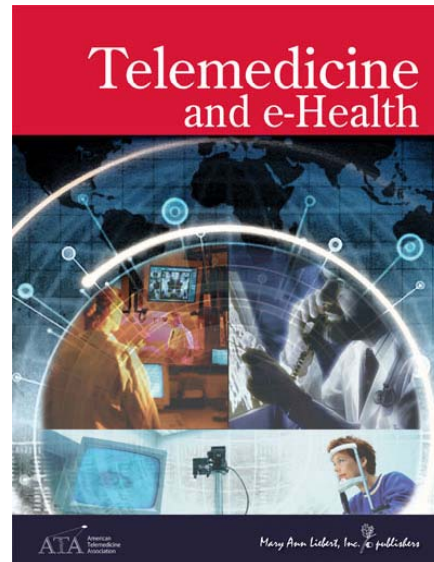


**eMail based
store and forward telemedicine**



Expectations

Reviewed all papers and
conference abstracts published in



Jan 2005 – Dec 2009

Consultations Per Site Per Week

Cons/Site/Week	≤ 1	1.1 - 2	2.1 – 5	> 5
N=	47	8	17	5
Frequency (%)	61.0	10.4	21.1	6.5
Avg C/S/W	0.4 ± 0.3	1.4 ± 0.3	3.1 ± 0.9	13.8 ± 12.3
Median	0.4	1.4	2.8	10.3

Mars and Scott, Telemed eHealth: 2010

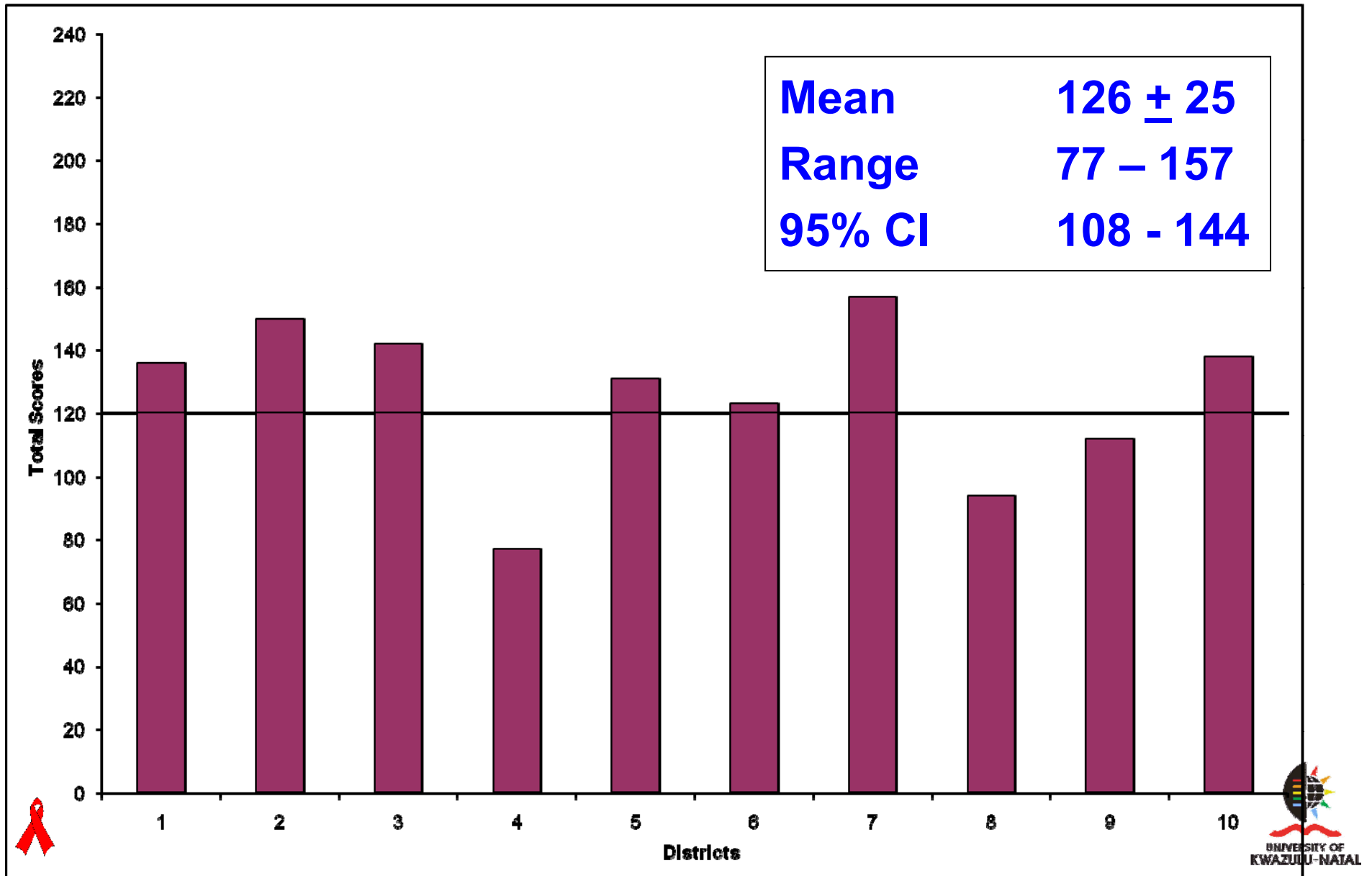
Are We Ready for eHealth ?

**Investigate ehealth-readiness at
district level in KZ-N**

**Test the ehealth-readiness tool in
the South African setting**



Results



Telemedicine in KwaZulu-Natal

Radiology

Dermatology

Psychiatry

Grand Rounds

Psychiatry outreach

Diabetic retinopathy

Neurosurgery

Ophthalmology

Orthopaedics

Education

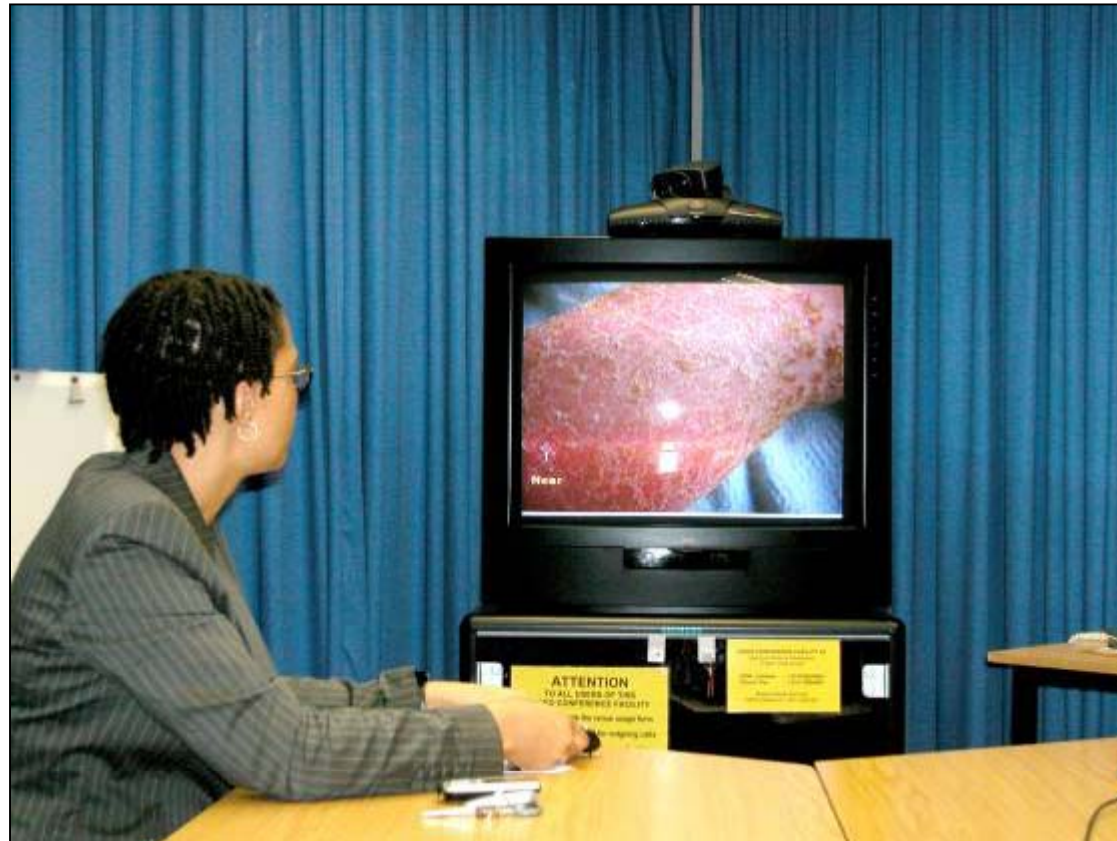
Human resource

Pathology

IALCH



Video Conference Consultation



181 of 223 cases (71.2%) saved referral



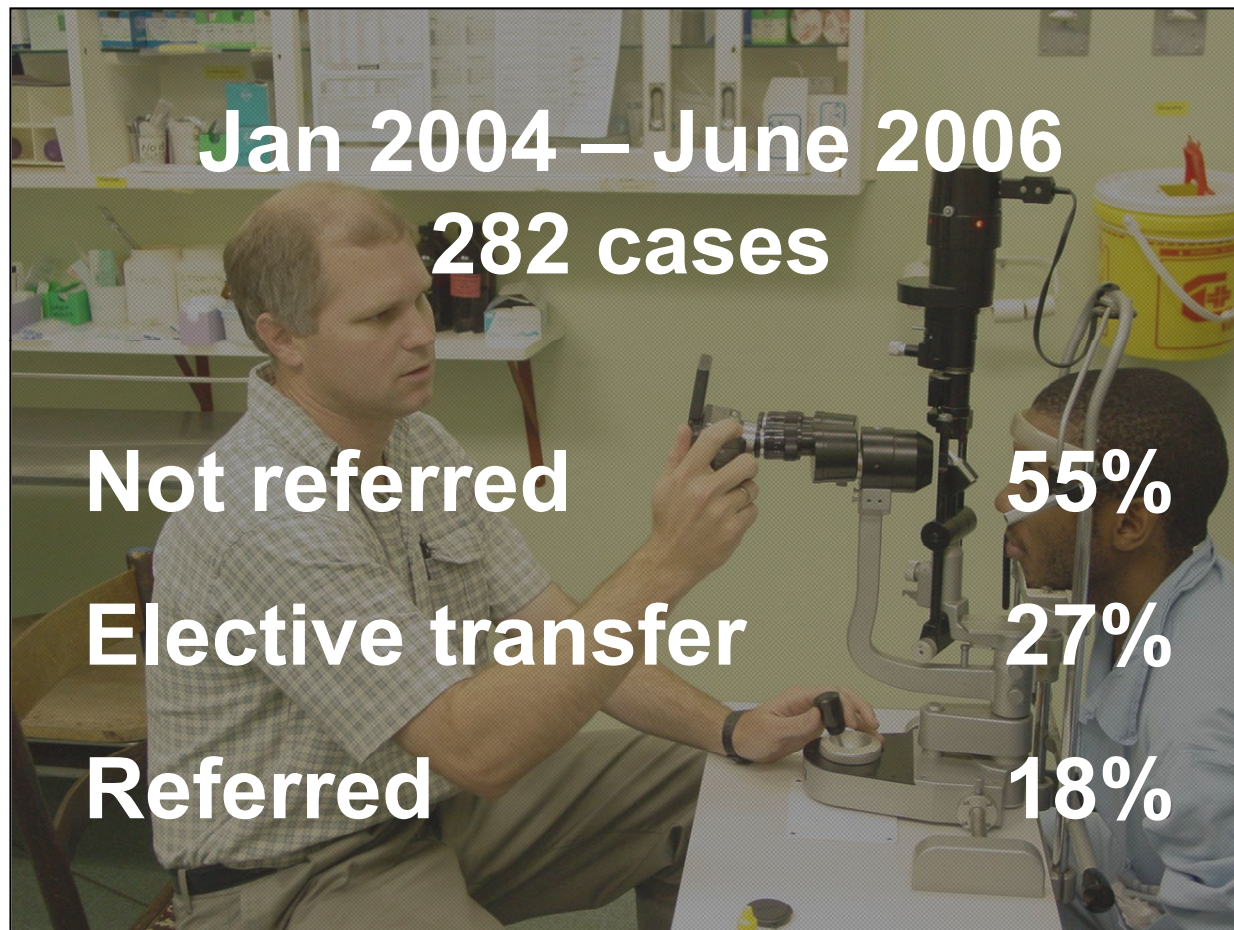
Email Services



Ophthalmology

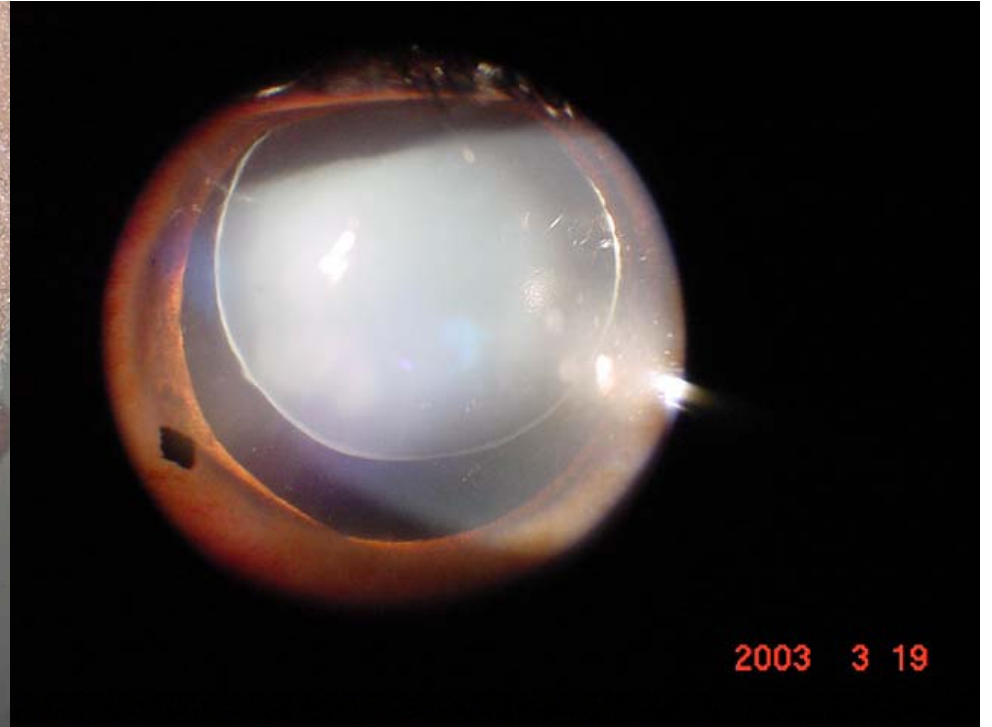


Email Services



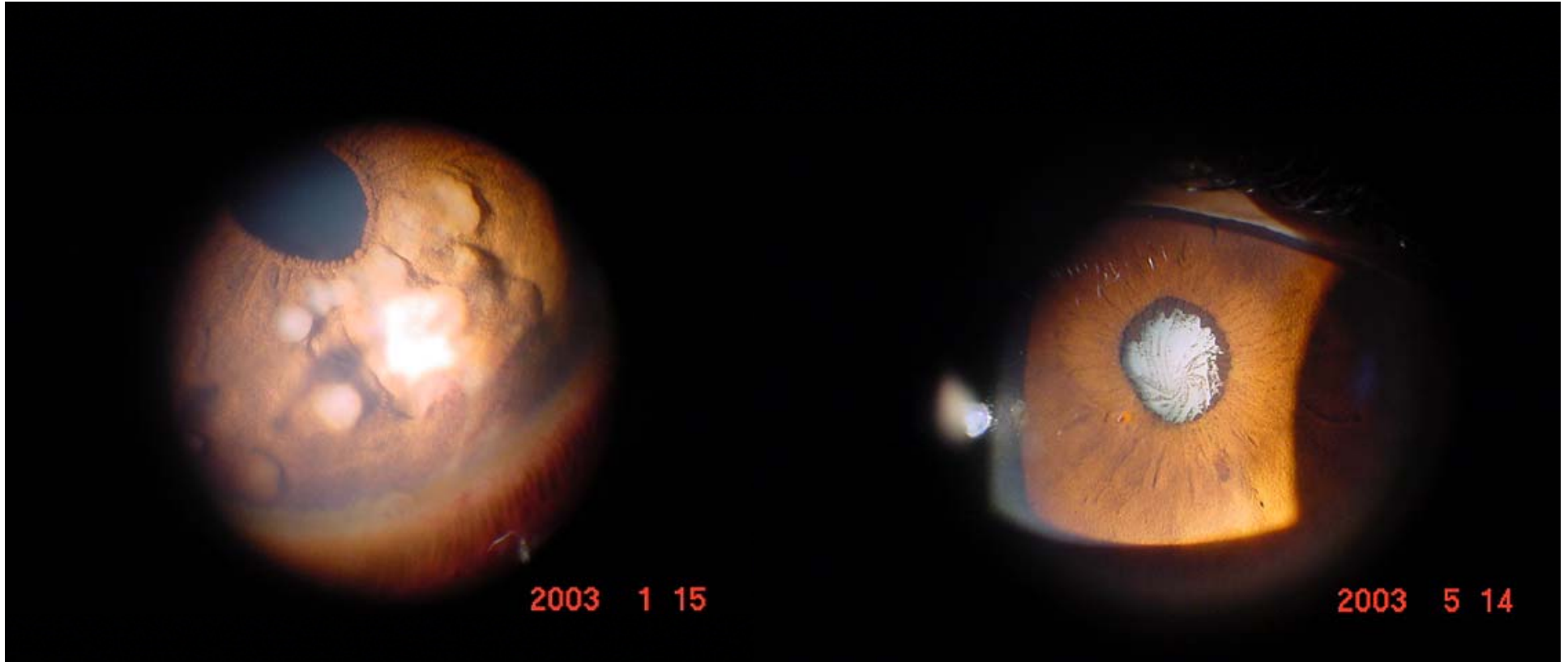
Ophthalmology

Email Services



Ophthalmology

Email Services



Ophthalmology

Shepstone Hospital

SINGLE IMAGE

247

A,

Y: 4500-6

: N

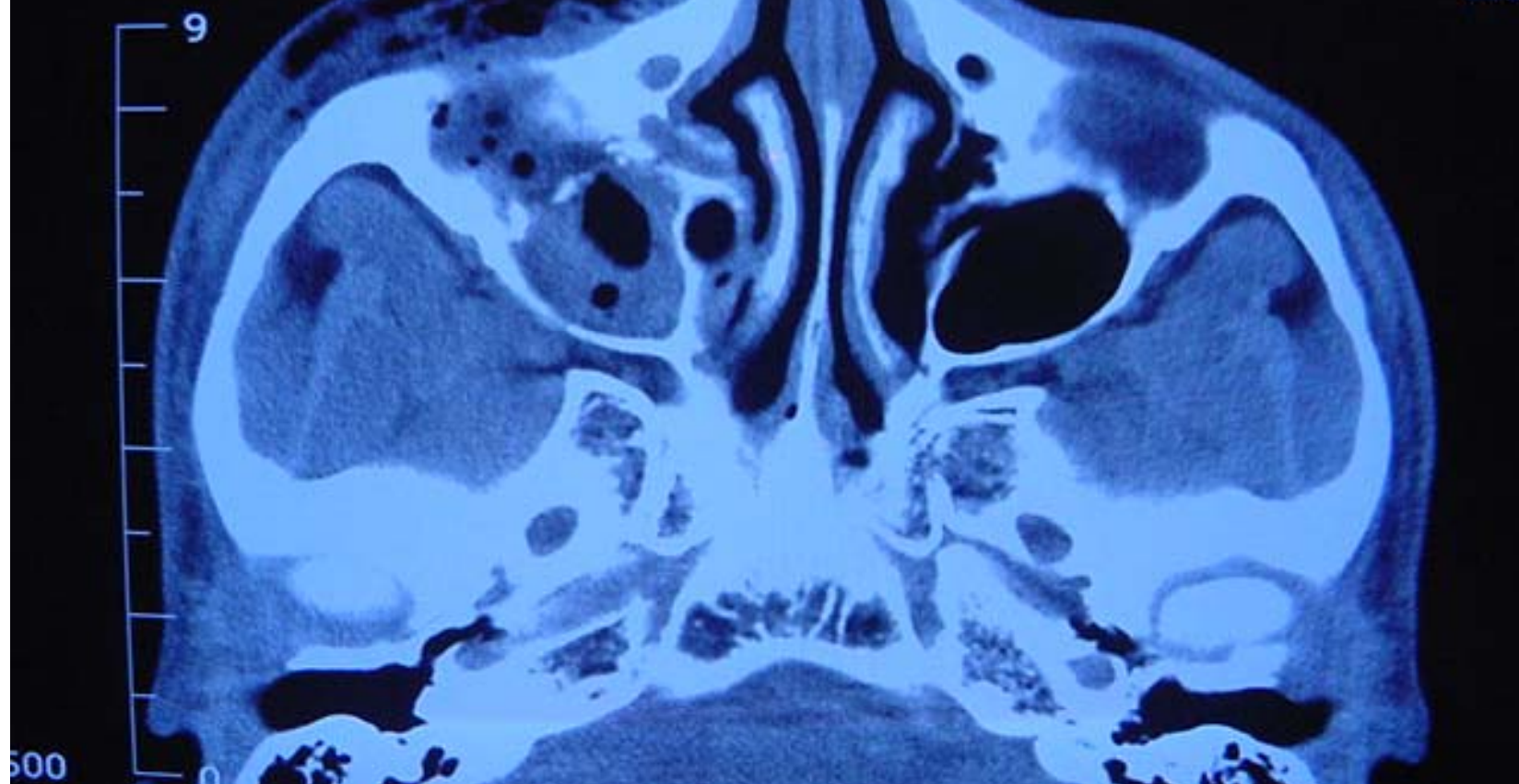
AR-05

4:58.75

0

9

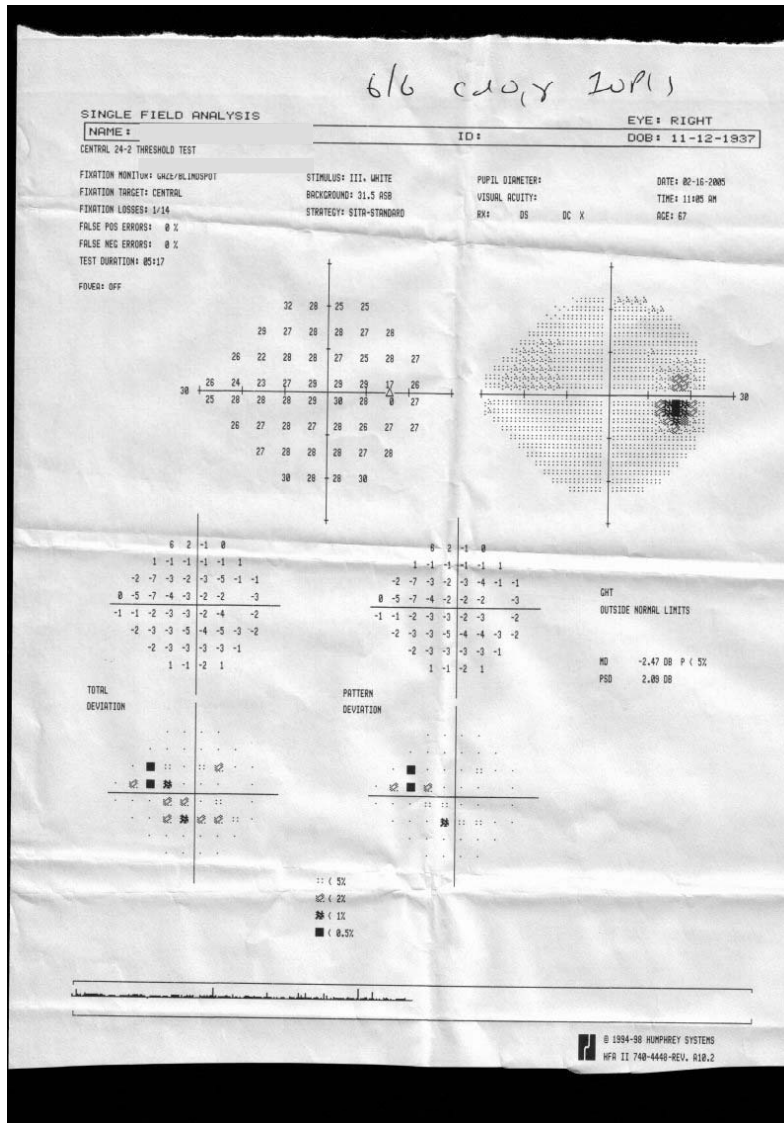
0
COUCH
TILT
FIELD
THICK
INDEX
kV
mA
mAs



500

9





RADIOLOGICAL REPORT/RADIOLOGIESE VERSLAG

CT 377 05.04.2005

CT BRAIN

Pre and Post contrast study of the brain and orbitae.

Very prominent hyperostosis frontalis interna noted which is a normal variant.

A small low density lesion noted in the left internal capsule.

Mid line centrally placed.

No abnormal enhancing lesions evident.

Coronal study of the orbits performed.

The orbital contents appear symmetrical.

No pathology of the ocular muscles or optic nerve was noted.

The sinuses are essentially clear.

DR BOOVENS

/sc Dictated but not read.

65♀ DM+HPT
 (R) medial Rectus weakness
 VAN 6/60 VAN 6/29



Ophthalmology

Who Is Going To Do It ?



“Extra work”

“Nice idea but I’m not going to do it”

“Not in my job description”

“What are you going to pay me”

“I don’t know anything about eHealth”



Videoconferenced Dermatology (3 Sites)

Patients referred/site/month	8
Patients referred/site/week	2
65 Hospitals	130 /week
Patients per day	26 /day
Average consultation time	<10 min
Allow 30 min to set up and see 2 patients	
In one 8 hour day can see 26 patients	
and have 1.5 hours for store and forward	
~ 70% saved a transfer ~90 patients /week	

“Build The Capacity To Build Capacity”



Through Co-operation



eHealth Capacity

**How many Universities in Africa
qualifications
Medical Informatics
or
Telemedicine ?**

Education vs Training vs Awareness



Capacity Development

Data gatherers

Support staff

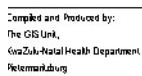
Health workers

Analysts

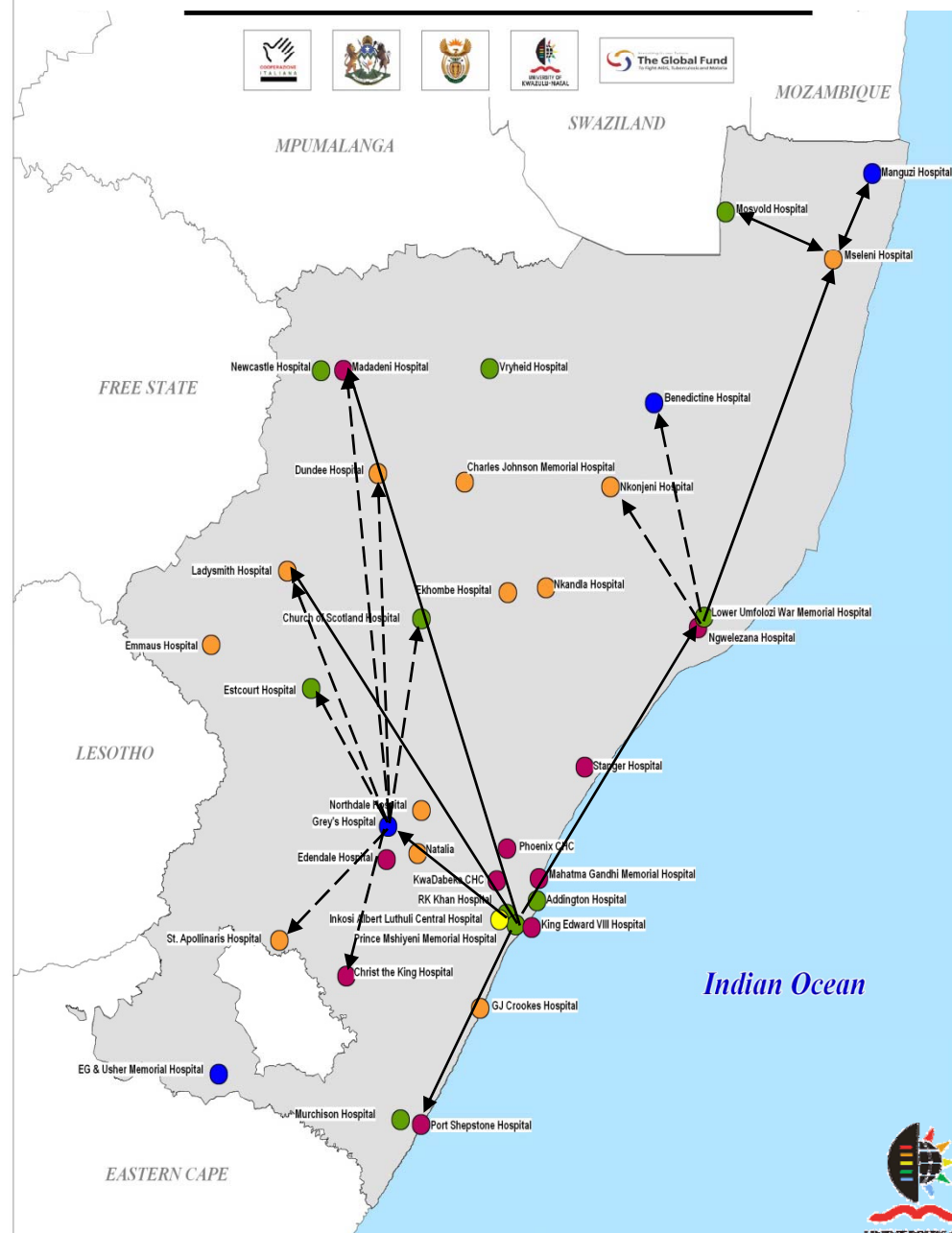
**Implementers
Developers**

**Strategists
Policy**





Date of production: 05 March 2002



Education P/G



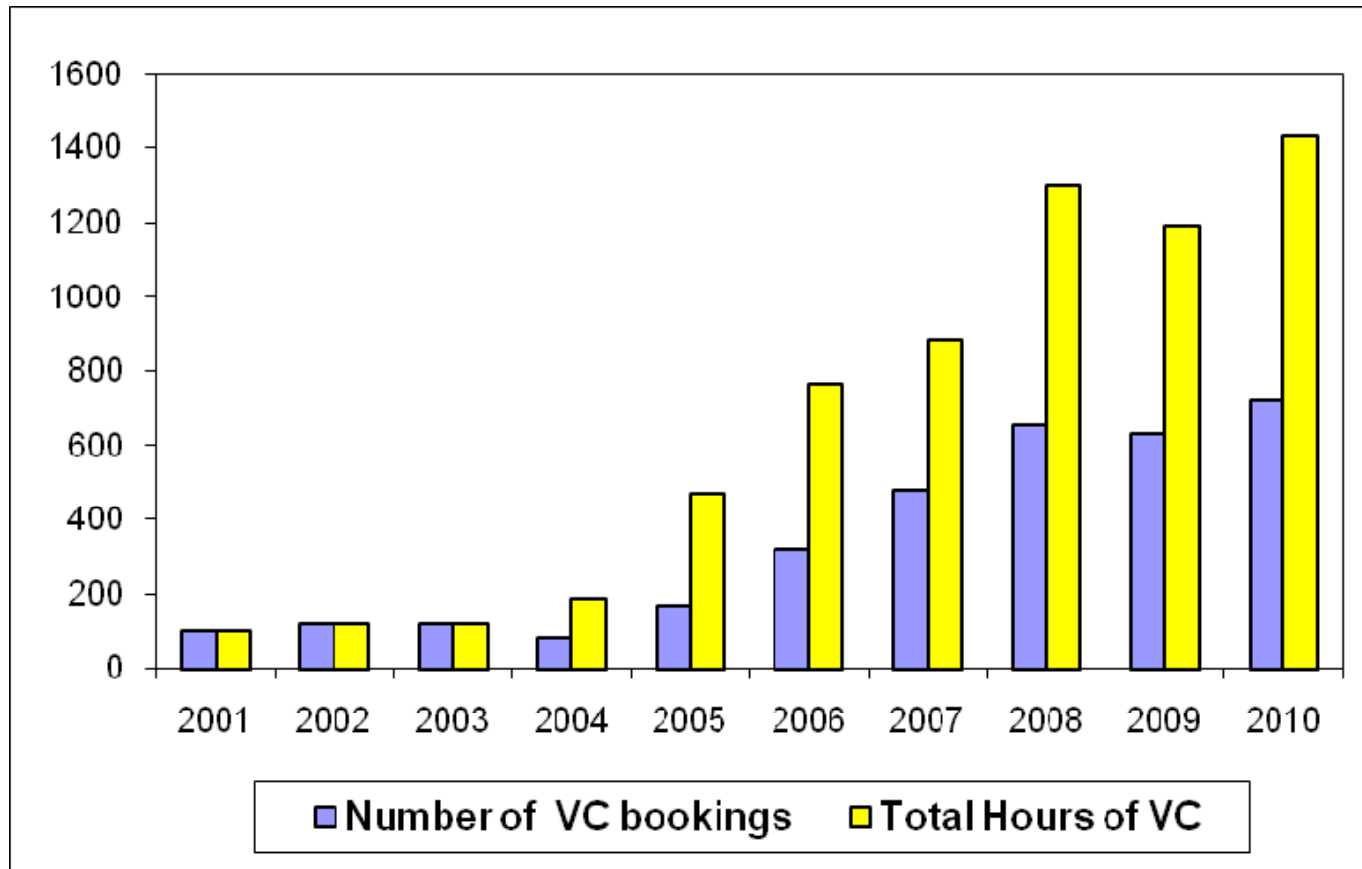
Seminars

**Routine weekly
departmental
postgraduate
seminar series**

No Extra Work



Videoconferenced Education



International Telemedicine Issues



Medicolegal

Licensure

Responsibility

Continuum of care

Ethical

Informed consent

Confidentiality

Data security



DURBAN, SOUTH AFRICA
DEADLINE EDITION

Daily News

MURKIN, SOUTH AFRICA
HEADLINE EDITION

TUESDAY MAY 10 2011

★★★

TUESDAY MAY 10 2011

[illegible]

WIN WIN *Daily News*
A R45 000
luxury holiday
Page 16

FASHION
Unique show
for local
designers Page 10

FOOTBALL
Magical Maxi
hits three for Reds Page 17
The final insult Page 16



HONOURS
Ernie joins
Hall of Fame

Page 18

Phone doctors under fire

The service is unethical, says health council

RIZWANA SHEIK UMAR
and LEE RONDGANGER

TELEMEDICINE service provider, Hello Doctor, is withholding its "phone-a-doctor service" after coming under fire from the Health Professions Council of South Africa (HPCSA).

The HPCSA labelled organisations which offer a consultation with a doctor over the telephone as unethical. The Hello Doctor website offers phone-call diagnosis and prescriptions for lesser ailments for R300.

Such services are in breach of the practitioner-patient relationship, patient confidentiality and the principle of in-

According to its website, Hello Doctor offers:

- Medical advice, information and diagnosis via the internet, telephone and television from qualified medical practitioners.
- A one-on-one consultation for R200 – an invoice to claim directly from medical aid.
- Online payment by credit card or a monthly subscription for unlimited access.

registered with the SA Medical Association and the HPCSA.

Townsend said yesterday: "In the interests of our consumers, clients and the doctors' patients, Hello Doctor will be withholding the tele-consultation services while we engage with the HPCSA."

Townsend said they were meeting with the council later this week.

Professor Maurice Mars, head Telehealth at the University of KwaZulu-Natal, said the HPCSA's definition of telemedicine was "weak".

"Regulators feel that telemedicine is new and unproven, and must be regulated to protect the patient."

"However, regulation requires clear and careful definition," the HBCSA's proposed

MPS ALERT: MPS position on commercial telemedicine services

10 May 2011

“It is highly unlikely that MPS will assist a member who is registered with the HPCSA with any problems that arise from their participation in telemedicine in South Africa”

subject.

Practice Guidelines for Videoconference-Based Telemental Health in South Africa.



Telemental Health Standards and Guidelines Working Group



Issues

Political will

Change management

Policy, strategy, budget

Bandwidth

Human capacity

Telemedicine equipment

Legislative / ethical

