



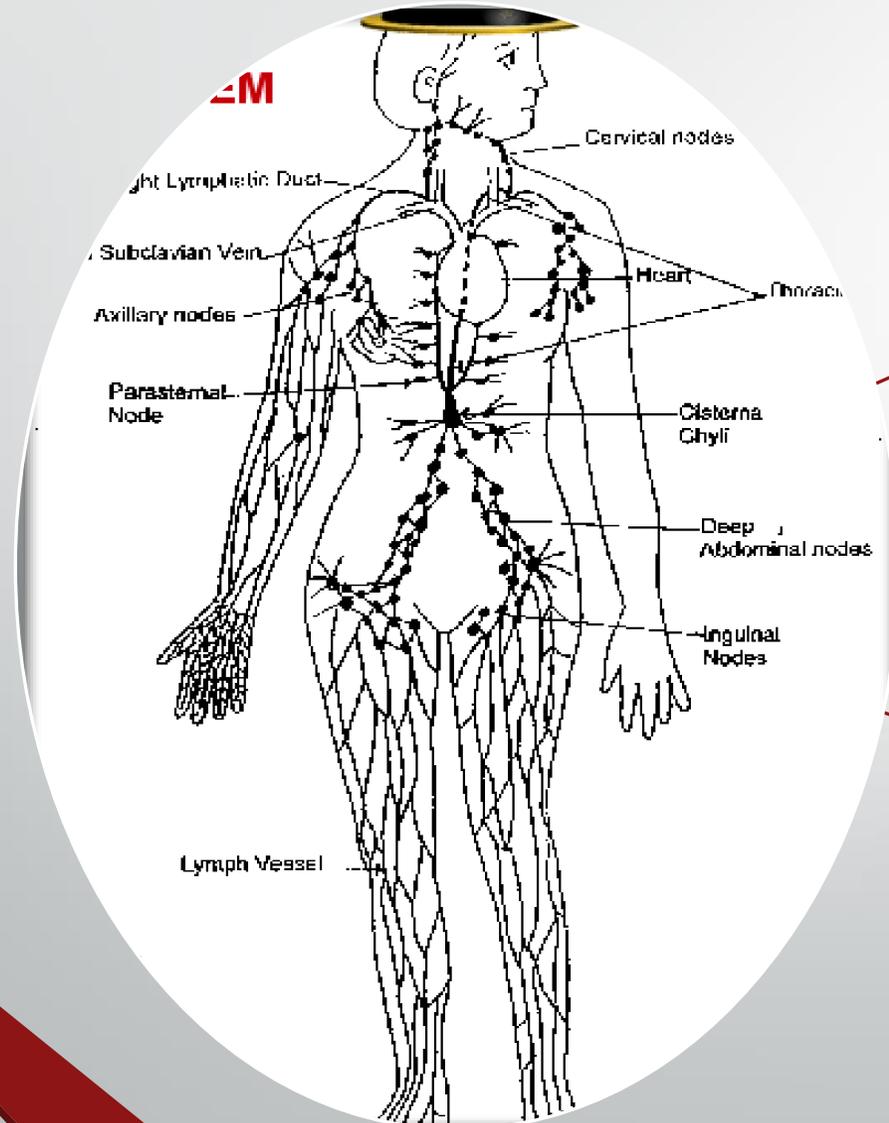
Lymphedema: a Chronic Disease - Role of Tele-Health

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The lymphatic system is a part of the circulatory system

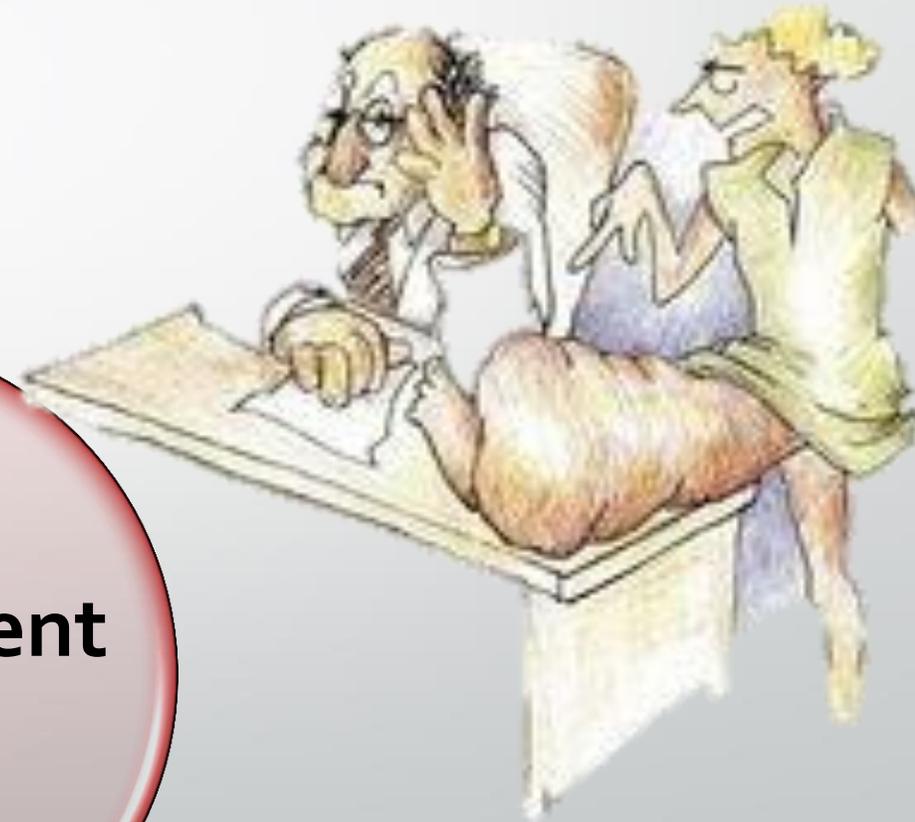
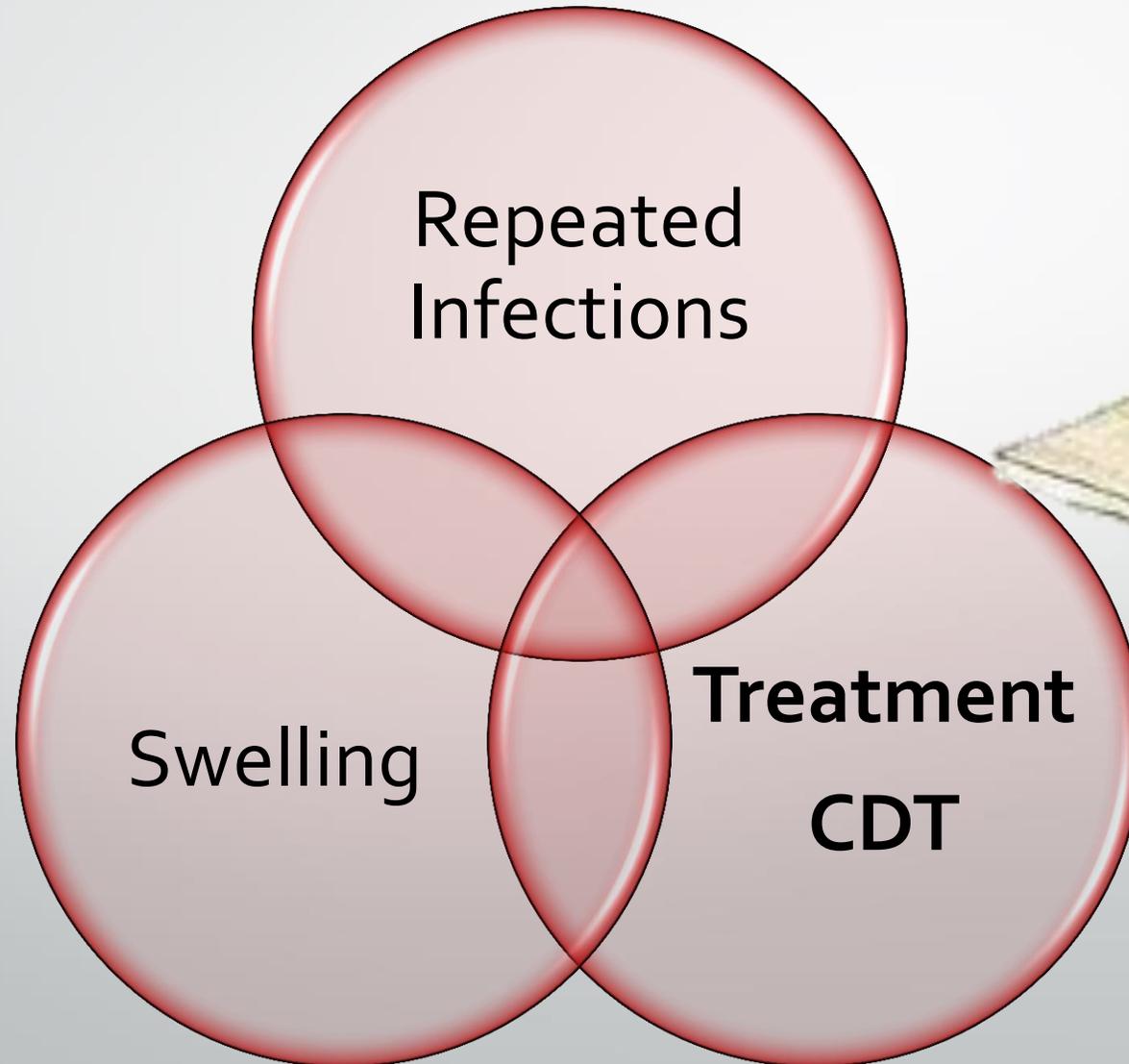


Responsible for the transportation of retained tissue fluid back to the heart – also called the *bodies sewage system*

This system can be damaged by many conditions, including developmental disorders, surgery, trauma, or chronic diseases of the heart / veins, as well as many other potential causes – especially Filariasis

Estimated incidence
25 Million cases in
India - 18 million due
to Filariasis alone

From Diagnosis to Treatment



Largely-Undiagnosed hence Untreated



Most people with lymphoedema go undiagnosed and untreated for long periods of time as

a consequence of the poor level of knowledge of this disease among both health professionals and the public



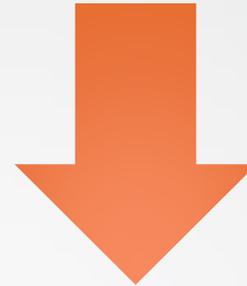
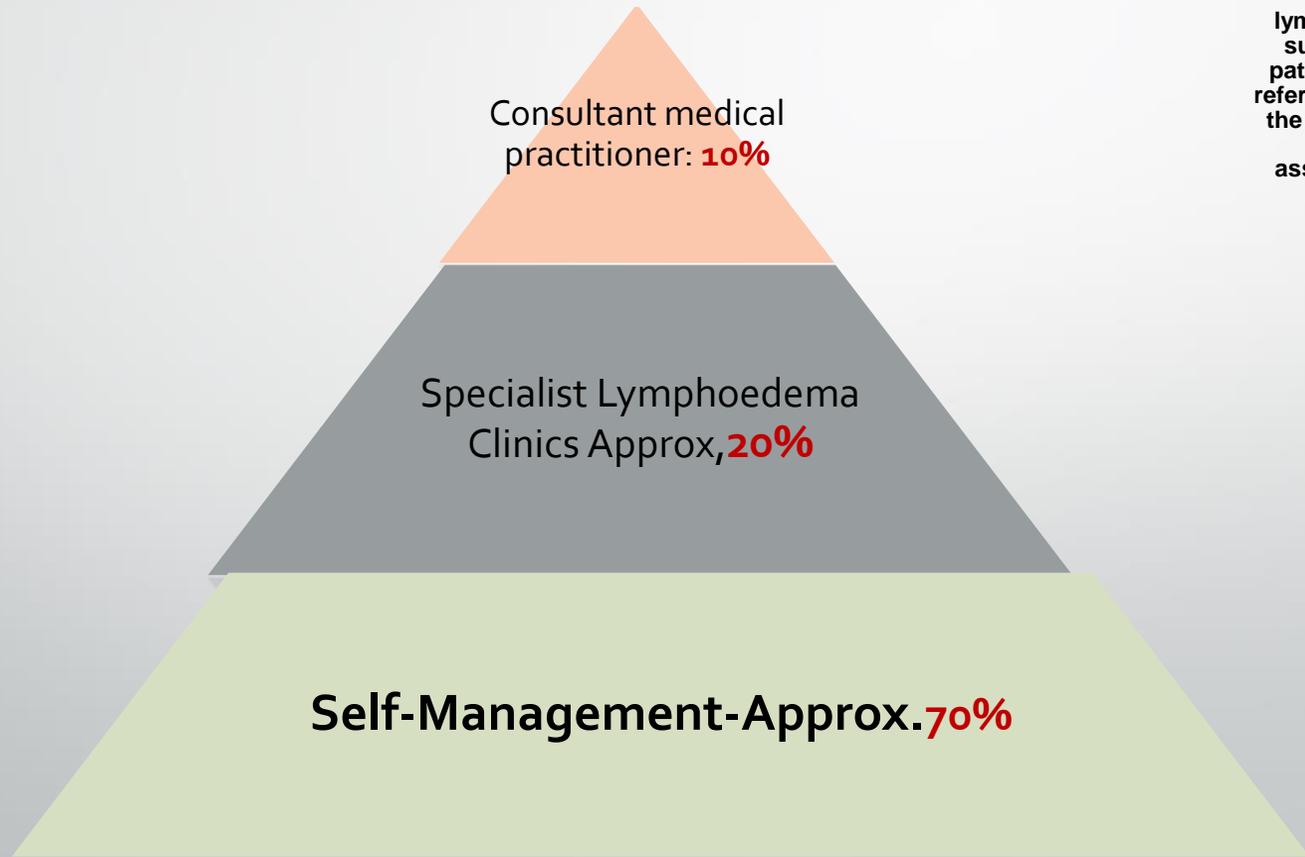
4th highest cause of morbidity in the world
50% of global load –Neglected in India-
leading to depression QOL



knowledge is missing



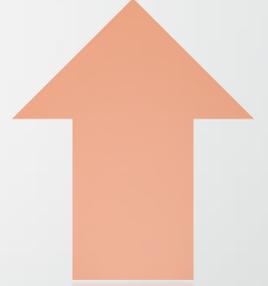
CARE PROTOCOL- -TOP OF PYRAMID 10%



Consultant Medical practitioner should have access to the full range of **diagnostic services**, including Doppler scan, CT scan, MRI and lymphoscintigraphy which may be necessary to confirm diagnosis or to exclude venous thrombosis or progression of malignant disease.



When lymphoedema is suspected, the patient should be referred promptly to the lymphoedema service for assessment and treatment.



The Treatment Protocol

Care in **specialized center is only 20%**

Intensive
phase (2-3
weeks)

hospital-2
HRS Daily

MLLB

MLD

QOL

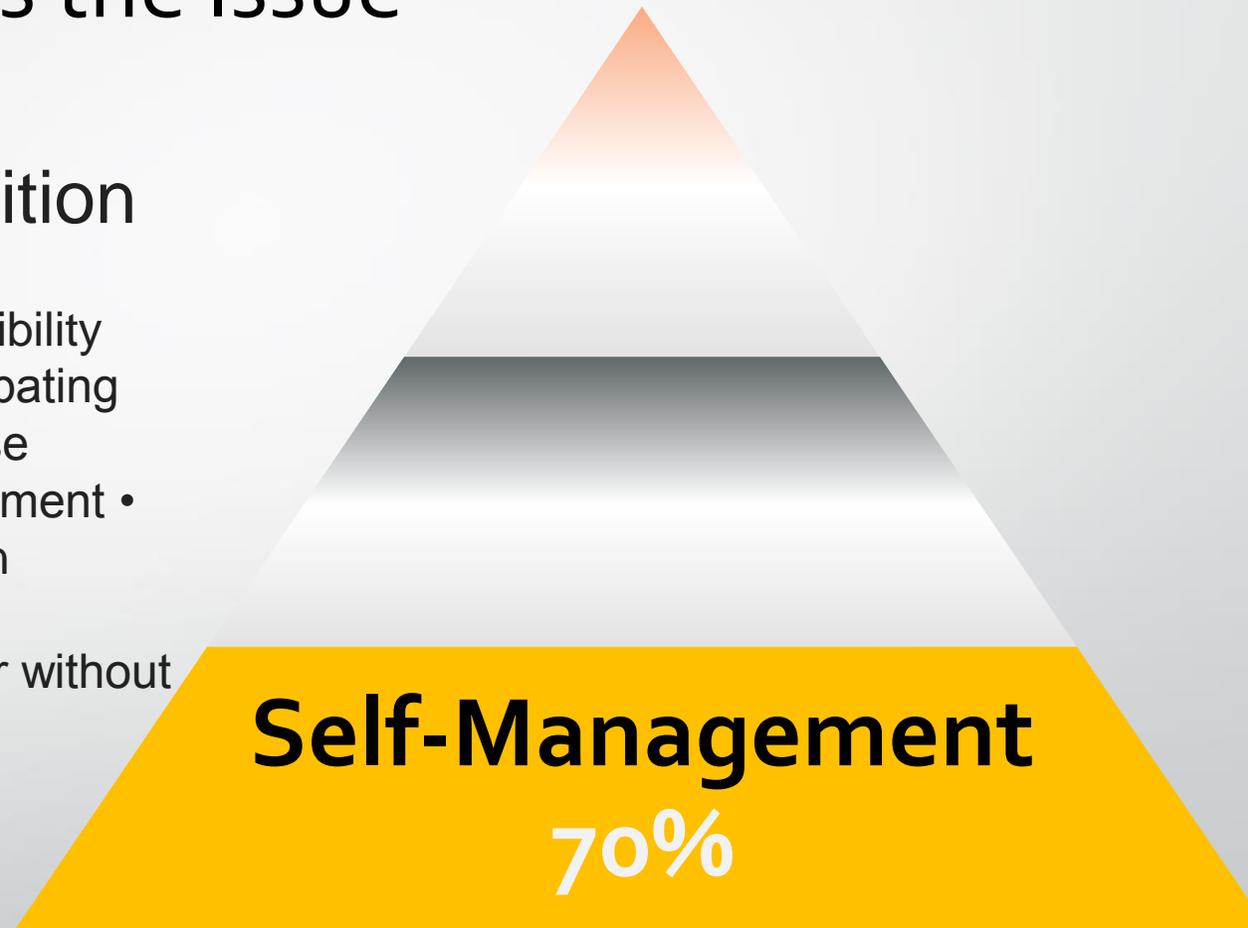


Self-Management Compliance is the Issue

- Self-management by patients is not optional but inevitable because clinicians are present for only a fraction of the patient's life, and nearly all outcomes are mediated through patient behavior / Compliance

Definition

- Taking responsibility
- Participating
- Disease management • Decision making
- With or without help



Self-Management
70%

Why Limb Care Clinic is ideal for Telemedicine

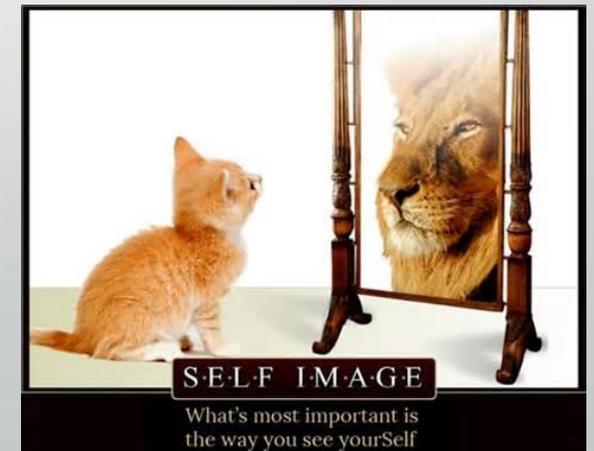
Other problems – Venous ulcer, Diabetic foot

More of a Social Problem

Loss of self-esteem, inability to work leads to possible depression

Care is easy and possible at the community level
KNOWLEDGE of how to care is however missing

Not only by the local healthcare providers
but even by the medical community



Protocol tested for 4 years at AIIMS (India's Premier Hospital)

Lymphoedema is
common

Self
management is
the key

It is chronic and
incurable and
requires lifelong
management.

**Need for
Counselling-**
options available

**Has a significant
impact on quality
of life**

**On how to self
manage-,
exercise, skin
care**

TESTING THE PROTOCOL IN A REMOTE AREA WITH TELE MONITORING



Pilot Project

The Approach*

Creation of treatment and follow up **COMMUNITY-centres** with local collaboration

Local volunteers to provide basic care.

- Training and Initial review of patients Online

Local surgeons for monitoring and procedures

- Orientation and training Online

Equipment Supply

T.O.T.

EHR

Surgeons in surrounding townships

Troubleshooting and further management from our centre

SATHI Role

- Plan to collaborate and do first a screening camp (1 day) followed by treatment camp (4 days)

Discussions for Intervention
UP State Govt

SATHI

- Knowledge
- Partner

- A farmer's co-operative working with landless farm labourers
PISAWAN_UP

Sangtin

UP State Govt

- Used their facilities and staff

Phase I – Pre Screening Camp



All patients Registered and Screened





85 patients examined
and counselled



**55
lymphoedema
patients,**



**to
get registered
and
complete the
initial
procedures.**

**The Pisawan
CHC
on
November
20th**



Measurement
of their limbs

Protocol

Protocol

Photography

Protocol

Examination



1) Administration of penicillin injections



2) All the patients then underwent leg washing



3) counselled on hygiene, exercise



4) Skin Care

They learned

and taught
each other

Art of
Bandaging



Next Day

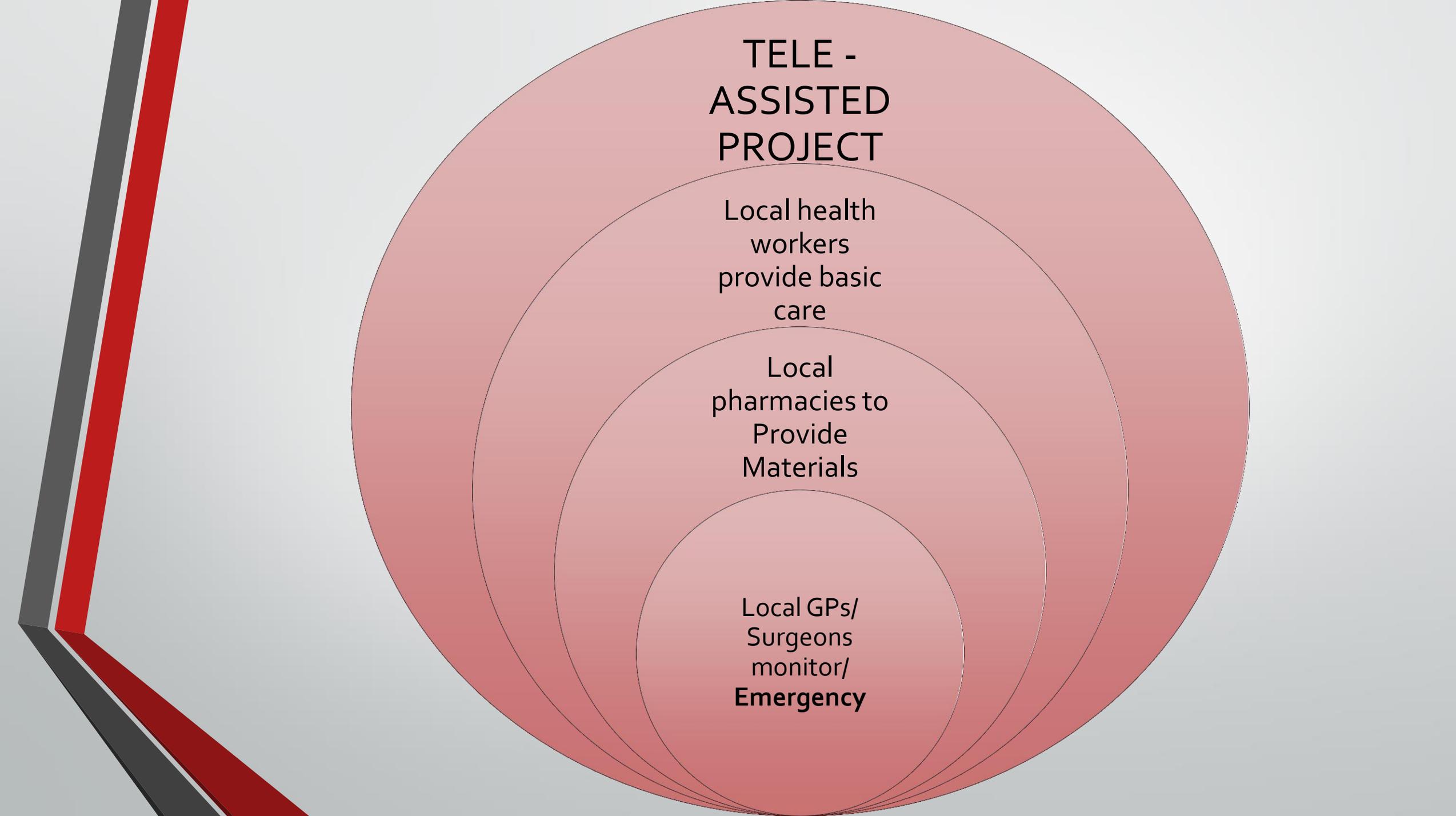
Paper accepted for publication

Follow -up

Outcomes and capability for self care

**Online Monthly
Monitoring through software**





TELE - ASSISTED PROJECT

Local health
workers
provide basic
care

Local
pharmacies to
Provide
Materials

Local GPs/
Surgeons
monitor/
Emergency



Point 85:
Point 80:
Point 75:
Point 70:
Point 65:
Point 60:
Point 55:
Point 50:
Point 45:
Point 40:
Point 35:
Point 30:
Point 25:
Point 20:
Point 15:
Point 10:
Cross on heel:
Point F10: Point F15:
Distance to Foot tip:

Measurement Date: 07/09/11 S No: 446171
Top Circumference: Limb:
Highest point: Comments:
Rate:
Knee circumference:
Knee Position:
Volume Measured (cc) Calculated:

Volume	Pos	Distance	Type	Circ
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Tonometry:
Base of toe:

**Outcomes
measured through
EHR - monitored
remotely**

Volume can be calculated by serial measurements or a water tank.
Recording of presence of ADLA is important

Monthly limb volume data measured for
3 months

Monitored Remotely

Overall Better QOL

- – less pain
- could return to work
- no ADLA episodes

68.7% Improvement –return of limb
volume to normal

- After ignoring values > 100% (both sides disease)
- Improvement increased with time (38% initially)



Before Treatment

Learning

Possible to deliver care in remote locations

- Incentivizes self care

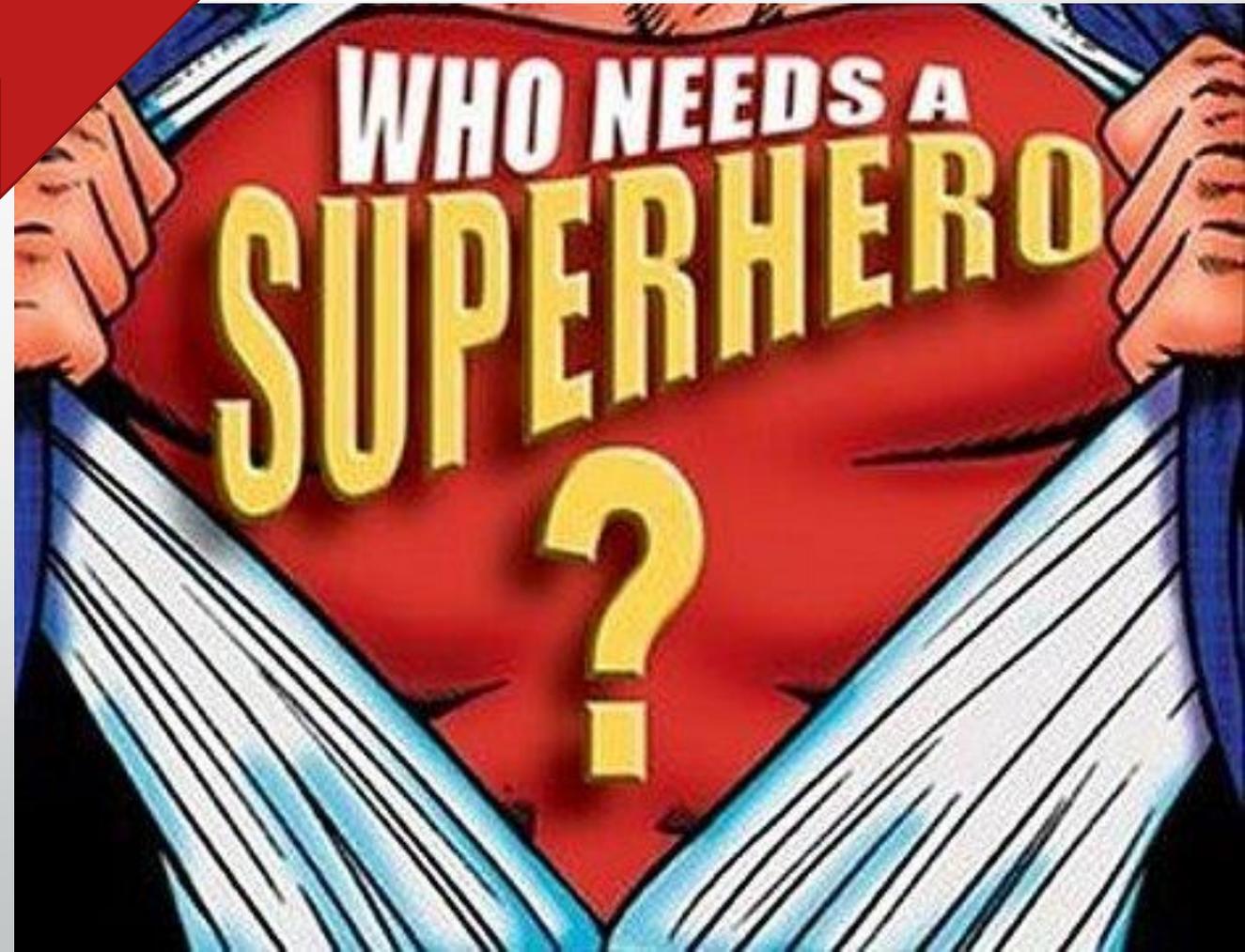
Monitoring required

Tele-monitoring saves time / cost of travel



After Treatment

Monitoring helps
compliance



THANK
YOU

