



Practical Approach to Care Kit

**Clinical Decision support and tools
to assist primary health care providers**

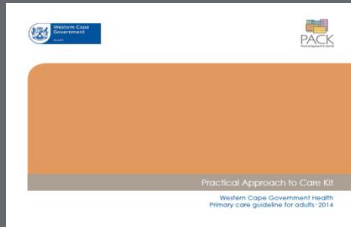
**Knowledge Translation Unit, University of Cape Town Lung Institute
in partnership with
British Medical Journal**



PACK PROGRAMME : PRACTICAL APPROACH TO CARE KIT

Goals: Equip & empower PHC clinicians

Enable UHC & SDG's



Pillar 1: Guide

Evidence based,
symptom focused,
integrated
decision support



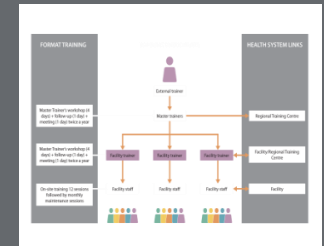
Pillar 2: Training

educational
outreach approach,
case-based, team
education



Pillar 3: Health systems strengthening

Task-shifting & task
sharing, meds/tests/equip
availability



Pillar 4: M & E

Audit – registers,
evaluate – training
feedback, & focus
groups, research

- **Target audience:** ALL clinicians who deliver primary care: Nurses & Midwives, Doctors, Health Officers, CHW's
- **Sector:** Primary and Community Care
- **Countries:** Low and Middle Income countries
- **Developed in South Africa over last 18 year & scaled to >3,000 clinics >30,000 health workers in 8 yrs**
- **Programme made available globally through partnership between UCT Lung Institute and BMJ and being implemented in Brazil, Nigeria & Ethiopia. Substantial interest from other countries & partners**

KTU vision:

**“Improving primary healthcare
- most underserved communities”**

BMJ vision: “A Healthier World”

Impact & Sustainability

PACK: KEY MESSAGES

BMJs GLOBAL HEALTH PROGRAMMES:

- 1: Publishing - BMJ GH journal, HINARI access
- 2: Clinical Decision Support & Learning: CDS programme (Ukraine, Georgia, Azerbaijan, Jordan & Vietnam) & PACK (SA, Brazil, Nigeria, Ethiopia)
- 3: Events - GH focused events eg East Africa Health summit 27 April (Uganda, Tanzania & Kenya)



PACK EVOLUTION

PACK developed in South Africa over last 18 years by the UCTLI KTU team

Purpose: To equip and empower PHC workers in LMICs

Status: Fully upscaled and embedded in PHC in SA MoH services in the “Ideal Clinic” programme. Strong interest from other LMIC’s

KTU & BMJ have partnered to make PACK available globally

How PACK is delivered:

- 4 pillar programme
- 6 phases of implementation: prepare, localize (6months), facility readiness (3 months), pilot training (6 months), review & evaluate (3months), upscale ie. minimum 18 month pilot programme

PACK ROADMAP:

- Guide:
 - Adult - Child - Community - Adolescent - Maternity
 - Print - eBook - mobile app - interactive mobile app
- Training:
 - Onsite to blended learning (onscreen +face-to-face)
 - CPD accredited
- Health systems strengthening:
 - PHC facility readiness – meds, equip, test availability
 - Task sharing & task-shifting
 - Referrals
- M&E:
 - Training data collection & analysis
 - Clinical outcome evaluation
 - Health Economic evaluation



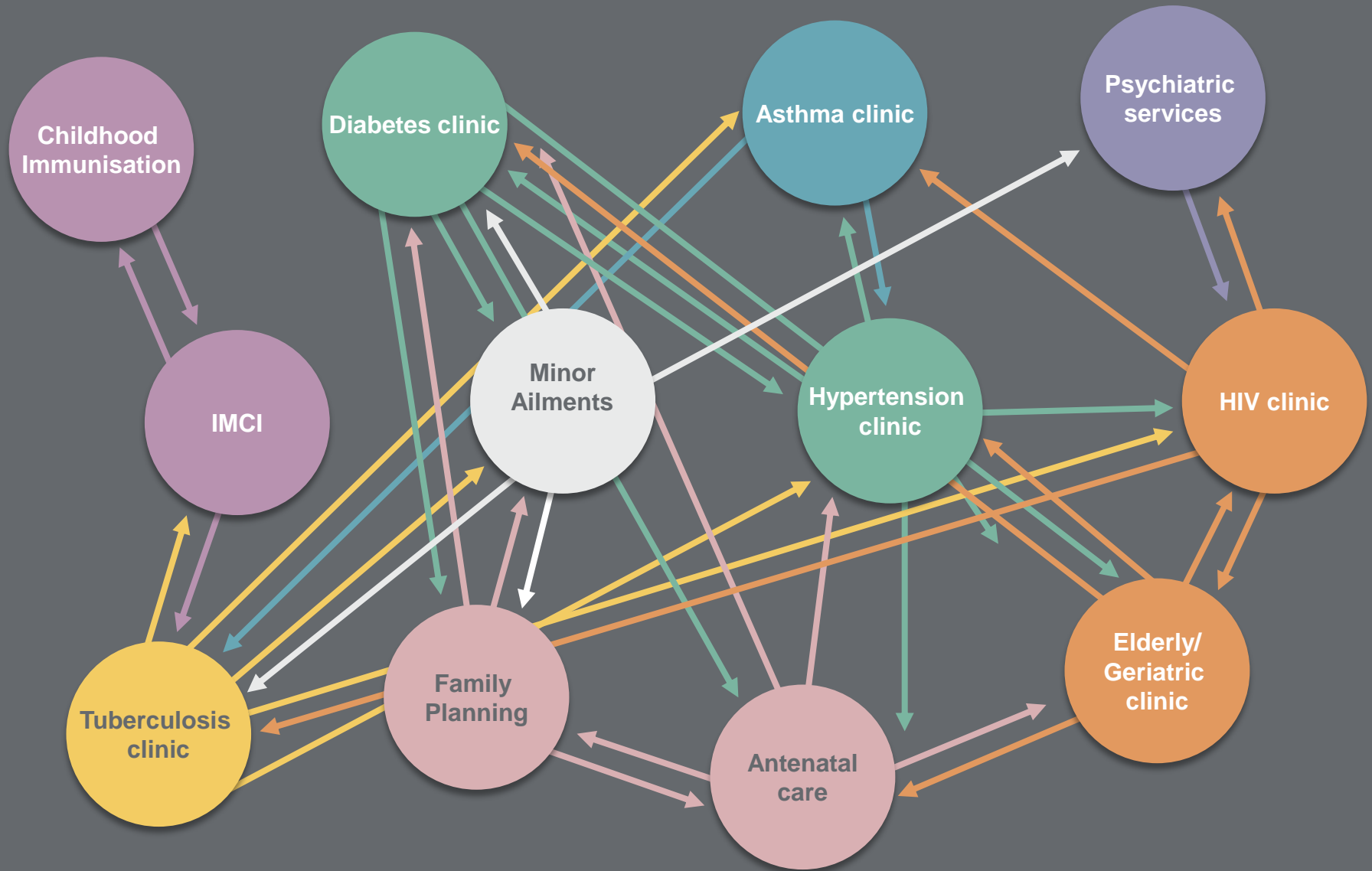
Many patients



Many symptoms, conditions and concerns



Fragmented services



Too much information – too many books



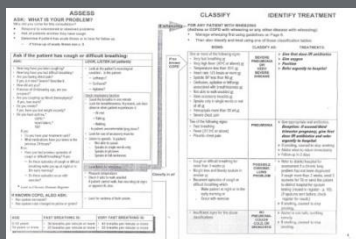
Too many complex illnesses and co-morbidities:

Top 15 reasons for encounters in primary care

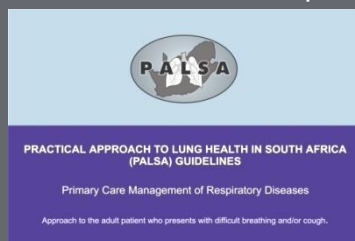
Reason	n	%
Cardiovascular follow up	2592	10.0
Cough	1943	7.5
Pregnancy/ family planning follow up	1354	5.2
Headache	1231	4.8
Prevention/immunisation	591	2.3
General body pain	547	2.1
Fever	481	1.9
Throat symptom/ complaint	442	1.7
Endocrine meds	421	1.6
Back symptom/ complaint	413	1.6
Abdominal pain generalised	411	1.6
Diarrhoea	391	1.5
Immunological follow up	387	1.5

Mash B, Fairall L, Adejayan O et al. PLoS One. 2012 7(3):e32358

Pillar1: Evidence informed Guide - 18 years development by the KTU



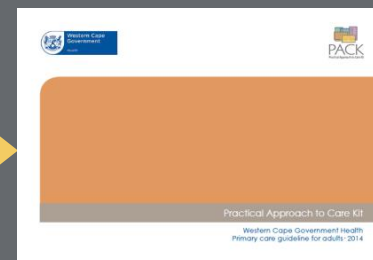
- + Localised
- + Evidence-based implementation



- + HIV/ AIDS
- + ART Task-shifting



- + NCDs
- + Mental health
- + Woman's health



Started as an adaptation of WHO's Practical Approach to Lung Health

Expanded to be a comprehensive programme for adult primary care to meet the needs of health workers

1999

2002

2003

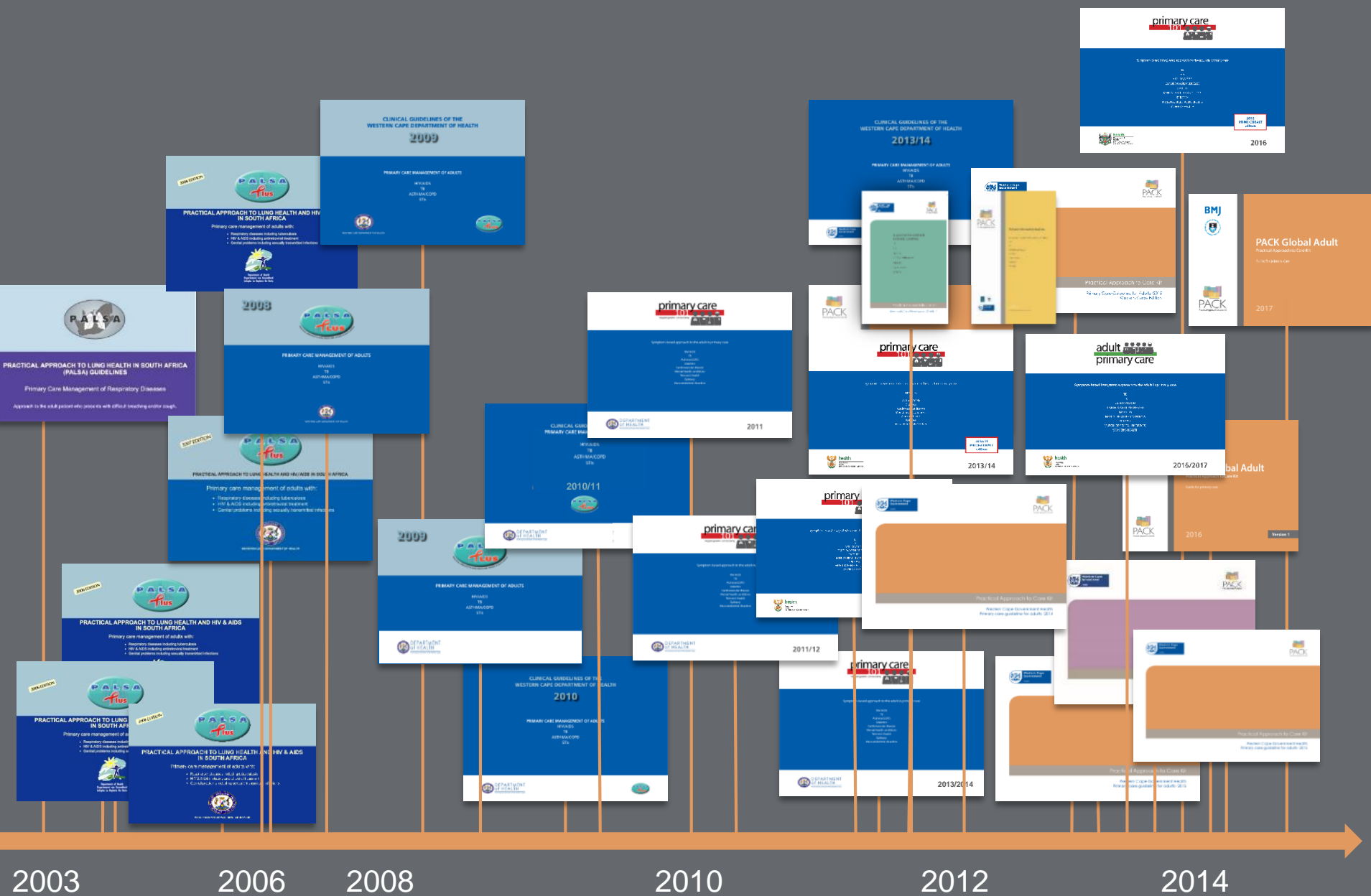
2007

2010

2013

Practical Approach to Care Kit

24 editions in first 14 years



Guide: Principles

- **Comprehensive:** covering commonest symptoms and chronic conditions:
 - NCDs: Diabetes, Hypertenstion, Asthma, COPD, MI, Stroke
 - Communicable diseases: TB & HIV
 - Mental health
 - Women's health
- **Evidence-informed:** W.H.O. + BMJ Best Practice
- **Integrates multiple guidelines and policy into single resource**
- **Concise (116 pages)**
- **Simple algorithms and checklists**
- **User-friendly, accessible, point-of-care, clinical decision-support**
- **Intended to be localised to be policy-aligned**
- **Translated**
- **Updated annually (via linkage to BMJ Best Practice)**



PACK extracts, compiles and harmonises primary care content from multiple guidelines and policies into a single document.

Guide: symptom-based approach

Contents: symptoms

Assess and manage the patient using his/her symptoms as a starting point

A		E		J		R	
Abused patient	55	Ear symptoms	15	Jaundice	50	Rape	55
Abdominal pain	22	Eye symptoms	13	Joint symptoms	36		
Abnormal vaginal bleeding	32					S	
Aggressive patient	53	F		L		Seizures	5
Anal symptoms	25	Face symptoms	14	Leg symptoms	39	Sexual problems	33
Arm symptoms	38	Fatigue	9	Lymphadenopathy	8	Skin symptoms	43
		Fever	7			Difficulty sleeping	56
B		Fits	5	M		Stressed patient	54
Back pain	37	Foot symptoms	40	Miserable patient	54	Suicidal patient	52
Bites	42	Foot care	40	Mouth symptoms	17	Syphilis	31
Blackout	10						
Body pain	35	G		N		T	
Breast symptoms	21	General body pain	35	Nail symptoms	51	Throat symptoms	17
Burns	42	Genital symptoms	26	Neck pain	38	Tiredness	9
Difficulty breathing	19			Needlestick injury	103	Traumatised patient	55
		H		Nose symptoms	16		
C		Headache	12	O		U	
Cervical screening	30	Heartburn	18	Overweight patient	70	Genital ulcer	26
Chest pain	18					Unconscious patient	4
Collapse	10	I		P		Urinary symptoms	34
Coma	4	Injured patient	41	Body/general pain	35		
Confused and/or disruptive patient	53			Pap smear	30	V	
Constipation	25					Abnormal vaginal bleeding	32
Cough	19					Violent patient	53
						Vision symptoms	13
D						Vomiting	23
Diarrhoea	24						
Dizziness	11					W	
Dyspepsia	22					Weakness	9
Genital discharge	26					Weight loss	6

Guide: Integrating chronic care

Contents: chronic conditions

Diagnose and give routine care to the patient with a chronic condition

Tuberculosis (TB)

Tuberculosis (TB): diagnosis	57
Drug-sensitive (DS) TB: routine care	59

HIV

HIV: diagnosis	62
HIV: routine care	63

Chronic respiratory disease

Asthma and COPD: diagnosis	67
Using inhalers and spacers	67
Asthma: routine care	68
COPD: routine care	69

Chronic diseases of lifestyle

Cardiovascular disease (CVD) risk: diagnosis	70
Cardiovascular disease (CVD) risk: routine care	71
Diabetes: diagnosis	72
Diabetes: routine care	73
Hypertension: diagnosis	75
Hypertension: routine care	76
Heart failure	77
Stroke	78
Ischaemic heart disease: diagnosis	79
Ischaemic heart disease: routine care	80
Peripheral vascular disease	81

Mental health

Admit the mentally ill patient	82
Depression: diagnosis	83
Depression and/or generalised anxiety: routine care	84
Alcohol/drug use	85
Schizophrenia: diagnosis	86
Schizophrenia: routine care	86
Dementia	88

Musculoskeletal disorders

Chronic arthritis	89
Gout	90
Fibromyalgia	91

Epilepsy

92

Women's health

Contraception	93
The pregnant patient	95
Routine antenatal care	97
Routine postnatal care	99
Menopause	101

End of life

102

Communicate effectively	1
Prescribe rationally	2
Screen the patient in the prep room	3
Protect yourself from occupational infection	103
Protect yourself from occupational stress	104
Helpline numbers	105

Weight loss

Give urgent attention to the patient with weight loss on ART:

- Weight loss in the patient on ART associated with one or more of: nausea, vomiting, abdominal pain, difficulty breathing or tiredness.

Management:

- Patient needs same day lactate measurement →64.

- Check that the patient that says s/he has unintentionally lost weight has indeed done so. Compare current weight with previous records and ask if clothes still fit.
- Investigate unintentional weight loss of > 5% of body weight.

First check for TB, HIV and diabetes

- Start workup
- At the same time
- and consider

TB

→72

- If status unknown
- The HIV patient has fever > 1 month

HIV

noea or

- Check glucose
- To interpret

Diabetes

Ask about symptoms of common cancers:

Abnormal vaginal discharge/bleeding

Cancer

Urinary symptoms in man

Change in bowel habit

Cough ≥ 2 weeks, blood-stained sputum, long smoking history

Consider **cervical cancer**.
Do a speculum examination →30.

Consider **breast cancer**.
Examine breasts/axillae for lumps →21.

Consider **prostate cancer**.
Hard and nodular prostate on rectal examination →34.

Consider **bowel cancer**.
Mass on abdominal or rectal examination, occult blood positive.

Consider **lung cancer**.
Do chest x-ray.

If food intake inadequate, look for a cause:

Nausea and/or vomiting

Loss of appetite

Ask, 'Are you stressed?'

No money for food

The patient has an incurable illness and you would not be surprised if s/he died within the next year

Sore mouth or difficulty swallowing

→23.

- Eat small frequent meals.
- Drink high energy drinks (milk, soup, sweetened fruit juice).
- Increase energy value of food by adding sugar, milk powder, peanut butter or oil.

Depression

If available, refer to social worker.

End of life care

Oral/oesophageal thrush likely
→17

Check thyroid function (TSH) if none of the above and patient has any of pulse ≥ 100, tremor, irritability, dislike of hot weather or thyroid enlargement.

Refer within 1 month for further investigation the patient with persistent documented weight loss and no obvious cause.

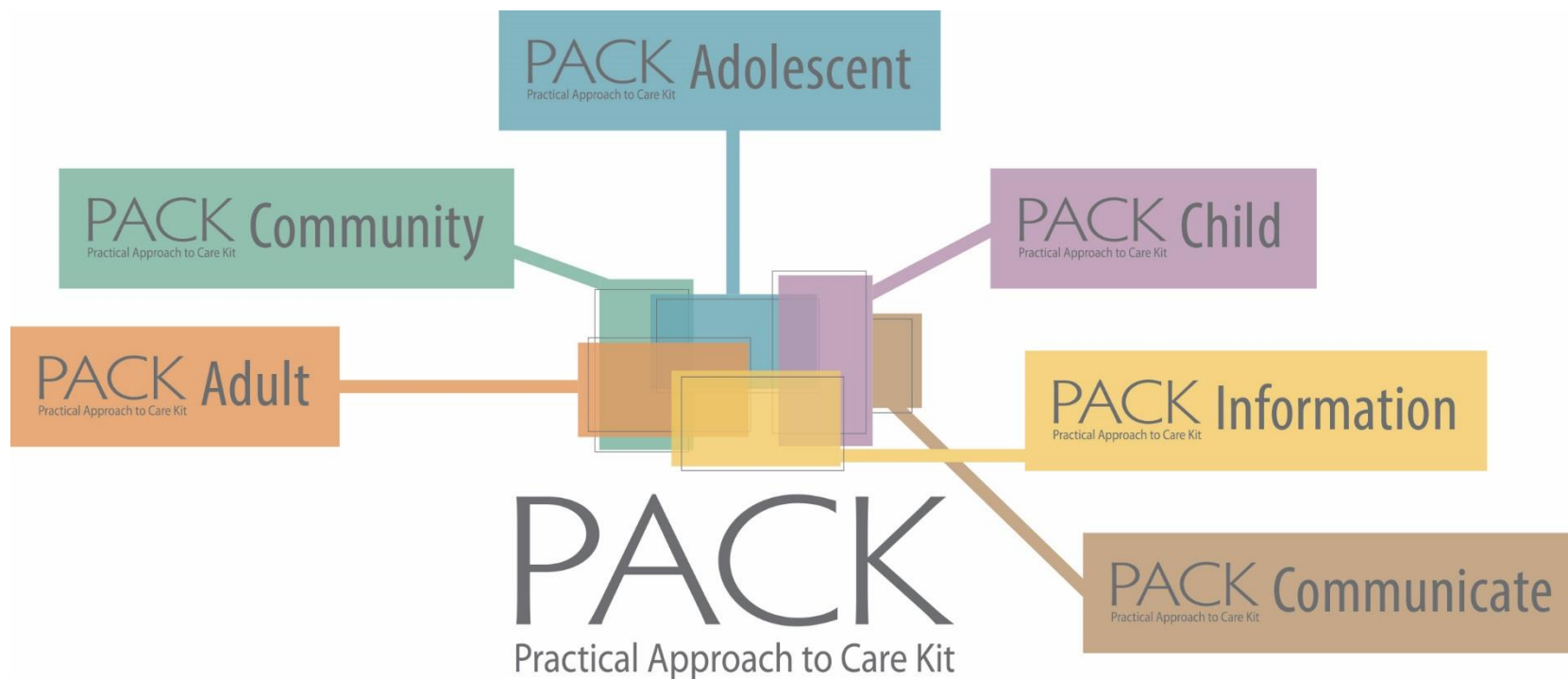
Guide: Evidence database

The screenshot displays the Evidence Synthesis Tool (EST) interface, which is used for creating and managing evidence-based recommendations. The interface is divided into several sections, with annotations highlighting key features:

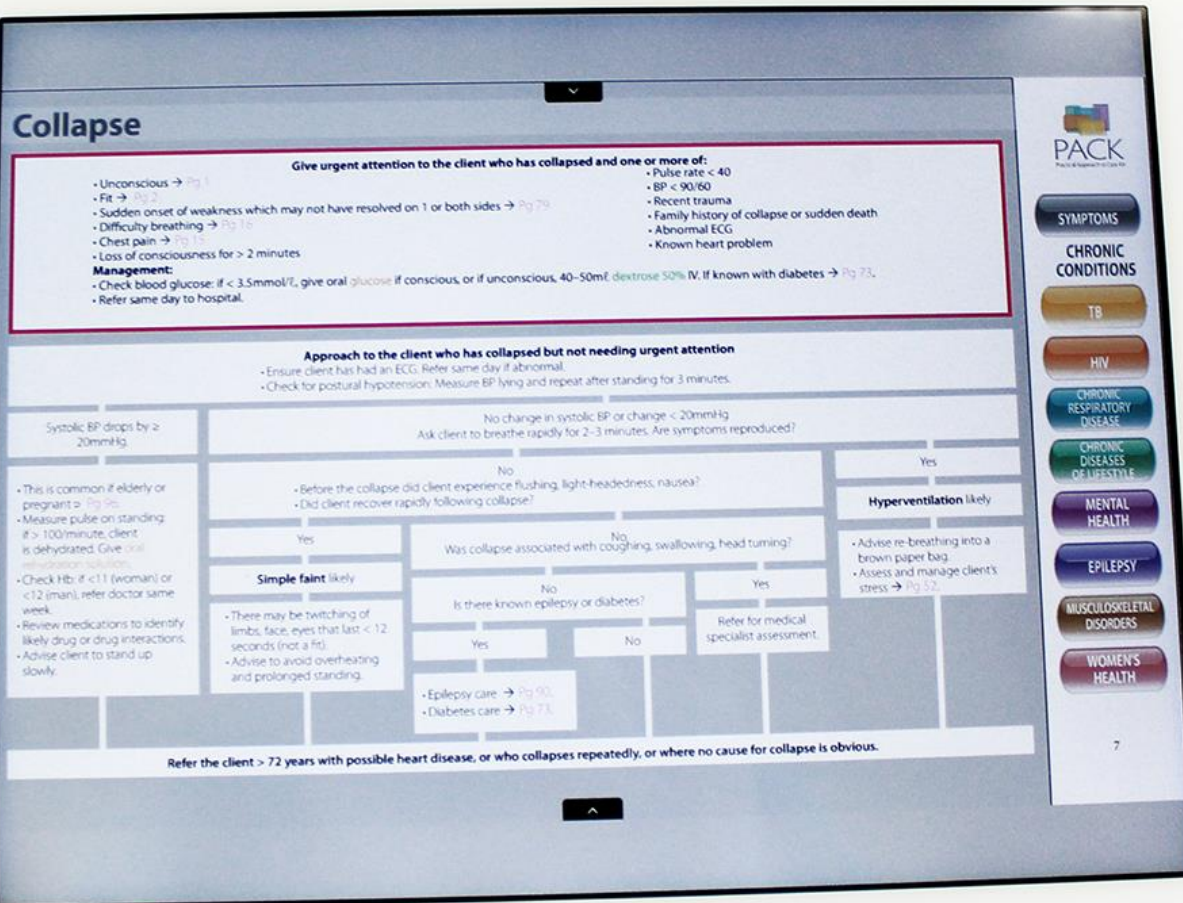
- Recommendation Section:**
 - Recommendation:** A text area for the recommendation itself. An annotation points to the text "Recommendation from PACK".
 - Rec Nr:** A field for the recommendation number, currently set to 3.
 - Recommendation for Page:** A dropdown menu with options: Additional info, Structure/Section, Drugs/Tests.
 - Focus:** A dropdown menu with the selected option "Management of hypoglycaemia".
 - Paraphrase text:** A text area for paraphrasing the recommendation.
 - Note1 - Adaptor:** A text area for additional information, currently containing "If 50% glucose not available, substitute with 50% dextrose or other hypertonic glucose solution.".
 - Note2 - Adaptor:** A text area for additional information.
 - Categorisation:** A dropdown menu with the selected option "Management".
- References (Table format) Section:**
 - References (Table format):** A table listing references. An annotation points to the table header "References (Table format)".
 - Reference:** A dropdown menu with options: BP, WHO, Other.
 - RefText:** A text area for the reference text.
 - AdditionalRefInfo:** A text area for additional reference information.
 - Weblink:** A text area for the web link.
 - EvidenceLevel:** A dropdown menu with options: nil noted, Best Practice.
- References (Single entry) Section:**
 - References (Single entry):** A section for entering references individually.
 - Reference:** A text area for the reference text.
 - Web link:** A text area for the web link, currently containing "http://bestpractice.bmj.com/best-practice/monograph/1086/treatment/step-by-step.html".
 - Evidence level:** A dropdown menu with the selected option "nil noted".
 - Article ID:** A text area for the article ID, currently containing "1086".

Annotations also point to the "Reference Text from Best Practice", "Reference text from WHO guideline", "Reference text from Other sources", and "Best Practice Level of evidence" fields.

Guide: The PACK Suite of tools



Guide: ePACK



SYMPTOMS

CHRONIC CONDITIONS

TB

HIV

CHRONIC RESPIRATORY DISEASE

CHRONIC DISEASES DELIBERATE

MENTAL HEALTH

EPILEPSY

MUSCULOSKELETAL DISORDERS

WOMEN'S HEALTH

Pillar 2: Training principles

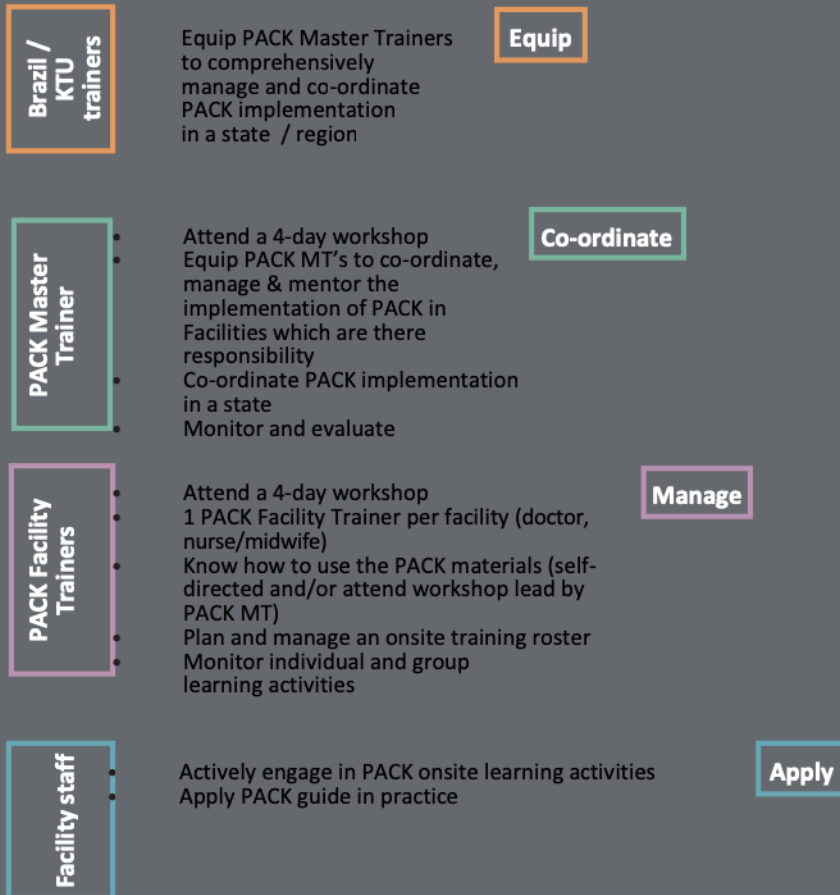
- *Educational outreach*
- **Capacitate and empower primary care clinicians as educators**
- ***Team based training*** for primary care health workers
- ***On-site*** (proximity)
- ***Multi-event*** over prolonged period
- ***Interactive***
- ***Case study based***



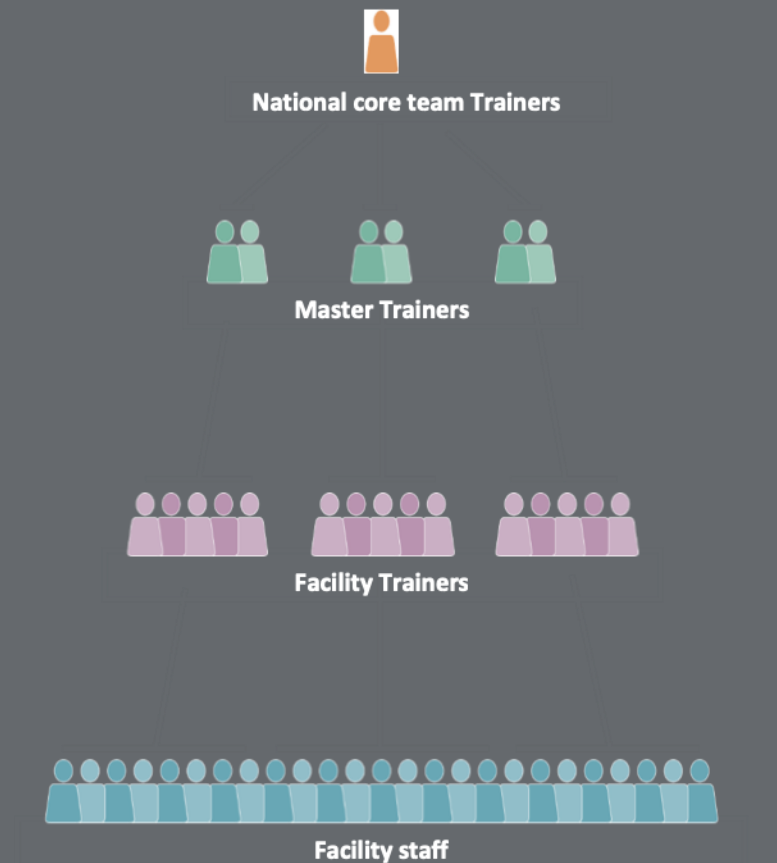
A nurse bringing a problem TB case to an on-site training group to work through using the guideline

Training: Cascade model

Implementation and Training Plan



Cascade Model



Training: The waiting room scene



IZAK VOLLGRANT

Training: Educational outreach session





Pillar 4: Monitoring and evaluation

Overview of trial results: Modest but consistent improvements across a range of outcomes and behaviours from the results of 4 South African pragmatic RCT's

Absolute effect sizes in the range seen in implementation science trials (5-15%)

Prescribing: cotrimoxazole prophylaxis², inhaled corticosteroids¹, aspirin⁵

Referral: appropriate referral of severe and complex cases^{1,4}

Case detection: HIV², TB^{1,2,4}

Health care utilisation: ↑ primary care visits, ↓ inpatient days^{4,6}

1. Fairall LR et al. BMJ 2005;331:750-754.

2. Zwarenstein M et al. BMJ 2011; 342:d2022.

3. Bachmann MO et al. Int J Tuberc Lung Dis 2010; 14(3):311–317.

4. Fairall LR et al. Lancet 2012; 380:889-98.

5. Fairall LR et al. Submitted.

6. Fairall LR et al. Trop Med Int Health. 2010; 15(3):277-286

7. Stein J et al. BMC Health Services Research 2008, 8:240.

8. Georgeu et al. Implementation Science 2012; 7:66.

Pragmatic trials of the PACK approach

PALSA (Practical Approach to Lung Health in South Africa)

2002-2003

40 clinics; 2000 patients; 3 month follow-up

Fairall LR *et al.* BMJ 2005;331:750-754

PALSA PLUS (Practical Approach to Lung Health and HIV/AIDS in South Africa)

2004-2006

15 clinics; 10 136 patients; X month follow-up

Zwarenstein M *et al.* BMJ 2011; 342:d2022.

STRETCH (Streamlining Tasks and Roles to Expand Treatment and Care for HIV)

2008-2010

31 clinics; 16 483 patients; median 18 months' follow-up

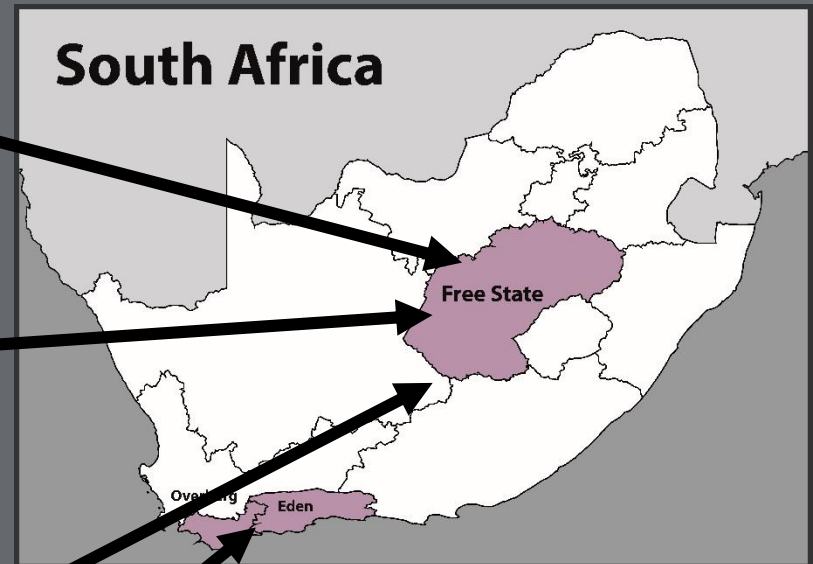
Fairall LR *et al.* Lancet 2012; 380:889-98.

Primary Care 101

2011-2013

38 clinics; 4 393 patients; 14 months' follow-up

Fairall LR, Folb N *et al.* PLoS Med 13(11): e1002178.



Pragmatic trials of the PACK approach

PRIME (Programme for Improving Mental Health Care)

2014 ongoing

20 clinics; X patients; 12 months' follow-up

ClinicalTrials.gov: NCT02425124

CobALT (CO-morBidity of AIDS/ HIV Affective disorder, and Long-Term Health)

2014 ongoing

40 clinics; X patients; 12 months' follow-up

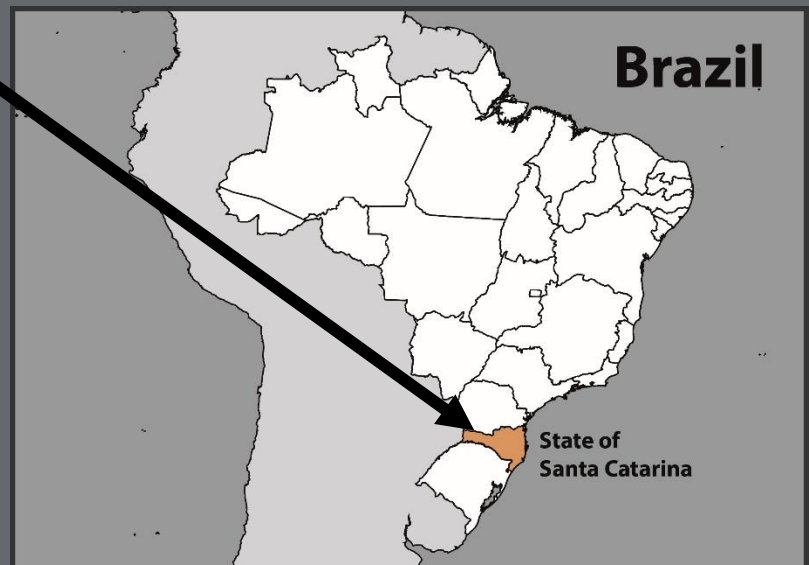
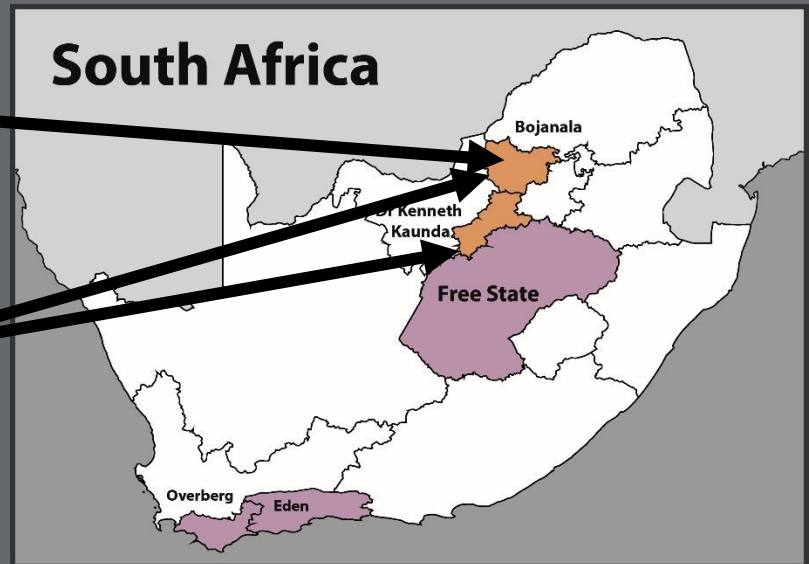
ClinicalTrials.gov: NCT02407691

Effect on respiratory outcomes in Florianópolis

2016 ongoing

48 clinics; X patients; 12 months' follow-up

ClinicalTrials.gov: XXX



Impact on primary healthcare workers: to equip & empower



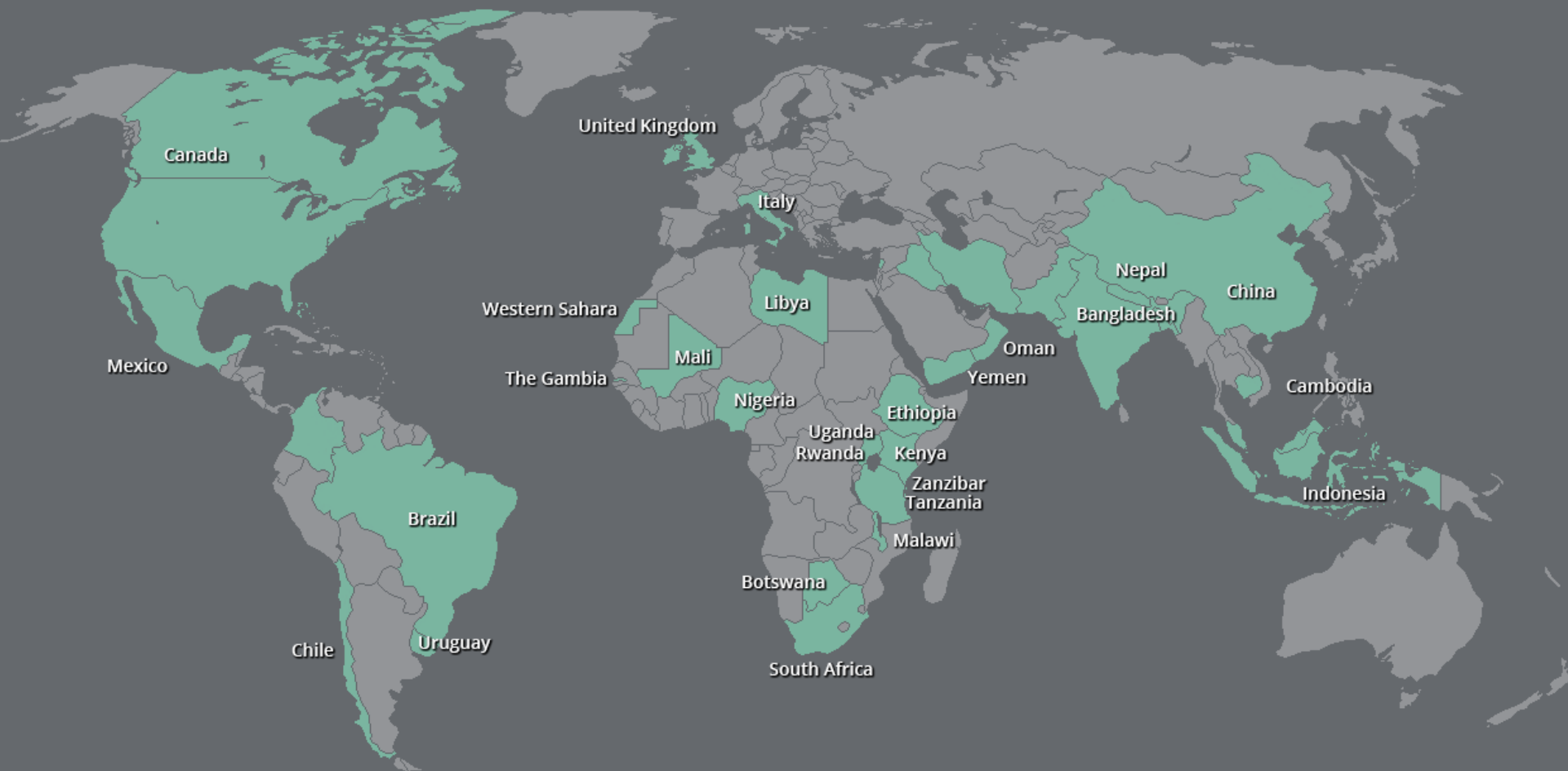
"A tool for every day for every patient."



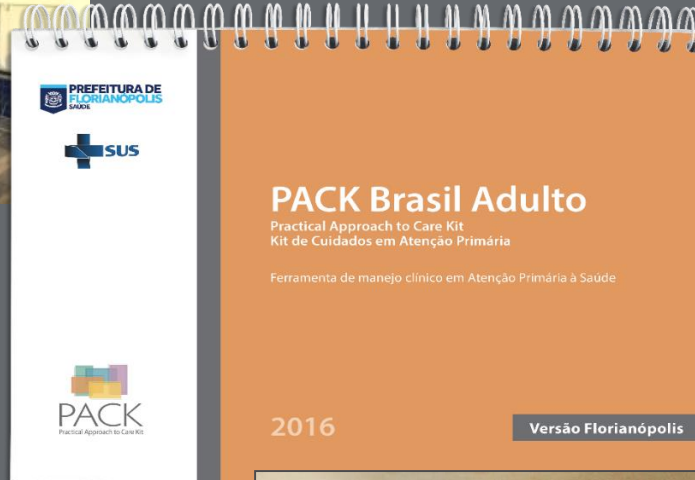
"Our bible..."



Country interest in the PACK programme



Countries that have expressed interest in PALS PLUS/PACK adaptations



Impact on healthcare workers: to empower



"A tool for every day for every patient."



The UCTLI Knowledge Translation Unit team





PACK

Practical Approach to Care Kit

www.knowledgetranslation.uct.ac.za

pack.bmj.com

Dr Tracy Eastman: teastman@bmj.com

Thank you





Training materials localization

- PACK Global Adult Lead/Master Trainers manual
- PACK Global Adult Facility Trainers manual
- PACK Global Adult board game , instructions & answers
- PACK Global Adult waiting room scene
- PACK Global Adult cases – bank of approx. 45 cases in 4 modules
- PACK Global Adult key messages
- PACK Global Adult training attendance records
- PACK Overview video
- PACK Training video's x 4
- PACK Guide video
- PACK Global Adult programme infographic
- PACK Global Adult guide infographic
- PACK Global Adult overview presentation (slides)
- PACK Global Adult training presentation
- PACK Global Adult training file (cover and spine)
- PACK Global Adult training tools – print specifications
- PACK Global Adult – sample training certificates

Guide localization

- PACK Global Adult guide (pdf)
- PACK Global Adult guide (Powerpoint) editable template
- PACK Global Adult Evidence and Decision Support document
- PACK Global Adult guide – equipment list, medication list, test list

PACK Global Adult guide – localization schedule

PACK Global Adult guide – printing specifications

Recommendations:

- Localisation kick-off workshop
- Localisation “dry-run”
- Trello tool for managing localization
- Specialist input + Primary care clinician input
- Engagement workshops
- User testing
- Content integration
- Print sample test runs



Knowledge into Practice: core principles of the PACK programme



Addressing the needs of patient and provider in primary care

**Evidence-informed
implementation of
evidence-informed
care**

**Comprehensive:
common symptoms
and chronic
conditions,
0-100 years**

**Team-based
training
within
context of
task-
sharing**

**Easy to
use:
providers
and
in-country
teams**

**Revised
annually**

**Localised for each
health system**

Policy aligned