
Health systems research, health systems strengthening and knowledge translation:
a primer for clinician scientists
PACK
Practical Approach to Care Kit
ዓርብ, ሐምሌ 24 2018
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Knowledge TranslationUnit
UNIVERSITY OF CAPE TOWN
KING'S College LONDON

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Knowledge Translation Foundation and Knowledge Translation Unit, University of Cape Town, South Africa
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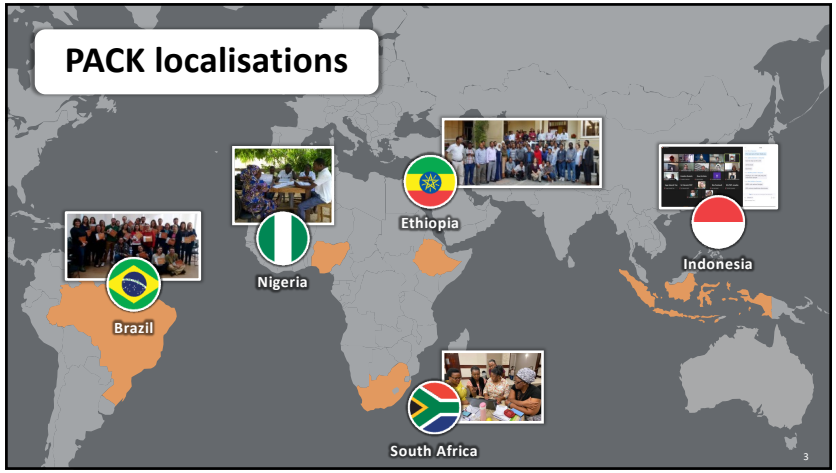
PACK localisations
Ethiopia
Nigeria
Indonesia
Brazil
South Africa
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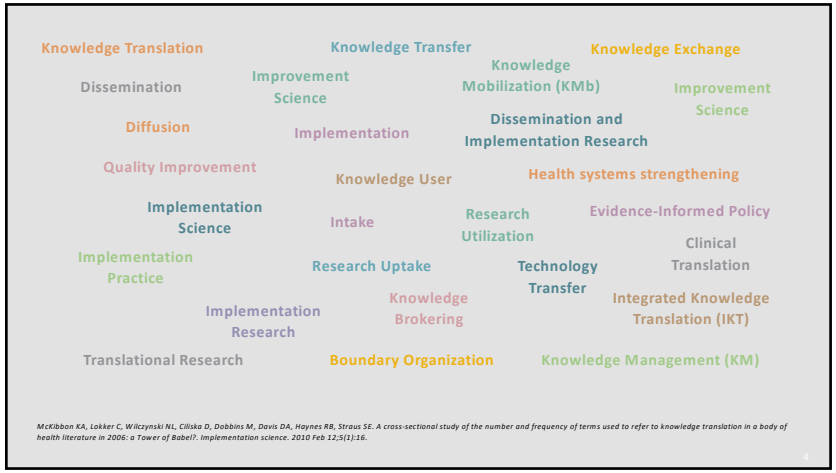
Knowledge Translation
Knowledge Transfer
Knowledge Exchange
Dissemination
Improvement Science
Knowledge Mobilization (KMb)
Improvement Science
Diffusion
Implementation
Dissemination and Implementation Research
Quality Improvement
Knowledge User
Health systems strengthening
Implementation Science
Intake
Research Utilization
Evidence-Informed Policy
Implementation Practice
Research Uptake
Technology Transfer
Clinical Translation
Implementation Research
Knowledge Brokering
Integrated Knowledge Translation (IKT)
Translational Research
Boundary Organization
Knowledge Management (KM)
McKibbon KA, Lokker C, Wilczynski NL, Ciliska D, Dobbins M, Davis DA, Haynes RB, Straus SE. A cross-sectional study of the number and frequency of terms used to refer to knowledge translation in a body of health literature in 2006: a Tower of Babel?. Implementation science. 2010 Feb 12;5(1):16.
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## WHAT WE KNOW

3000 – 5000 scientific papers published in life science each day

Estimated 85% of research avoidably wasted

100s of systematic reviews/ clinical practice guidelines each year

WHO: 10 – 15 documents per week

MIND THE GAP

## WHAT WE DO

≈20% of adults at high risk and very high risk of CVD are on preventive therapies

Less than 10% of patients with reduced ejection fraction heart failure receive guideline-directed medical therapies

Less than 10 countries globally have high hypertension control rates.

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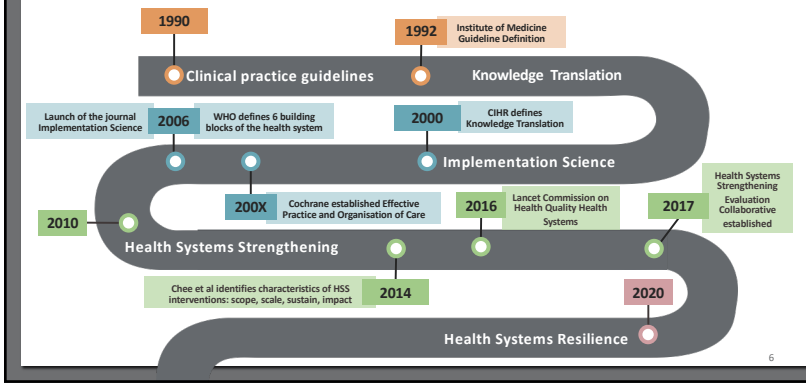
## Development of knowledge translation, implementation science and health systems strengthening 1990s-2020s

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## Knowledge Translation

"Knowledge translation is the exchange, synthesis and ethically-sound application of knowledge - within a complex system of interactions among researchers and users - to accelerate the capture of the benefits of research for the public through improved health, more effective services and products, and a strengthened health care system." [1]

"…is the umbrella term for all the activities involved in moving research from the laboratory, the research journal, and the academic conference into the hands of the people and organizations who can put it to practical use." [2]

"the synthesis, exchange and application of knowledge by relevant stakeholders to accelerate the benefits of global and local innovation in strengthening health systems and improving people's health"

1. Canadian Institutes of Health Research available online at: http://www.irsc.gc.ca/e/7518.html
2. Knowledge translation available online at en.wikipedia..org/wiki/Knowledge_translation
3. Ellen M. Knowledge translation framework for ageing and health. Geneva: Department of Ageing and Life-Course, World Health Organization, 2012

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## Implementation Science

"the scientific study of methods to promote the systematic uptake of proven research findings, evidence-based practices, and policies into routine healthcare and everyday use" [1]

Has evolved from identifying what works to how implementation works, and under what circumstances and for whom

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## When is an intervention a health systems strengthening intervention?

**Scope**

- Effects cutting across building blocks in practice, even if not in intervention design.
- Tackling more than one disease

**Scale**

- Having national reach
- Cutting across more than one level of the system

**Sustainability**

- Effects sustained over time
- Addressing systemic blockages

**Effect**

Impacting on outcomes, equity, financial risk protection, responsiveness

***Health Systems Strengthening Evaluation Collaborative (HSSEC)***

*Bertone MP, Palmer N, Kruja K, Witter S, HSSEC Working Group 1. How do we design and evaluate health system strengthening? Collaborative development of a set of health system process goals. The International Journal of Health Planning and Management. 2023 Mar;38(2):279-88.*

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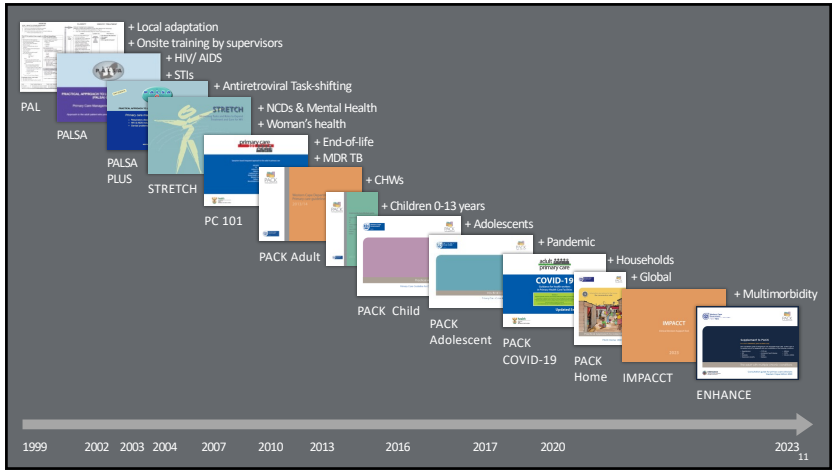
+ Local adaptation
+ Onsite training by supervisors
+ HIV/ AIDS
+ STIs
+ Antiretroviral Task-shifting
+ NCDs & Mental Health
+ Woman's health
+ End-of-life
+ MDR TB
+ CHWs
+ Children 0-13 years
+ Adolescents
+ Pandemic
+ Households
+ Global
+ Multimorbidity
PAL
PALSA
PALSA PLUS
STRETCH
PC 101
PACK Adult
PACK Child
PACK Adolescent
PACK COVID-19
PACK Home
IMPACCT
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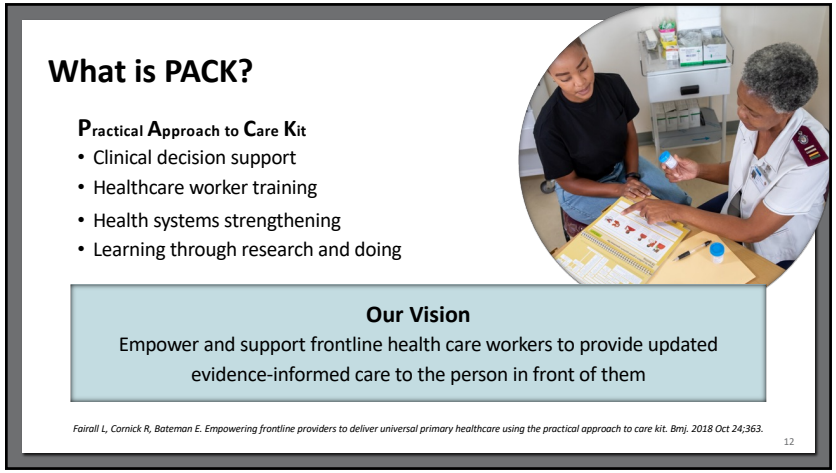
What is PACK?
Practical Approach to Care Kit
• Clinical decision support
• Healthcare worker training
• Health systems strengthening
• Learning through research and doing
Our Vision
Empower and support frontline health care workers to provide updated evidence-informed care to the person in front of them
Fairall L, Cornick R, Bateman E. Empowering frontline providers to deliver universal primary healthcare using the practical approach to care kit. Bmj. 2018 Oct 24;363.
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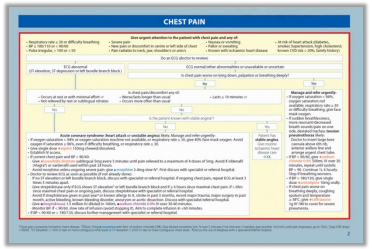
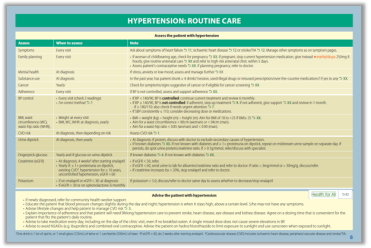
## Arranged in ways that people present to primary care facilities

Symptom




Routine care

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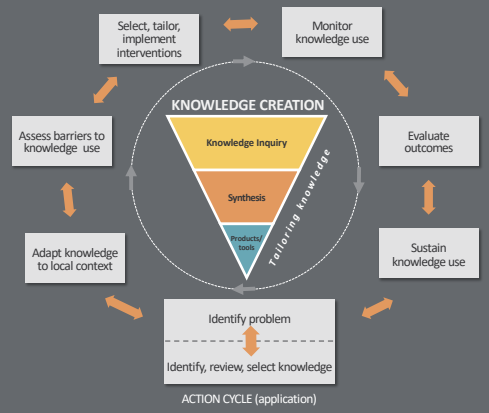
## Knowledge to Action Process




Straus SE, Tetroe J, Graham I. *Defining knowledge translation.* Cmaj. 2009 Aug 4;181(3-4):165-8.

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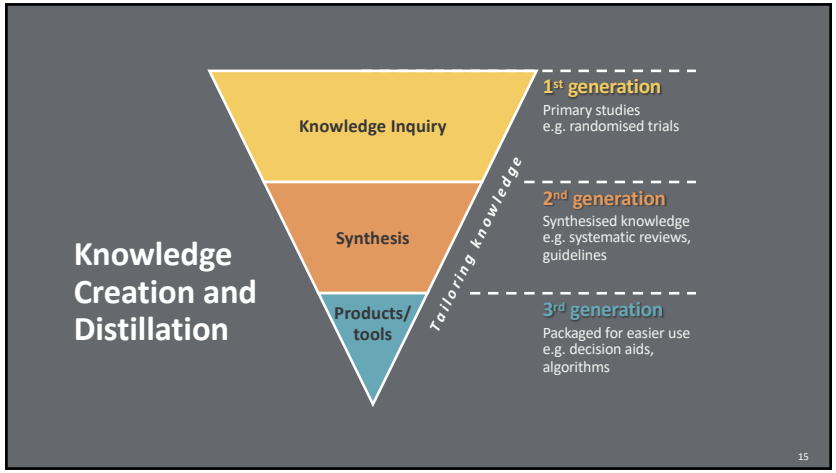
Knowledge Creation and Distillation
Knowledge Inquiry
Synthesis
Products/ tools
Tailoring knowledge
1st generation
Primary studies
e.g. randomised trials
2nd generation
Synthesised knowledge
e.g. systematic reviews, guidelines
3rd generation
Packaged for easier use
e.g. decision aids, algorithms
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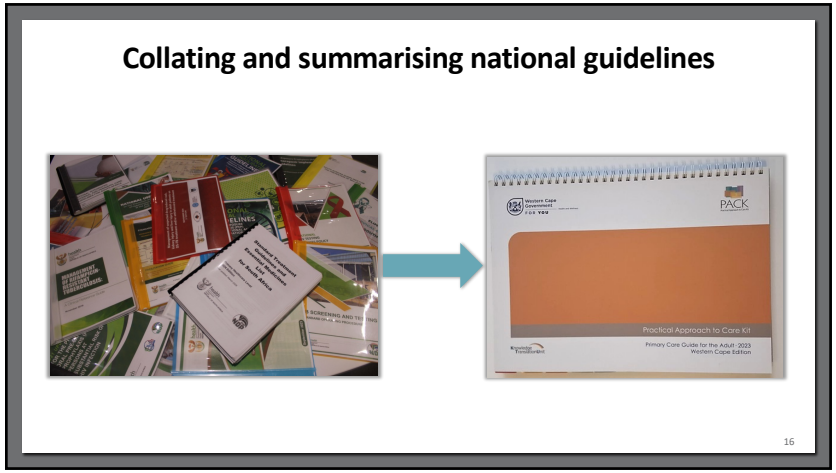
Collating and summarising national guidelines
PACK
Practical Approach to Care Kit
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## Key practice and research priorities for advancing implementation science principles in the development and translation of cardiovascular

| | Practice priorities | Research priorities |
|---|---|---|
| Guideline development | 1. Use and adapt methods that embed implementation science principles in the development of guidelines<br>2. Integrate implementation considerations alongside the assessment of clinical effectiveness evidence, supported by frameworks like **APPEASE**[41]<br>3. Create guideline companion implementation documents that could be tailored to different audiences and settings<br>4. Use participatory research approaches to involve stakeholders, especially patients and community, in the guideline development process | 1. Evaluate the effectiveness of applying reproducible cycles like **D4DS**[22] to the dissemination of guidelines<br>2. Develop methods for integrating implementation considerations, such as **APPEASE**,[41] into the guideline grading processes<br>3. Examine how guideline users perceive and use guidelines that embed both clinical and implementation recommendations<br>4. Investigate how to optimise participatory research approaches to ensure patient and community involvement in the development processes of guidelines |
| Guideline translation | 1. Ensure key partners, including patients, are meaningfully involved in planning to maximise the appropriateness of guidelines with their intended clinical and health system contexts<br>2. Build capacity for implementation science in low-resource settings that bear the greatest cardiovascular burden<br>3. Establish implementation outcomes as key performance indicators of guideline effectiveness<br>4. Prioritise strategic health system investment in infrastructure that facilitates implementation | 1. Identify generalisable implementation strategies that support cardiovascular guideline-recommended interventions across both similar and diverse health settings<br>2. Prioritise research on scaling up and sustaining guideline-recommended care<br>3. Evaluate the population-level impact of systematically applying implementation science principles in the development and translation of guidelines<br>4. Identify leverage points that create enabling environments for guideline translation across different settings |

APPEASE, Affordability, Practicability, Effectiveness, Acceptability, Side-effects/Safety and Equity; D4DS, designing for dissemination and sustainability

*Creagh NS, Brownson RC, Chow CK, Shi J, Sarkies M. Implementing clinical practice guidelines in cardiology: accelerating the translation of evidence into practice. Heart. 2026 Mar 26.*

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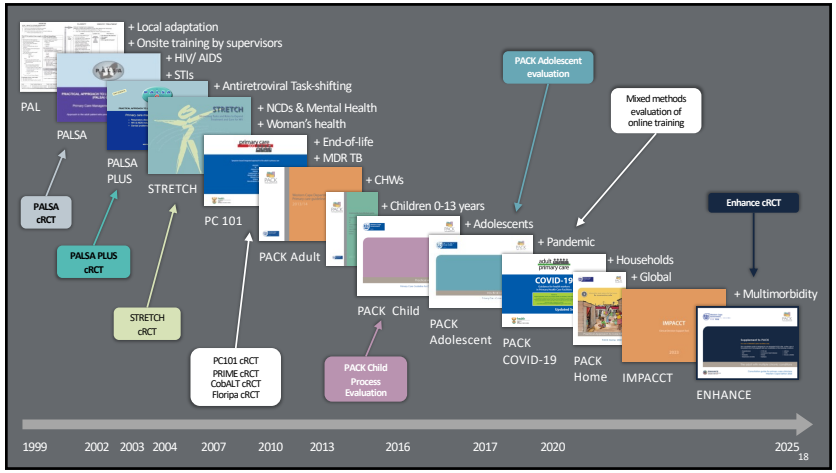


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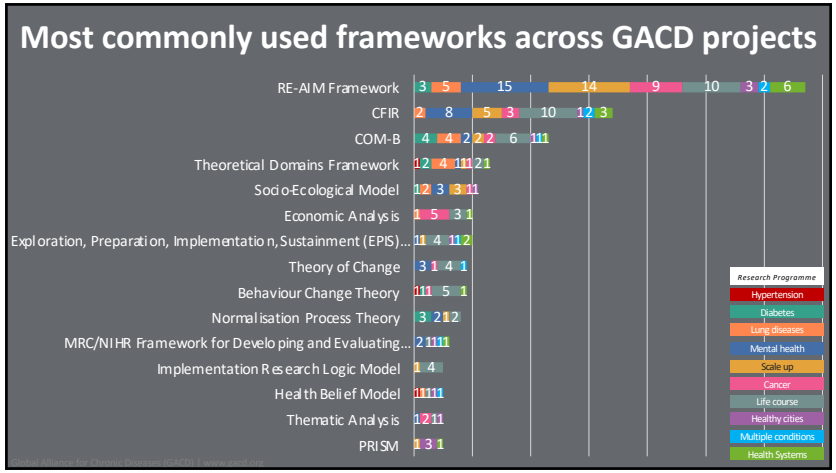
Most commonly used frameworks across GACD projects
RE-AIM Framework
CFIR
COM-B
Theoretical Domains Framework
Socio-Ecological Model
Economic Analysis
Exploration, Preparation, Implementation, Sustainment (EPIS)...
Theory of Change
Behaviour Change Theory
Normalisation Process Theory
MRC/NIHR Framework for Developing and Evaluating...
Implementation Research Logic Model
Health Belief Model
Thematic Analysis
PRISM
Research Programme
Hypertension
Diabetes
Lung diseases
Mental health
Scale up
Cancer
Life course
Healthy cities
Multiple conditions
Health Systems
Global Alliance for Chronic Diseases (GACD) | www.gacd.org

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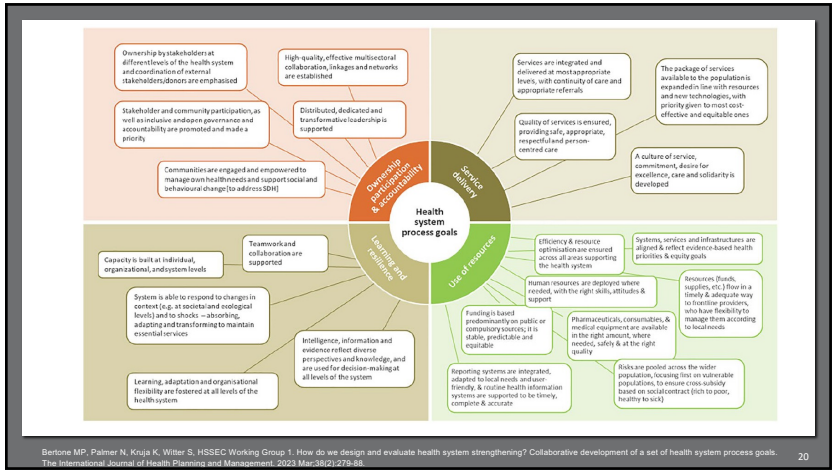
Ownership by stakeholders at different levels of the health system and coordination of external stakeholders/donors are emphasised
High-quality, effective multisectoral collaboration, linkages and networks are established
Stakeholder and community participation, as well as inclusive and open governance and accountability are promoted and made a priority
Distributed, dedicated and transformative leadership is supported
Communities are engaged and empowered to manage own health needs and support social and behavioural change [to address SDH]
Ownership, participation & accountability
Services are integrated and delivered at most appropriate levels, with continuity of care and appropriate referrals
The package of services available to the population is expanded in line with resources and new technologies, with priority given to most cost-effective and equitable ones
Quality of services is ensured, providing safe, appropriate, respectful and person-centred care
A culture of service, commitment, desire for excellence, care and solidarity is developed
Service delivery
Health system process goals
Capacity is built at individual, organizational, and system levels
Teamwork and collaboration are supported
System is able to respond to changes in context (e.g. at societal and ecological levels) and to shocks – absorbing, adapting and transforming to maintain essential services
Intelligence, information and evidence reflect diverse perspectives and knowledge, and are used for decision-making at all levels of the system
Learning, adaptation and organisational flexibility are fostered at all levels of the health system
Learning and resilience
Efficiency & resource optimisation are ensured across all areas supporting the health system
Systems, services and infrastructures are aligned & reflect evidence-based health priorities & equity goals
Human resources are deployed where needed, with the right skills, attitudes & support
Resources (funds, supplies, etc.) flow in a timely & adequate way to frontline providers, who have flexibility to manage them according to local needs
Funding is based predominantly on public or compulsory sources; it is stable, predictable and equitable
Pharmaceuticals, consumables, & medical equipment are available in the right amount, where needed, safely & at the right quality
Reporting systems are integrated, adapted to local needs and user-friendly, & routine health information systems are supported to be timely, complete & accurate
Risks are pooled across the wider population, focusing first on vulnerable populations, to ensure cross-subsidy based on social contract (rich to poor, healthy to sick)
Use of resources
Bertone MP, Palmer N, Kruja K, Witter S, HSSEC Working Group 1. How do we design and evaluate health system strengthening? Collaborative development of a set of health system process goals. The International Journal of Health Planning and Management. 2023 Mar;38(2):279-88.
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## Health System Strengthening Examples

1. Facility staff using it to self-define pharmaceutical & laboratory services.
2. To respond to health system shocks (emerging infectious diseases, funding withdrawals).
3. Clarify, negotiate and expand task-shared approaches across cadres and levels of care.
4. Harmonisation of guidance and policy across vertical programmes.
5. Support for integrated person-centred clinical services (NCDs & communicable diseases; mental health & physical conditions)
6. Informing packages for community-based health insurance
7. Used to benchmark quality improvement initiatives
8. Communicate a vision and defined, localised package of services in a tangible, accessible way.

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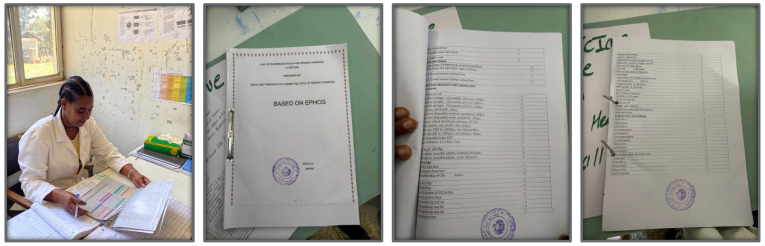
## 1 Facility staff defining their own medicines and laboratory lists




Gereno Health Centre, Gurage Zone, Ethiopia

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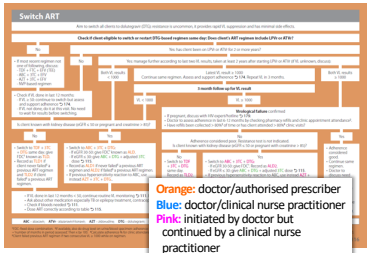
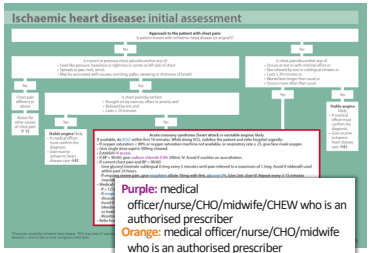
## 2 Task-shared approaches

**South Africa**




Orange: doctor/authorised prescriber
Blue: doctor/clinical nurse practitioner
Pink: initiated by doctor but continued by a clinical nurse practitioner
Green: Doctor only.

**Nigeria**




Purple: medical officer/nurse/CHO/midwife/CHEW who is an authorised prescriber
Orange: medical officer/nurse/CHO/midwife who is an authorised prescriber
Blue: medical officer only.

*Zonta R, Galana MZ, Zepeda J, de Barros Perini F, Fairall LR, Pinto FK, de Andrade MP, Eloi BM, da Silveira JP, Siqueira EF, Báfica AC. Supporting a rapid primary care response to emergent communicable disease threats with PACK (Practical Approach to Care Kit) in florianópolis, Brazil. BMJ Global Health. 2024 Oct 1;9(Suppl 3):e013815.*

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## 3 Responding to health system shocks


*Zonta R, Galana MZ, Zepeda J, de Barros Perini F, Fairall LR, Pinto FK, de Andrade MP, Eloi BM, da Silveira JP, Siqueira EF, Báfica AC. Supporting a rapid primary care response to emergent communicable disease threats with PACK (Practical Approach to Care Kit) in florianópolis, Brazil. BMJ Global Health. 2024 Oct 1;9(Suppl 3):e013815.*

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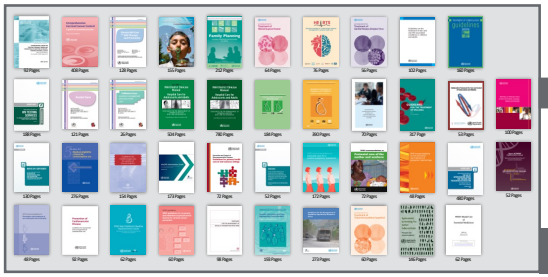
## 4 Harmonisation across vertical programmes




**PACK combines latest policies into one resource**

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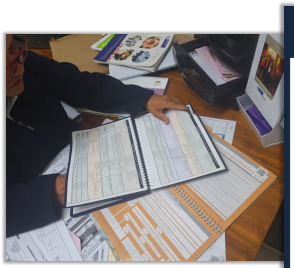
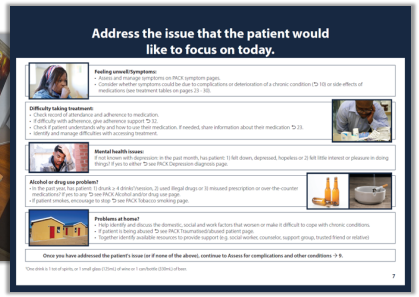
## 4 Support integrated person-centred care






*Cornick RV, Petersen I, Levitt NS, Kredo T, Mudaly V, Cragg C, David N, Kathree T, Rabe M, Awotiwon A, Curran RL. Clinically sound and person centred: streamlining clinical decision support guidance for multiple long-term condition care. BMJ Global Health. 2024 Oct 28;9(Suppl 3).*

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## 5 Supporting health insurance packages

- Adopted as primary care benefit package for Ethiopia's Community-Based Health Insurance

*Kibret AG, Belete WM, Hanlon C, Ataro I, Tsegaye K, Tadesse Z, Feleke M, Abdella M, Wale M, Befekadu K, Bekele A. Ethiopian primary healthcare clinical guidelines 5 years on—processes and lessons learnt from scaling up a primary healthcare initiative. BMJ Global Health. 2024 Oct 1;9(Suppl 3):e013817.*

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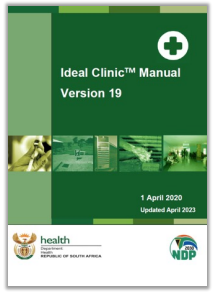
## 6 Benchmark for Quality Improvement Initiatives



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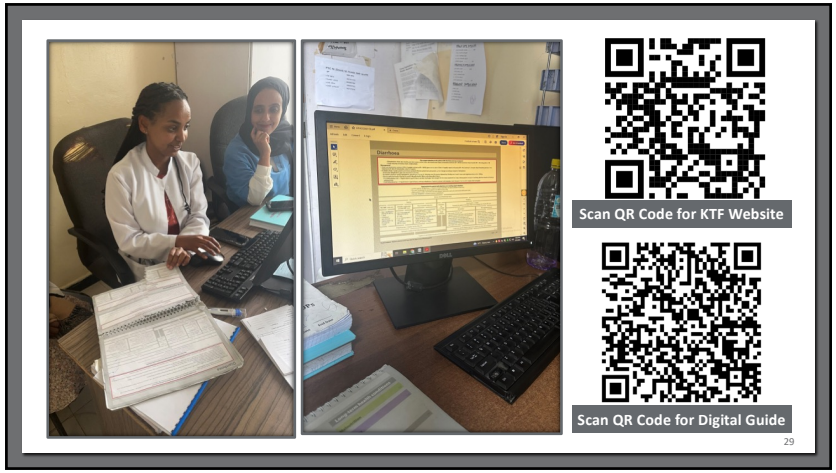
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