



REPUBLIC OF SOUTH AFRICA



Ideal Clinic Realisation and Maintenance

Infrastructure

Full Lab Report
November 2014

Contents

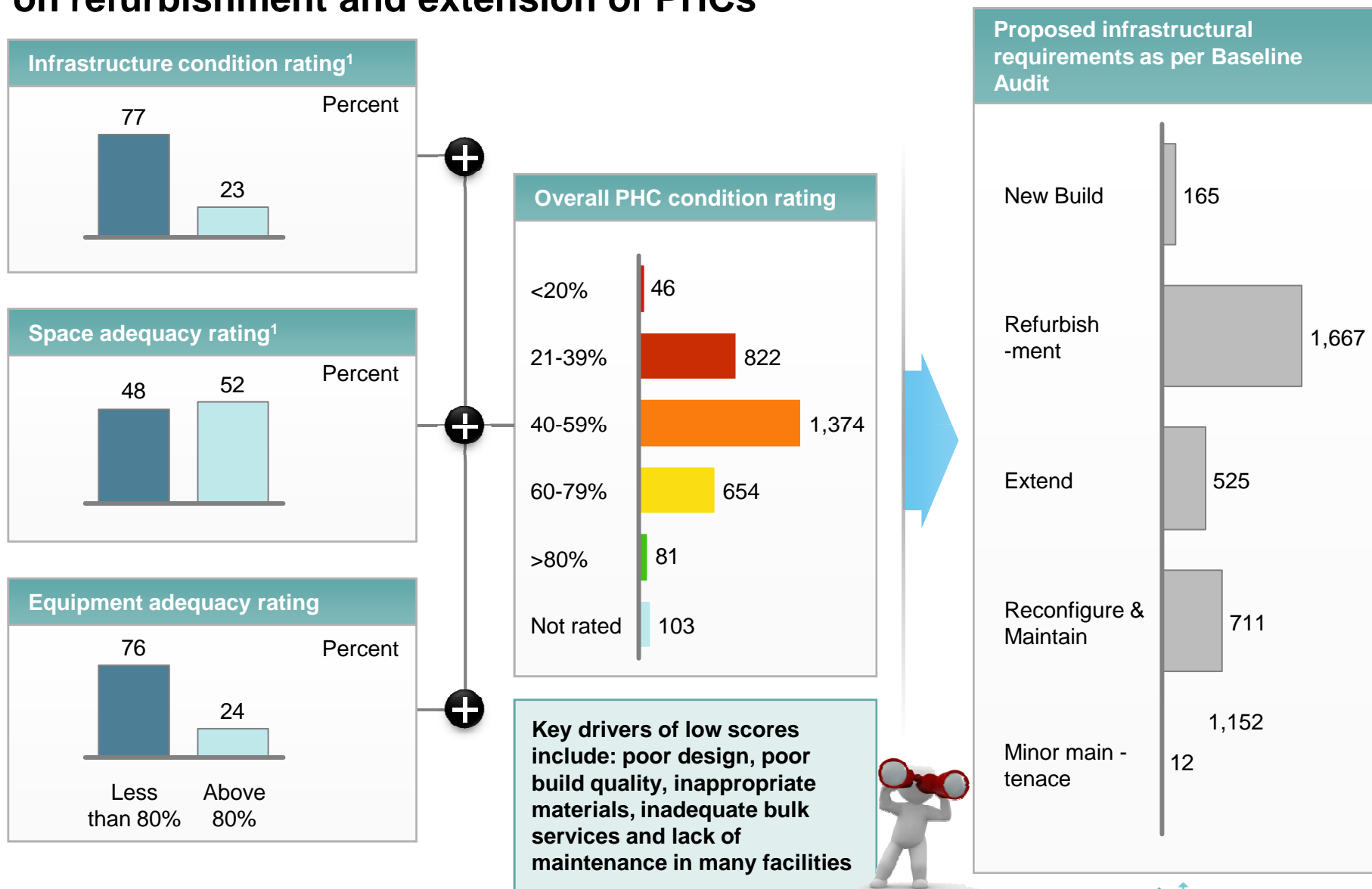


- **Context and case for change**

- Aspirations
- Issues and Root causes
- Solutions/initiatives

CONTEXT AND CASE FOR CHANGE

Preliminary results suggest the majority of the roll-out should be focused on refurbishment and extension of PHCs



1. A total of 43 and 336 facilities did not have any data available infrastructure and space data respectively
 SOURCE: The National Health Care Facilities Baseline Audit 2012

Contents



- Context and case for change
- **Aspirations**
- Issues and Root causes
- Solutions/initiatives

Key elements of the infrastructure of an “Ideal clinic”

What does this look like: How will it be different	
A Design & layout	<ul style="list-style-type: none"> Apply clinical and community input to inform the PHC context and design Ensure functional design that satisfies maximum infection control Plan layout that allows for optimal patient flow Use of clear and standardised signage leading to and inside the PHC
B Bulk services	<ul style="list-style-type: none"> Prioritise to ensure that electricity, sewerage reticulation and water is available at all facilities Guarantee that back-up services are available for facilities prone to load shedding and water shortages e.g. Generator for rural areas and water tanks
C Equipment & Technology	<ul style="list-style-type: none"> Develop a national standard and specifications for all equipment Ensure availability and quality of essential equipment Ensure scheduled maintenance of equipment
D ICT connectivity	<ul style="list-style-type: none"> Ensure good quality, reliable internet services by equipping them with broadband equipment Adopt innovative methods to enable ease of communication and fast-track decision making e.g. iMaintenance app
E Efficiency	<ul style="list-style-type: none"> Use directional signage to decrease in the amount of congestion and waiting times Reduce response times for maintenance
F Sustainable	<ul style="list-style-type: none"> Authenticate high quality and maintainability of structure Adopt green-building principles that will lead to “Eco-friendly” facilities Create salutogenic environment
G Optimal cost structure	<ul style="list-style-type: none"> Track and ensure timely construction Assure all PHCs are fit-for-purpose Use material that lead to operational efficiency and high maintainability i.e require minimal upkeep
H Patient Friendly	<ul style="list-style-type: none"> Advance as a platform for mitigating lifestyle disease Ensure all facilities are disability-friendly Focus on Mother- and -child centre Encourage youth-centric activities and involvement

To achieve this Infrastructure will develop an effective infrastructure rollout plan to ensure 100% world class PHCs by 2017

	Aspiration	Target
1	Fit-for-purpose health facilities <ul style="list-style-type: none"> Ensure NDoH realises 100% world class, PHC facilities by 2017/18 	<ul style="list-style-type: none"> Define clearly the infrastructure roll-out plan and technical specification for the 'Ideal Clinic' state
2	Focus on value for money, not cost <ul style="list-style-type: none"> Ensure quality, on-time, value-for-money construction 	<ul style="list-style-type: none"> Define the supply chain management process and project management strategies that that will reduce turnaround time Define and propose feasible options related to private sector involvement
3	High quality, low maintenance standards <ul style="list-style-type: none"> Ensure that all PHCs are well maintained 	<ul style="list-style-type: none"> Define the supply chain management process and project management strategies that that will reduce turnaround time Define and propose feasible options related to private sector involvement

Contents

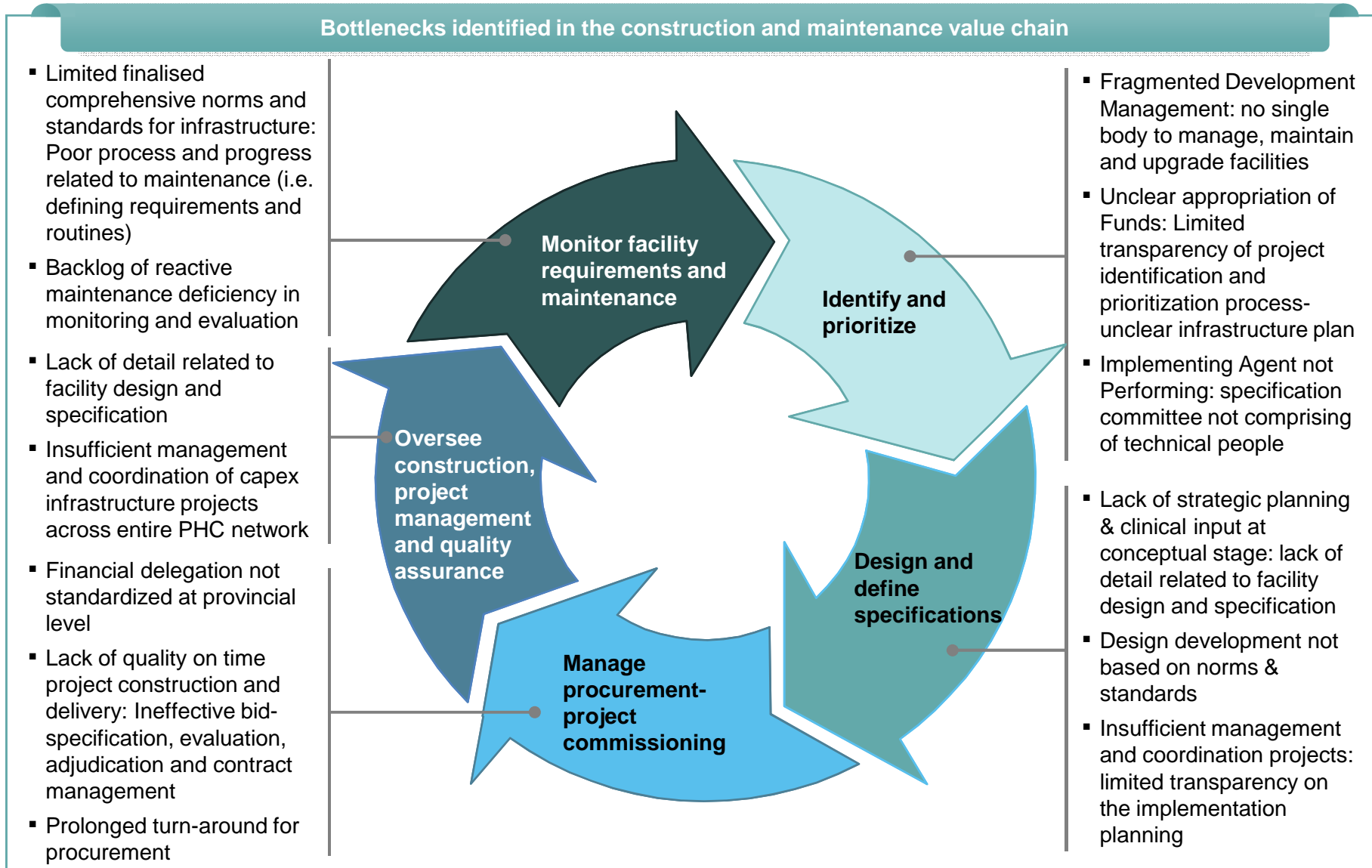
- Context and case for change
- Aspirations
- **Issues and Root causes**
- Solutions/initiatives



Various issues have been identified as pivotal obstacles to an accelerated roll out of the 'Ideal Clinic' across four broad areas

	Description	Impact of the issue
Lack of adherence to governance procedures	<ul style="list-style-type: none"> ▪ Fragmented coordination and decision making ▪ Unclear appropriation of funds and prioritisation of projects 	<ul style="list-style-type: none"> ▪ Protracted delegation of powers for projects reducing the quality and on-time completion of projects ▪ Delayed maintenance response leading to back-log maintenance
No integrated asset delivery plan	<ul style="list-style-type: none"> ▪ Limited visibility of integrated programme approach for infrastructure reconditioning ▪ Lack of standardisation, use of conventional design and building process too lengthy 	<ul style="list-style-type: none"> ▪ No clear systematic and sustained upgrading and improve of facilities ▪ Inappropriate configuration of facility for required package of service ▪ Lack of detail related to facility design and specification allows for continuous design revisions
Lack of dedicated infrastructure SCM and construction management	<ul style="list-style-type: none"> ▪ Prolonged turn-around time for procurement ▪ Ineffective bid specification, evaluation and adjudication 	<ul style="list-style-type: none"> ▪ Scope creep negatively affecting budget and completion time and quality ▪ Irregular appointment of service providers which may lead to irregular expenditure ▪ Poor performance by service providers, despite availability of Service Level Agreement (SLA)
Limited quality assurance, maintenance measures	<ul style="list-style-type: none"> ▪ Limited finalisation of the documentation (policies, guidelines, norms and standards). ▪ Poor process and progress related to maintenance requirements and routines 	<ul style="list-style-type: none"> ▪ Unqualified documents contribute to poor planning, and limited performance management ▪ Severe implications on Risk mitigation, from legal disputes, non-completion of projects and cost escalations. Increased backlog on the planned projects ▪ Non-compliance to the norms and standards
There are several other issues which have been identified which we will address in our final solution within the infrastructure workstream		

Across the construction and maintenance value chain we have identified areas that need to be addressed



Four key issues have been prioritised that relate to the identification and prioritisation process

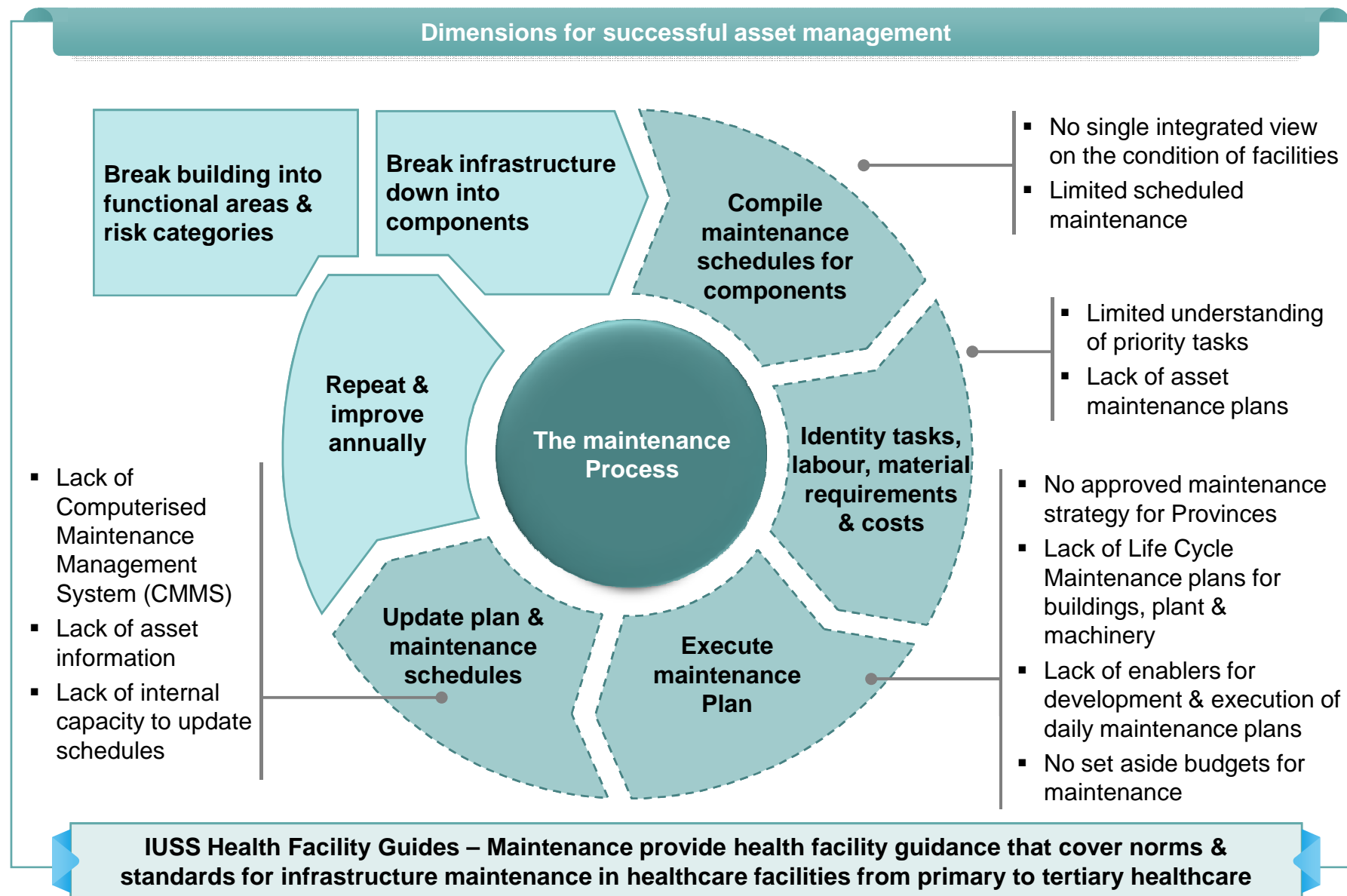
 Further detail

Description	Root cause	Implications
1 Fragmented Asset Management	<ul style="list-style-type: none"> Currently too many interfaces for approval Final custodian of the asset and end user are not the same party and have, by definition, alternative motivations for implementation Final sign-off of asset resides with client, who does not always have the expertise to do so meaningfully 	<ul style="list-style-type: none"> Delayed initiation of asset construction, causes an expiration of property rights acquired from municipality
2 Implementing agent not performing	<ul style="list-style-type: none"> Poor or lack of contract management driven by Supervision of construction being exclusively managed by the contractor, who is audited on workmanship at the end of the construction contract, after work has already been completed Various types of contracts used do assign accountability to multiple parties 	<ul style="list-style-type: none"> Lack of quality and quantity assurance leading to delays and demolition of structures Lack of recourse for sub-standard work enforce contract penalties
3 Unclear appropriation of funds	<ul style="list-style-type: none"> Skewed maintenance budget allocation where backlog maintenance is deprioritised and budgeted 	<ul style="list-style-type: none"> Inadequate funding for maintenance, for emergency, backlog and routine. No process to updated and sign off on cost escalations <ul style="list-style-type: none"> – Mistakes are only corrected on clients budget
4 Delayed Maintenance response	<ul style="list-style-type: none"> More than one department responsible for maintenance and disparity increased by lack of roles that re not defined in detail Suboptimal maintenance planning, implementation and budgeting (historical budgeting) 	<ul style="list-style-type: none"> No integrated view of maintenance portfolio or budget for PHC facilities to ensure Decreased in the clinic rating I.e ideal clinic dashboard Increased maintenance costs in the long run

SOURCE: Infrastructure Workstream – Health Labs

Key challenges associated with the ability to successfully coordinate and manage maintenance driven by several bottlenecks

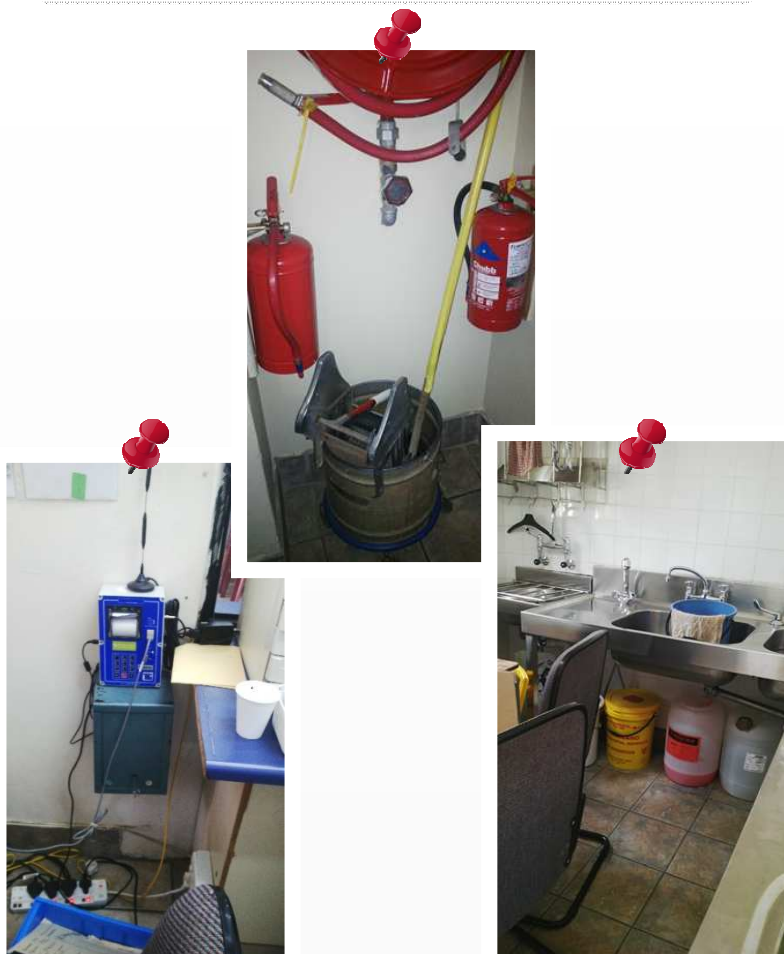
 Bottlenecks in process



SOURCE: IUSS Health Facility Guides - Maintenance

Evidence showing a large number of facilities that are not fit-for-purpose and poorly maintained (1/2)

Health and Safety hazards



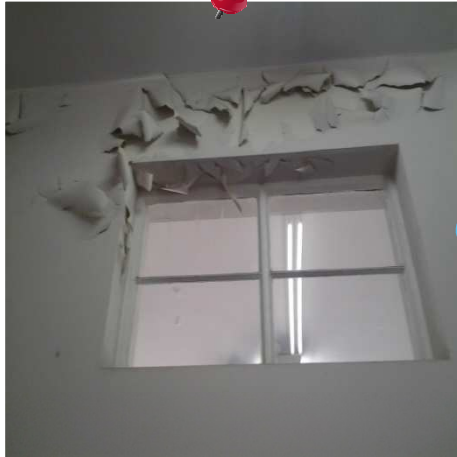
Lack of storage space



SOURCE: Clinic visits – October 13th and 14th 2014

Evidence showing a large number of facilities that are not fit-for-purpose and poorly maintained (2/2)

Poor maintenance



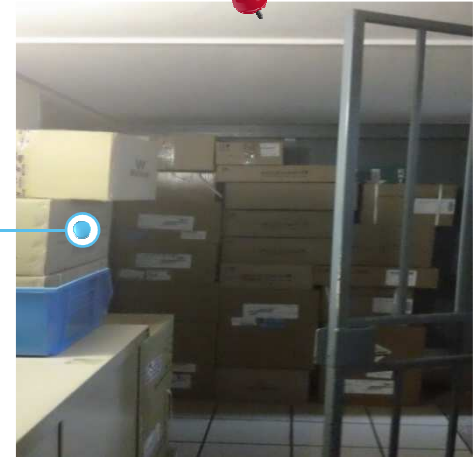
Impact of
leaking roof



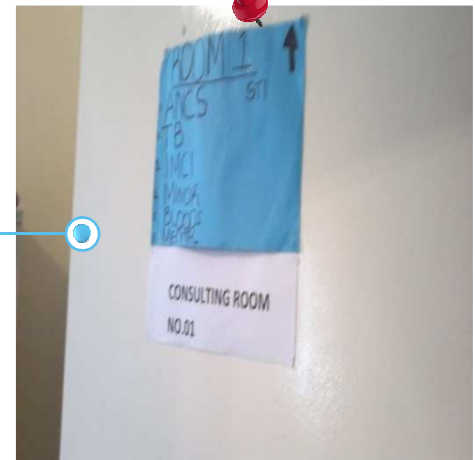
Poor
maintenance
of ablution
facility

Not fit-for-purpose

Inadequate
storage
space



Non-
standar-
dized
signage



Three key issues have been identified with respect to the design and definition of specifications

Description	Root cause	Implications
1 Lack of strategic planning & clinical input at conceptual stage	<ul style="list-style-type: none"> ▪ The IUSS norms and guidelines for PHC's are not developed to the level of detail which covers the material specifications or recommended standard plans ▪ Difficult to obtain detailed information on design, age of building and ERF layout ▪ Lack of professionals specialized in health infrastructure 	<ul style="list-style-type: none"> ▪ Absence of National specifications for building materials ▪ Absence of National norms and standards for medical equipment ▪ Majority of clinics are more than 20 years old and were designed for different needs
2 Insufficient management and coordination projects	<ul style="list-style-type: none"> ▪ Lack of quality and quantity assurance leading to delays and demolition of structures ▪ National Department of Health Infrastructure Unit presentation suggests: <ul style="list-style-type: none"> – Lack of quality and quantity management – No in Loco supervision (meaningful supervision on-site on behalf of the client) – Very small amount of infrastructure posts in health are filled 	<ul style="list-style-type: none"> ▪ Final sign-off of asset resides with client, who does not necessarily have the expertise to do so meaningfully ▪ Lack of accountability and follow up regarding poor delivery <ul style="list-style-type: none"> – Specifically DPW and DoH
3 Design development not based on norms & standards	<ul style="list-style-type: none"> ▪ No standardized design system and a lack of norms and standards. ▪ Protracted auditing/assessment, selection and acquisition of equipment ▪ Extended design process with multiple revisions based on the standard requirements and various stakeholder inputs before it is finalized 	<ul style="list-style-type: none"> ▪ Auditing/assessment of equipment is not currently part of the standard operating practice ▪ Difficult to identify and consolidate of all existing and functioning design systems

SOURCE: Infrastructure Workstream – Health Labs; IUSS: Executing a construction project

Findings from clinic visits showing lack of standards and monitoring – Municipality operated clinics (1/5)

Insights	Description	Implications	
1 Reception & waiting area	<ul style="list-style-type: none"> Reception and waiting area too small Clinic layout can be improved Ventilation in clinic 1 was extremely poor 	<ul style="list-style-type: none"> No waiting area outside clinic premises Limited shelter to protect from exposure to elements Poor patient flow and infection control Prolonged increased waiting times for poor layout 	<ul style="list-style-type: none"> Further assessment of functional equipment required Lack of minimum requirement for seating facilities for all feet
2 Equipment and furniture	<ul style="list-style-type: none"> Clinic 1 & 2, not enough sitting facilities for all feet Adequate medical equipment 	<ul style="list-style-type: none"> Recommendation to revisit the equipment standards: <ul style="list-style-type: none"> E.g. Minimum requirement for seating facilities for all feet 	
3 Waste services	<ul style="list-style-type: none"> Medical Waste collection is rare, leading to cross contamination with new disposables Limited general waste collection 	<ul style="list-style-type: none"> Infection control risk. Staff/patient safety. 	
4 Ablution	<ul style="list-style-type: none"> Ablutions inadequate for patient volume 	<ul style="list-style-type: none"> Ablutions require more regular maintenance than the remainder of building Word of mouth opinion affects patients willingness to visit specific clinics Patients are at clinics for 2-8 hours, at will require ablution facilities at least once Mothers need to change and breast-feed children 	<ul style="list-style-type: none"> Lack of maintenance of overall infrastructure and ablution facility Health implication, as there is an urgent need for critical repairs to toilets to contain possibility of infections

SOURCE: Clinic visits – October 13th and 14th 2014

Findings from clinic visits showing lack of standards and monitoring – Municipality operated clinics (2/5)

Insights	Description	Implications
5 Dispensary	<ul style="list-style-type: none"> ▪ Limited space ▪ No Pharmacist 	<ul style="list-style-type: none"> ▪ Lack of resources ▪ Allocated space below requirement
6 Equipment and furniture	<ul style="list-style-type: none"> ▪ Clinic 1 & 2, not enough sitting facilities for all feet ▪ Adequate medical equipment 	<ul style="list-style-type: none"> ▪ Recommendation to revisit the equipment standards: <ul style="list-style-type: none"> – E.g. Minimum requirement for seating facilities for all feet
7 Security	<ul style="list-style-type: none"> ▪ Lack of screening for prohibited items ▪ Lack of required infrastructure for safe storage of firearms <ul style="list-style-type: none"> – Lack of adequate & visible security – No screening or detectors for prohibited items – No gun safe at security office 	<ul style="list-style-type: none"> ▪ Limited screening affects patient (patient perception); staff attitude (staff uneasiness) and safety ▪ Understaffed security resource at PHC facility ▪ No clear contractual obligation for security ▪ No guidelines for Safety and Security
8 Building external	<ul style="list-style-type: none"> ▪ No Services Board (font size of text) <ul style="list-style-type: none"> – Observed in clinic 1 and 2 – Limited pedestrian and public transport infrastructure ▪ Lack ambulance access 	<ul style="list-style-type: none"> ▪ Lack of transparency for visitor on the services offered and scheduled availability of services ▪ Challenge for patient to reach clinic as a result of clinic access

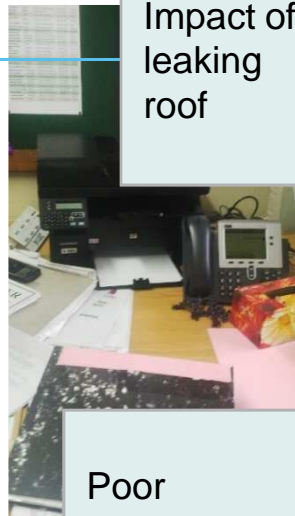
SOURCE: Clinic visits – October 13th and 14th 2014

Findings from clinic visits showing lack of standards and monitoring – Municipality operated clinics (3/5)

Signage not standardised



Impact of
leaking
roof

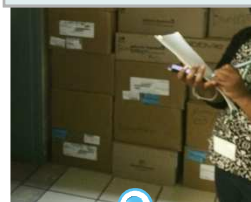


Poor
maintenance
of ablution
facility



Lack of designated storage of equipment and supplies

Inadequate
storage
space



Non-standardized signage

Two been identified with respect to management of procurement-project commissioning

Description	Root cause	Implications
1 Financial delegation not standardized at provincial level	<ul style="list-style-type: none"> Accounting officers per province are not enforced to apply the National Treasury thresholds. <ul style="list-style-type: none"> Option to adjust threshold value but not exceed values stated in the national treasury notes All infrastructure related items are assumed to be procured through normal infrastructure procurement processes <ul style="list-style-type: none"> RT contracts could assist to expedite some items to avoid lengthy procurement 	<ul style="list-style-type: none"> Non standardisation of simplified procurement processes i.e. standardise delegation of power throughout province, district and municipal level
2 Ineffective bid specification, evaluation and adjudication	<ul style="list-style-type: none"> Some quotations are not evaluated on quality <ul style="list-style-type: none"> Functionality bid evaluations are restricted to information submitted by bidders but not thoroughly investigated through in loco inspections of previous work done and resources available on site 	<ul style="list-style-type: none"> Lack of detailed evaluation criteria Prolonged turn-around time for procurement Poor contract management and protracted construction process Quality not a standardized option for all infrastructure procurement <ul style="list-style-type: none"> 10 Years for latent defects liability period is too long limits ability to still hold the contractor liable for latent defects after final completion

Three issues have been prioritised with respect to monitoring facility requirements and maintenance

Description	Root cause	Implications
1 Manage procurement-project commissioning	<ul style="list-style-type: none"> Increased backlog on planned projects Absence of operational and maintenance budgeting 	<ul style="list-style-type: none"> Poor quality of work Late completion of projects & cost escalations
2 Poor people and performance management	<ul style="list-style-type: none"> Poor monitoring of progress on projects (lack of, ongoing training of infrastructure personnel 	<ul style="list-style-type: none"> Poor monitoring of progress on projects (lack of, ongoing training of infrastructure personnel
3 Limited finalized comprehensive norms and standards for infrastructure	<ul style="list-style-type: none"> Breakdown of communication protocol within Intergovernmental sectors No integration and alignment of existing Policies, Norms and standards by Provinces due to absence of National standardized specifications <ul style="list-style-type: none"> Unqualified documents contribute to poor planning, due to constant changes 	<ul style="list-style-type: none"> Poor compliance to norms and standards Poor quality equipment Poor maintainability of infrastructure

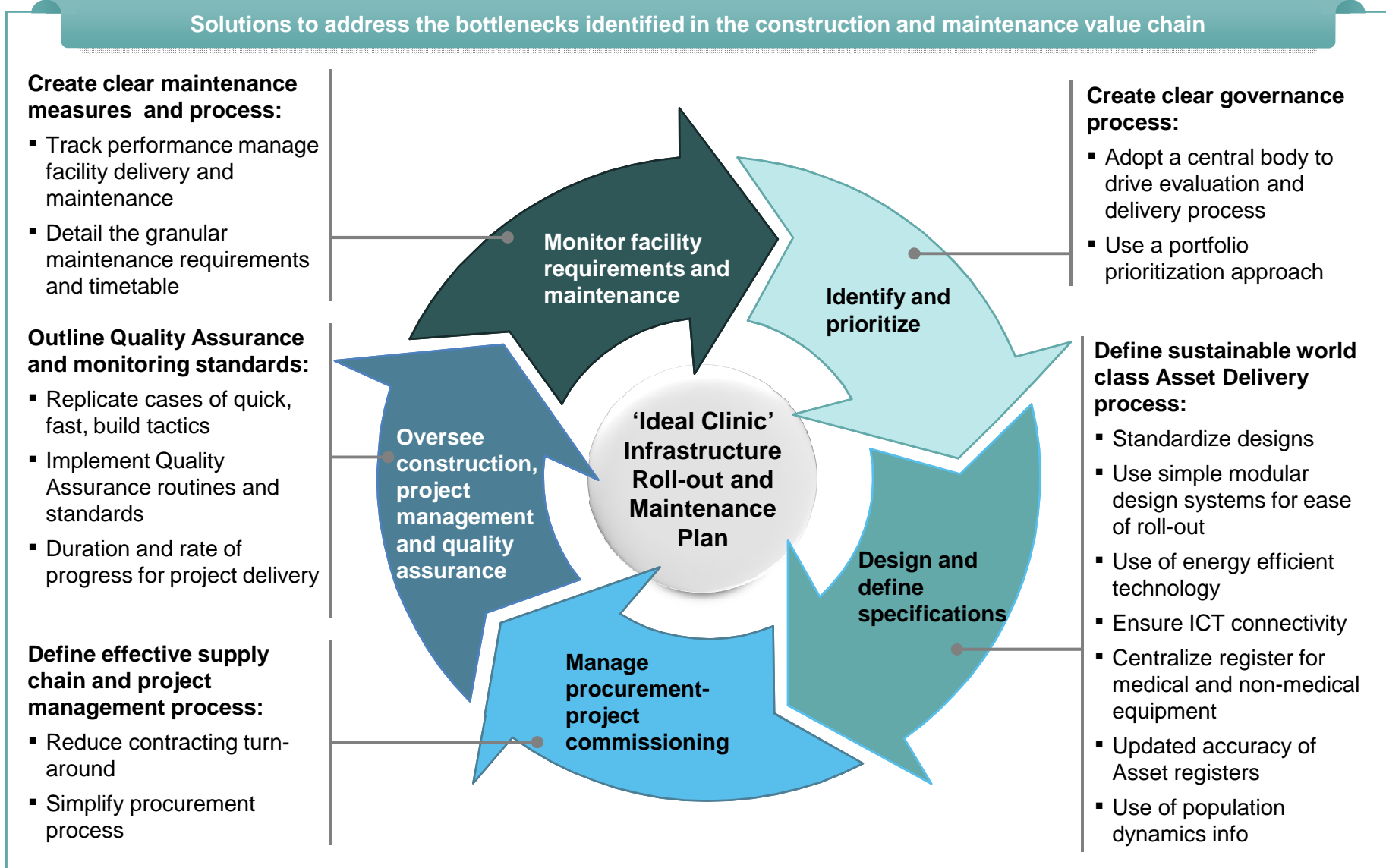
Contents

- Context and case for change
- Aspirations
- Issues and Root causes
- **Solutions/initiatives**
 - Business As Usual Initiatives



WHAT WILL CHANGE

Infrastructure workstream will unlock bottlenecks across the entire construction and maintenance value chain



Infrastructure workstream will be focussing on five initiatives to ensure 100% world class, PHC facilities by 2017/18

Breakthrough – must win



- 1 Create and implement a detailed roll out of Ideal Clinic Infrastructure Program
- 2 Establish Clinic Maintenance Hub (CMH)
 - Catalyze with iMaintenance app



Quick win – rapid, visible impact



- 3 Update ideal clinic technical standards



Major delivery fix – effective execution



- 4 Consolidate & update asset register
- 5 Design and implement central oversight delivery unit



Note: Private sector involvement and equipping Ideal Clinics with ICT connectivity capability will run concurrently within the roll-out programme



1 Overview of the approach to create and implement a detailed roll out of Ideal Clinic Infrastructure Program

PRELIMINARY

Objective:

To properly migrate existing PHC facilities into ideal clinics complying with norms & standards for efficient service delivery

Initiative concept/details/highlights:

- Segment all facilities into infrastructure requirements from current state to ideal state
- Outline the key infrastructural requirements i.e. new builds, reconfiguration for lean, light touch upgrades and maintenance
- Create a detailed project plan to implement the ideal clinic roll-out plan to realize 100% fit for purpose
 - Prioritise quick wins based on the different category of current facilities identifying quick wins to show feasibility of success

Owner

- Infrastructure workstream, HOD

Key stakeholders identified:

- Provincial Treasury
- National, Provincial & District Department of Health
- Other government departments and agencies
- Private sector

Required resources

- Finance, Human Resources

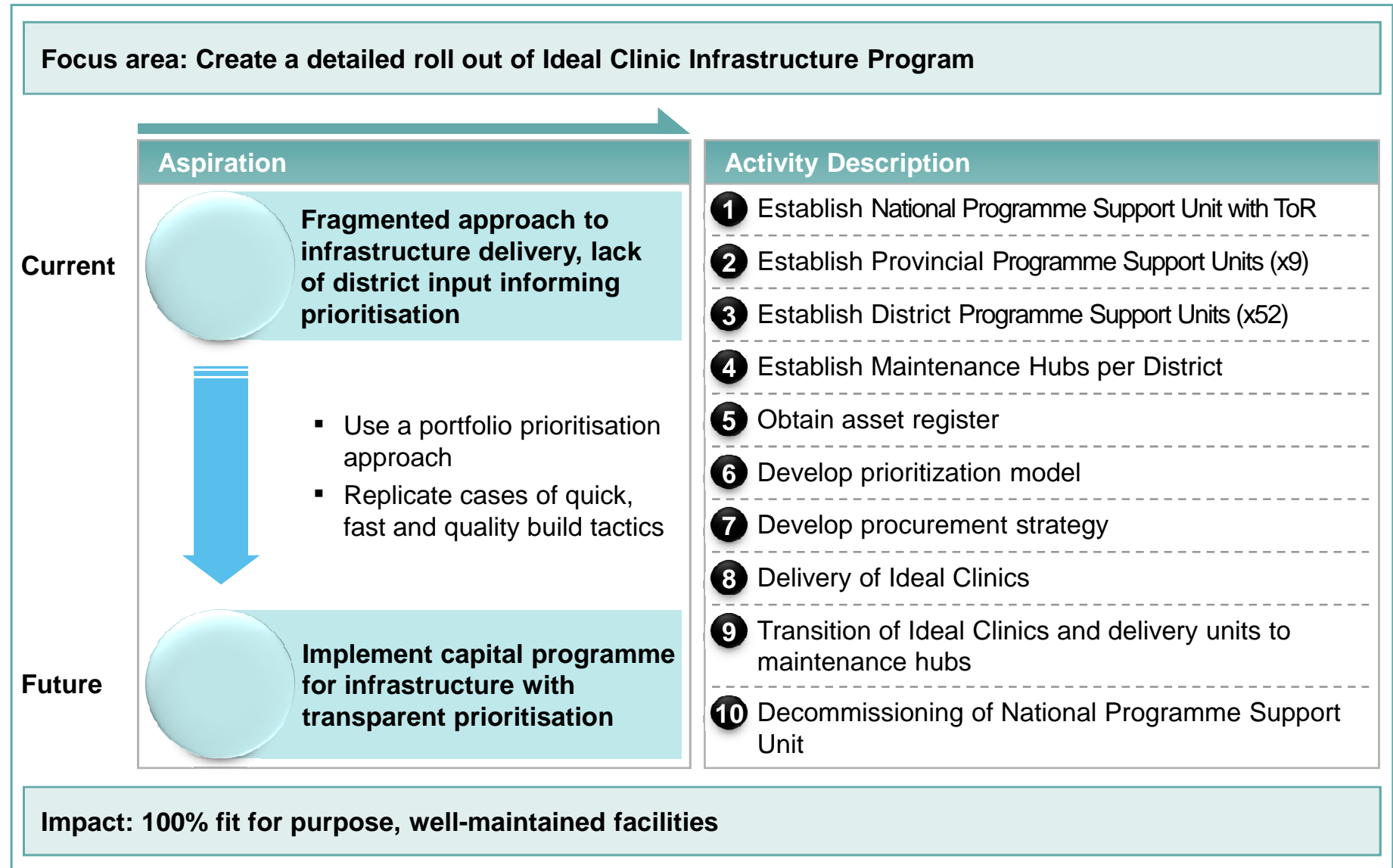
Implementation timeframe

- Start date: January 2015
- End Date: 15 December 2017

Key milestones

- 2015: 25% of clinics compliant
- 2016: 65% of clinics compliant
- 2017: 100% of clinics compliant

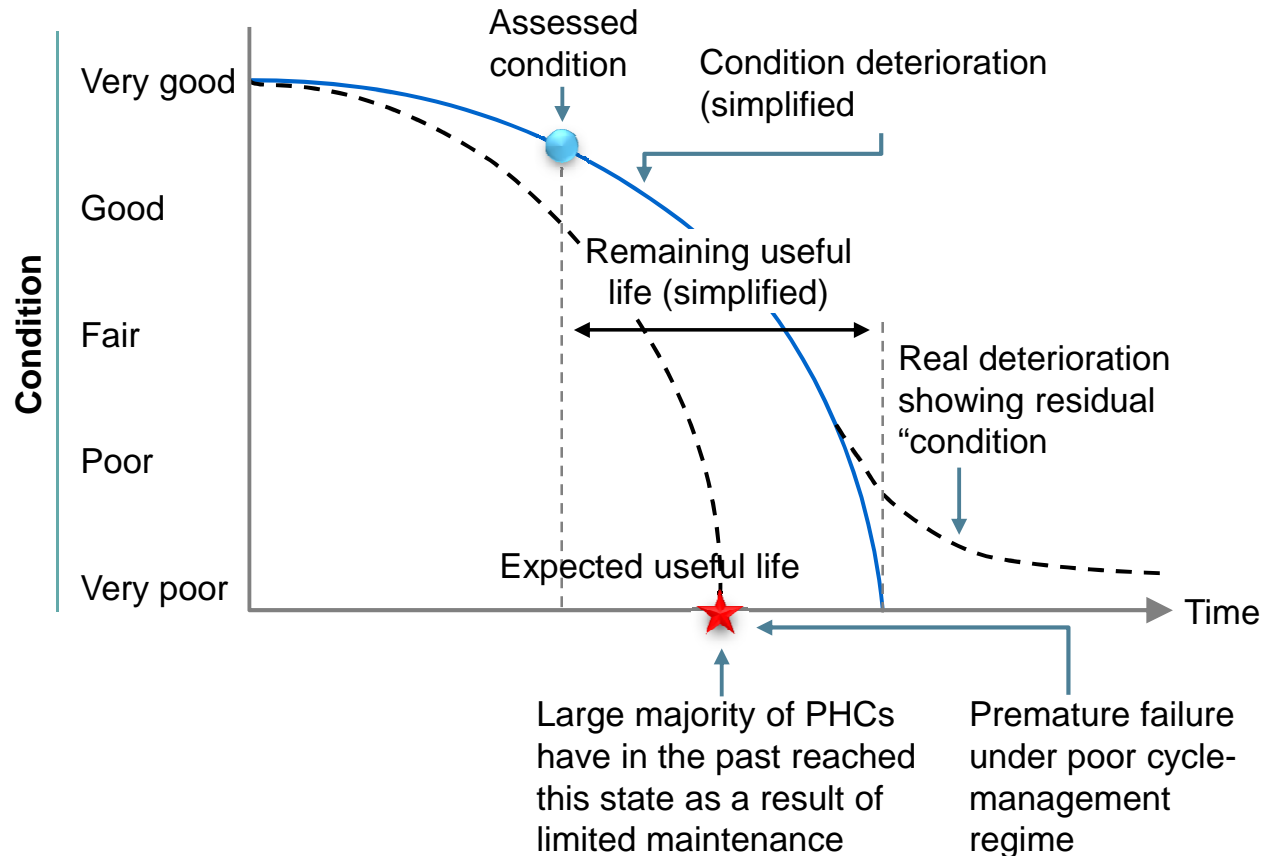
1 To ensure a systematic roll-out is critical to have a detailed roll-out programme, clear governance structures and programme approach



1 Overview of the planned longevity for Ideal Clinics once the renovations to facilities take place

Planned PHC life after Ideal Clinic roll-out

Overview of PHC expect useful life




Key Considerations

- Fragmented coordination stakeholders has contributed to the current situation
- Low scores driven by poor design, sub-standard build quality, inappropriate materials and inadequate bulk services
- Evidence of gross lack of maintenance in many facilities
- Need for coordinated renovation of the facilities to ensure:
 - New buildings
 - Refurbishment
 - Lean reconfiguration
 - Light touch upgrade

Preventative maintenance budget should target facilities in a good condition to prevent deterioration to a bad condition (C4 & C5 condition ratings)

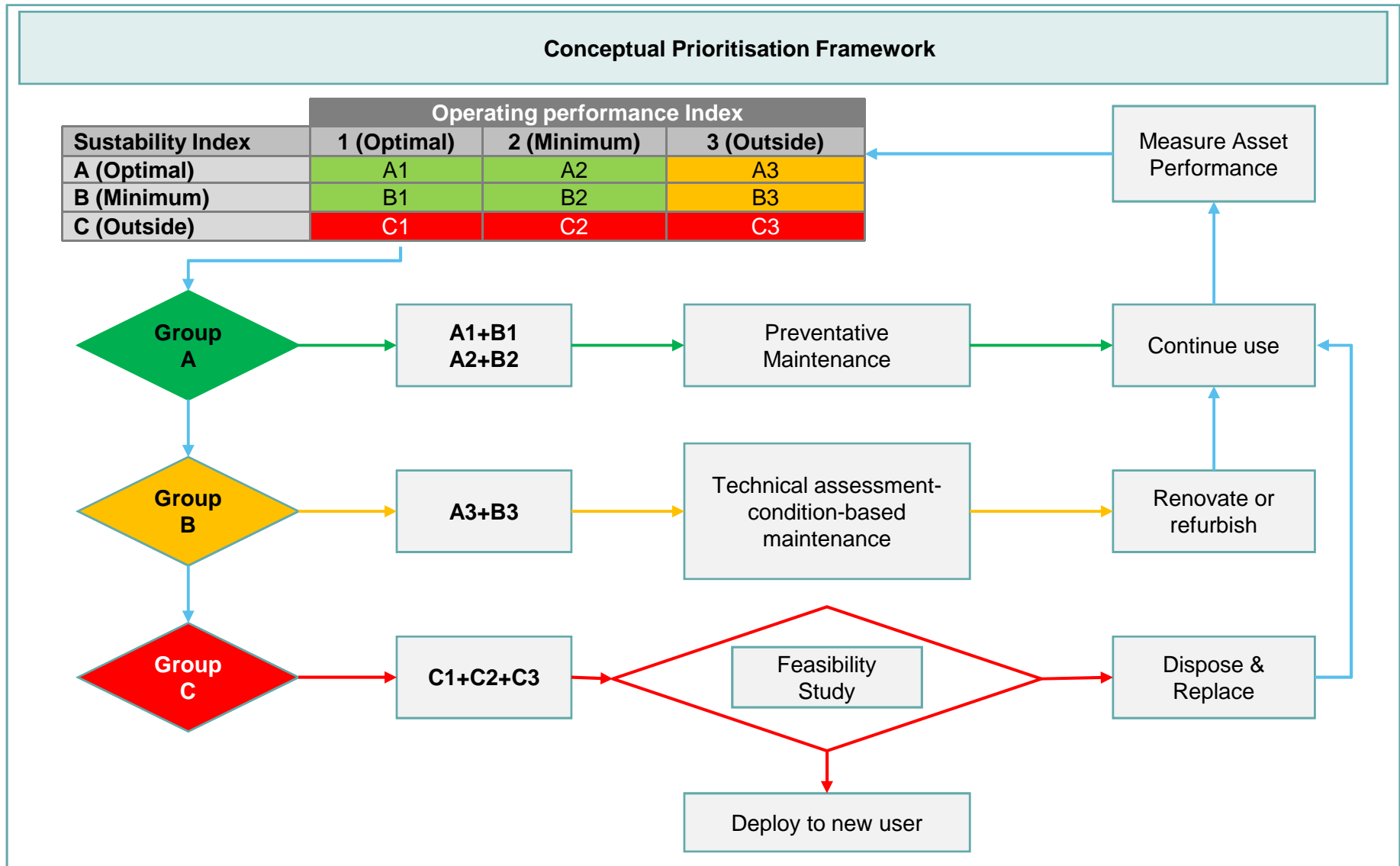
1 Using category of facility condition and performance together with accessibility ratings will guide the overall prioritisation approach for the roll-out program

 Further detail on potential roll-out process

Description of condition ratings and actions required (U-AMP Guidelines)			
Condition rating	Condition	Action required	Description
5	Very good	Planned preventative maintenance	The component or building is either new or has recently been maintained, does not exhibit any signs of deterioration
4	Good	Condition based maintenance	The component or building exhibits superficial wear and tear, minor defects, minor signs of deterioration to surface finishes and requires maintenance/servicing. It can be reinstated with routine scheduled or unscheduled maintenance/servicing
3	Fair	Repairs required	Significant sections or component require repair, usually by a specialist. The component or building has been subjected to abnormal use or abuse, and its poor state of repair is beginning to affect surrounding elements. Backlog maintenance work exists
2	Bad	Rehabilitation required	Substantial sections or component have deteriorated badly, suffered structural damage or require renovations. There is a serious risk of imminent failure. The state of repair has a substantial impact on surrounding elements or creates a potential health or safety risk
1	Very bad	Replacement required	The component or building has failed, is not operational or deteriorated to the extent that does not justify repairs, but should rather be replaced. The condition of the element actively contributes to the degradation of surrounding elements or creates a safety, health or life risk

1 In order to ensure a systematic roll-out of 'Ideal Clinics' it is critical to categorise scope of work and estimated time to complete

BASIC DECISION TREE

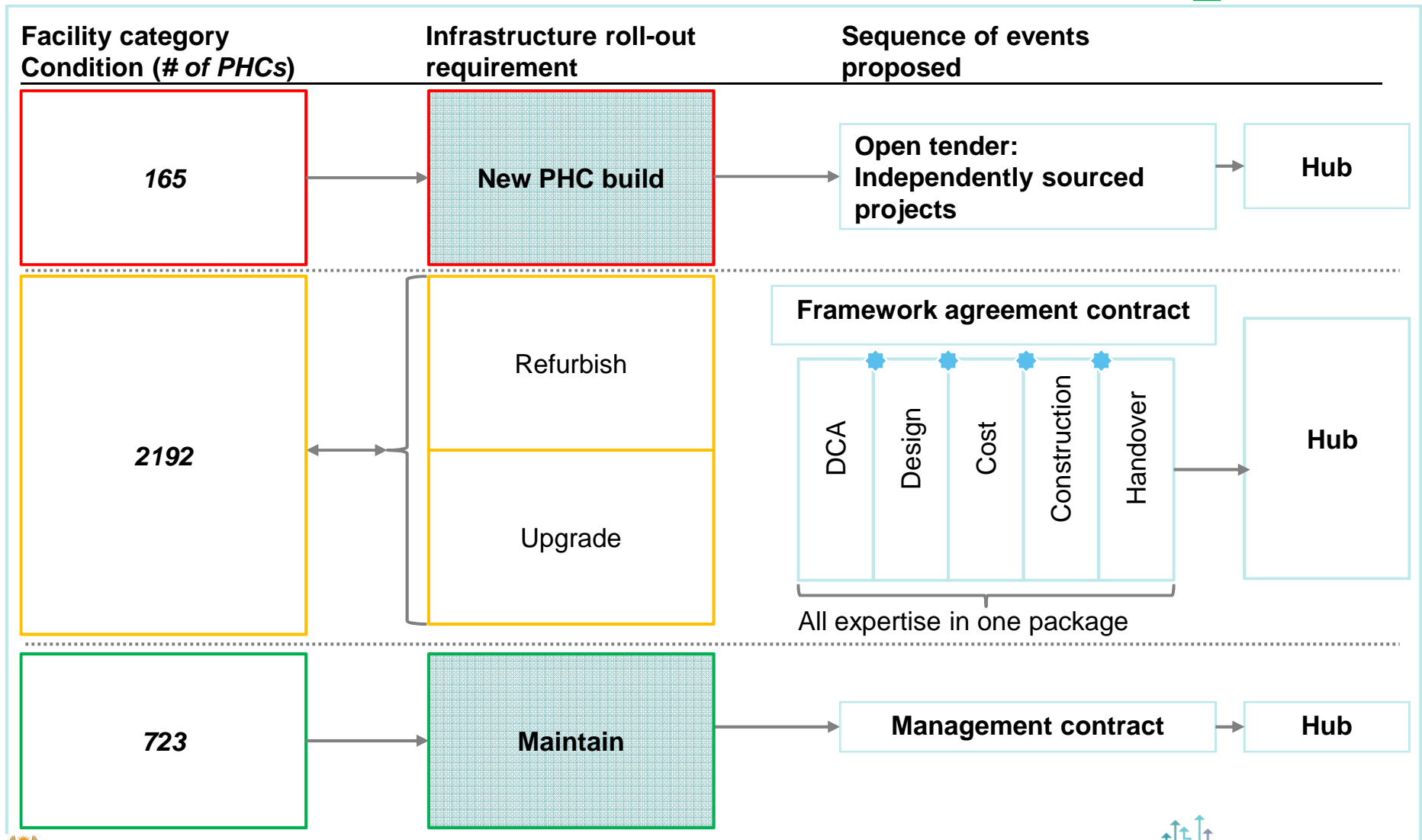


1 Sequencing and categorisation for PHCs for the roll-out programme procurement strategy

- Dispose & Replace
- Renovate or refurbish
- Preventative Maintenance

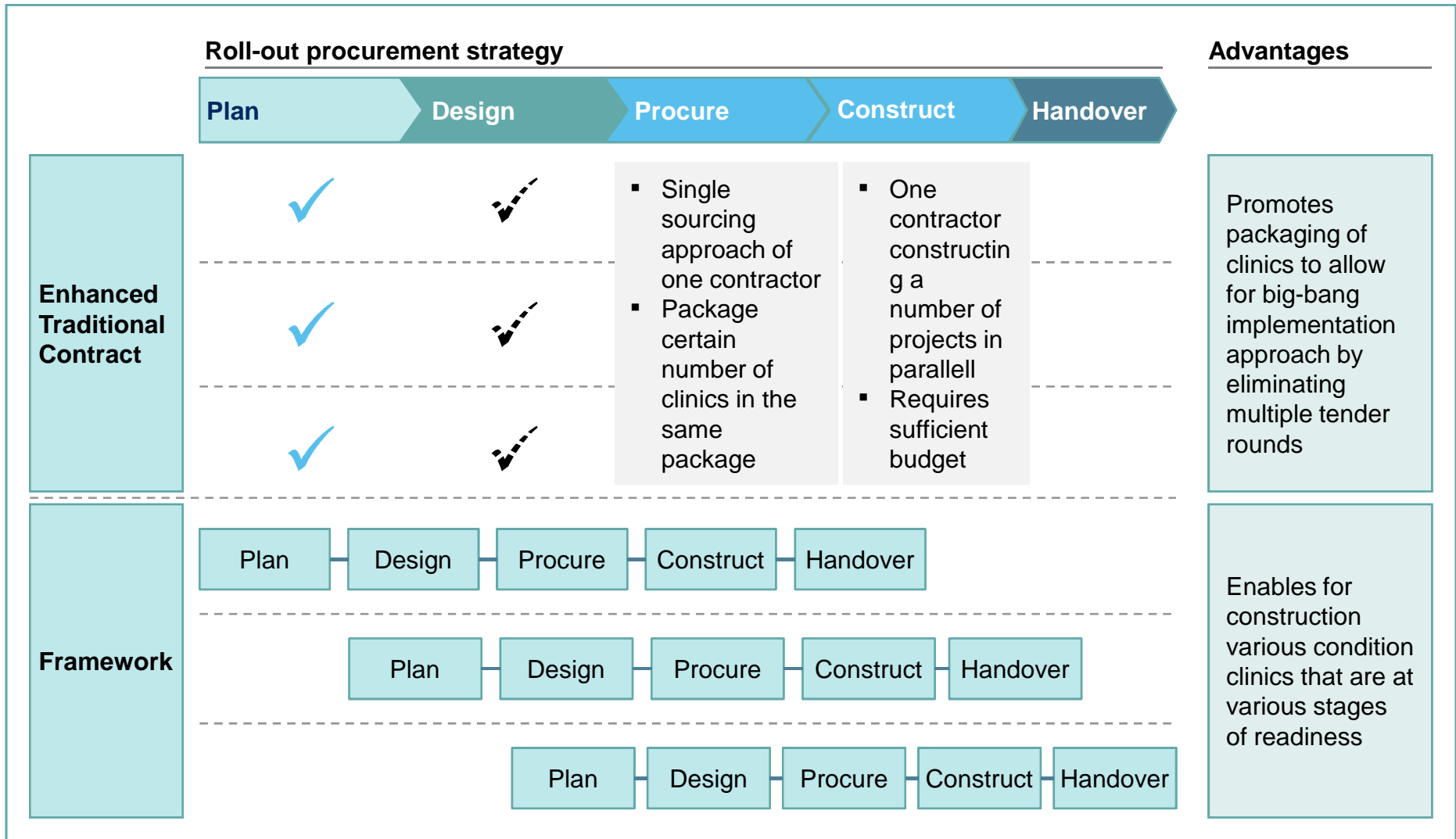
First phase of roll-out

★ What decisions need to be made

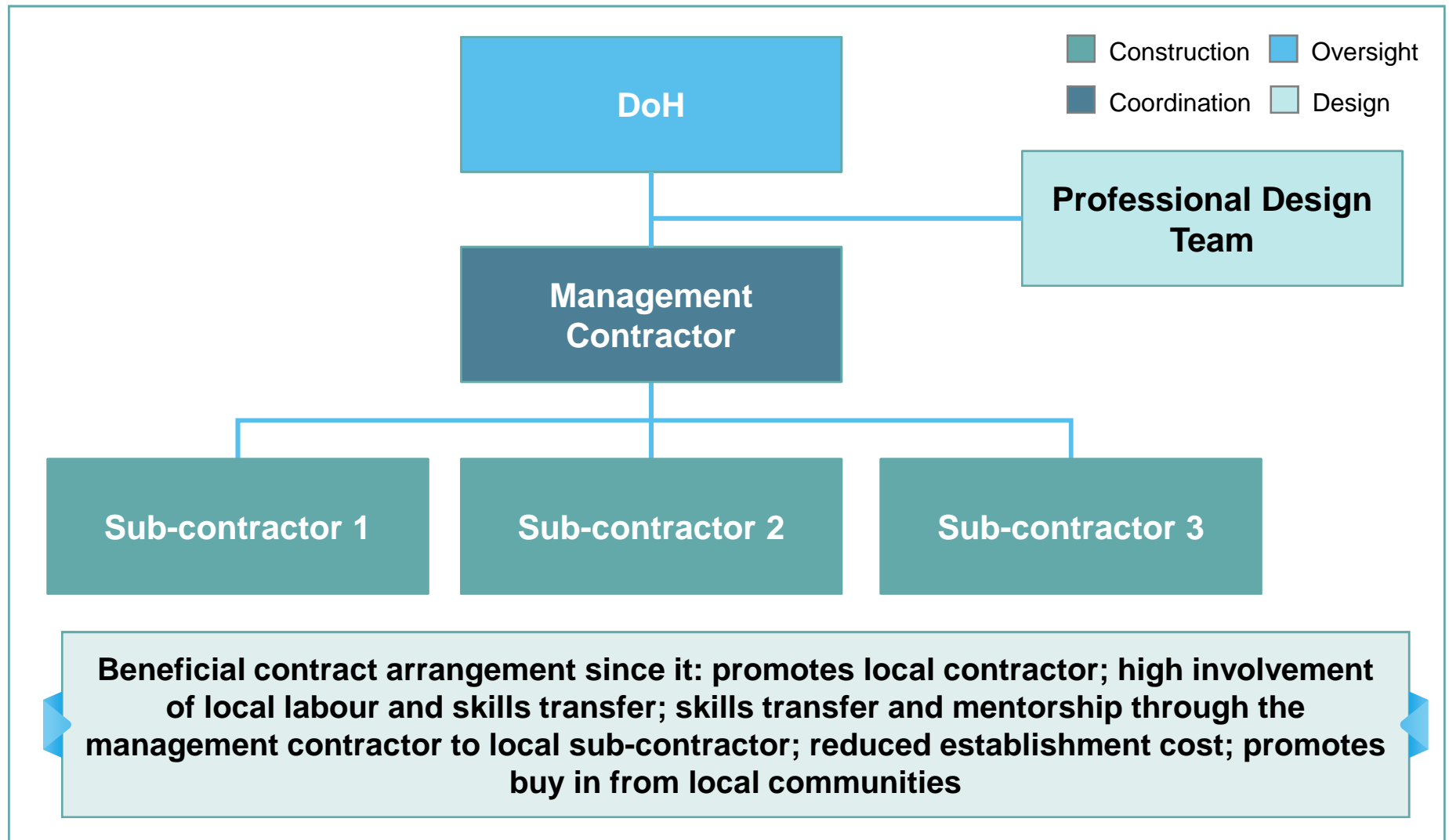


1 Recommended procurement strategy for new, larger refurbishment and upgrades to enable big bang and efficient resource leveling

✓ External
✓ Internal



1 Ideal procurement strategy minor refurbishment and upgrades as well as maintenance aimed at maximising local economic development



Capacity and capability:

- Governance:**

- ### Regulations:

- Focus of the delivery units and Clinic Hubs to track implications on a day-to-day basis**

- Develop updated and detailed material specifications and Health Technology & Equipment standards
- Focus on life cycle planning by driving Maintenance Hubs
- Decentralise procurement and direct supervision by Province
- Establish a pre-qualified panel of Service Providers (based on criteria aligned to quality of assurance, cost containment and experience in healthcare infrastructure)
- Use of consortiums to avoid lengthy procurement processes

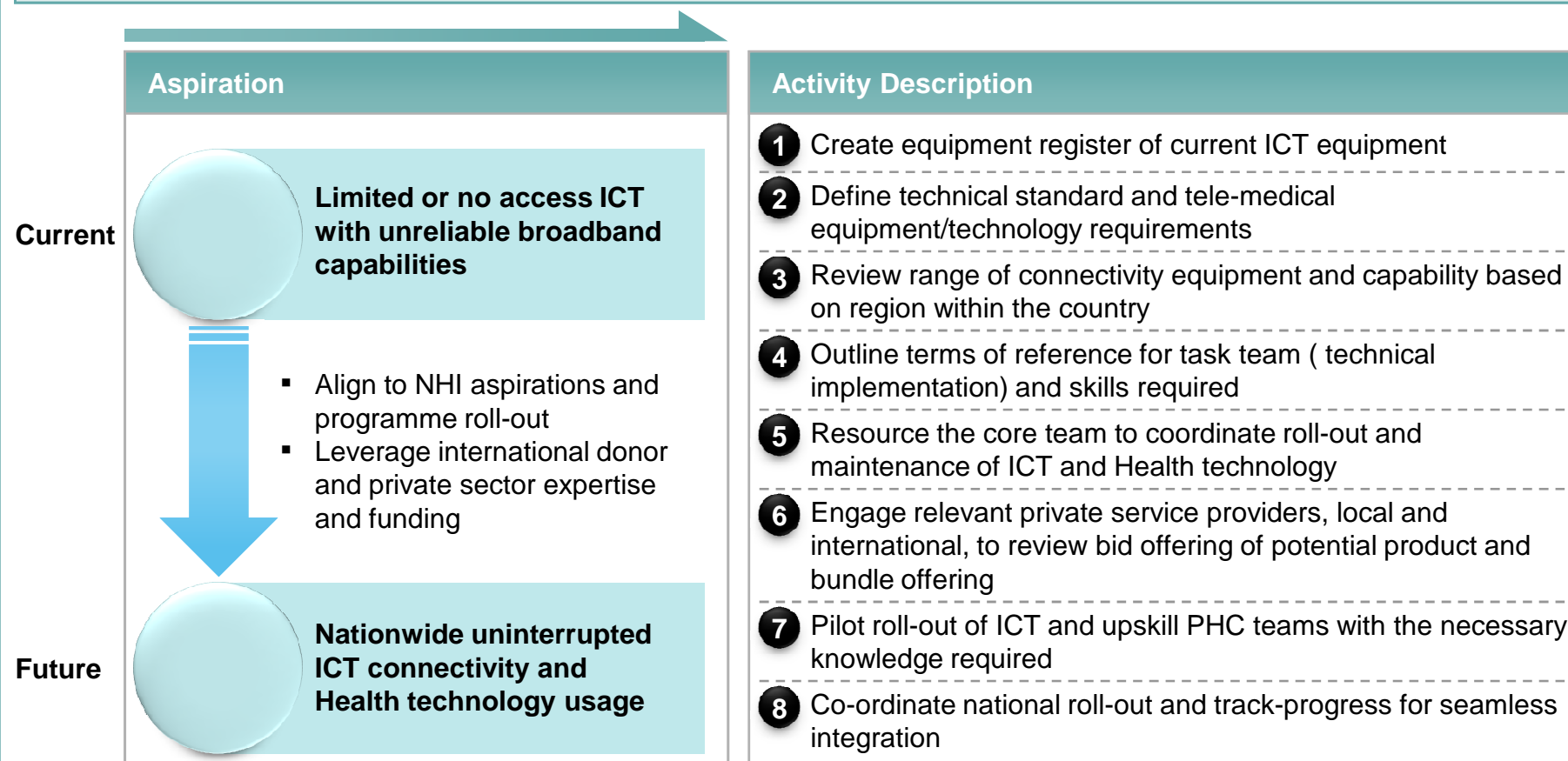
Key to the success of the roll-out is to ensure transformation of the traditional approach to asset delivery

Focus of the DMPE and Operation Phakisa to mitigate overall project level delays to project completion



1 Enhancing the ICT connectivity capability of PHCs will drive ease of information sharing and run concurrently in the Ideal Clinic roll-out

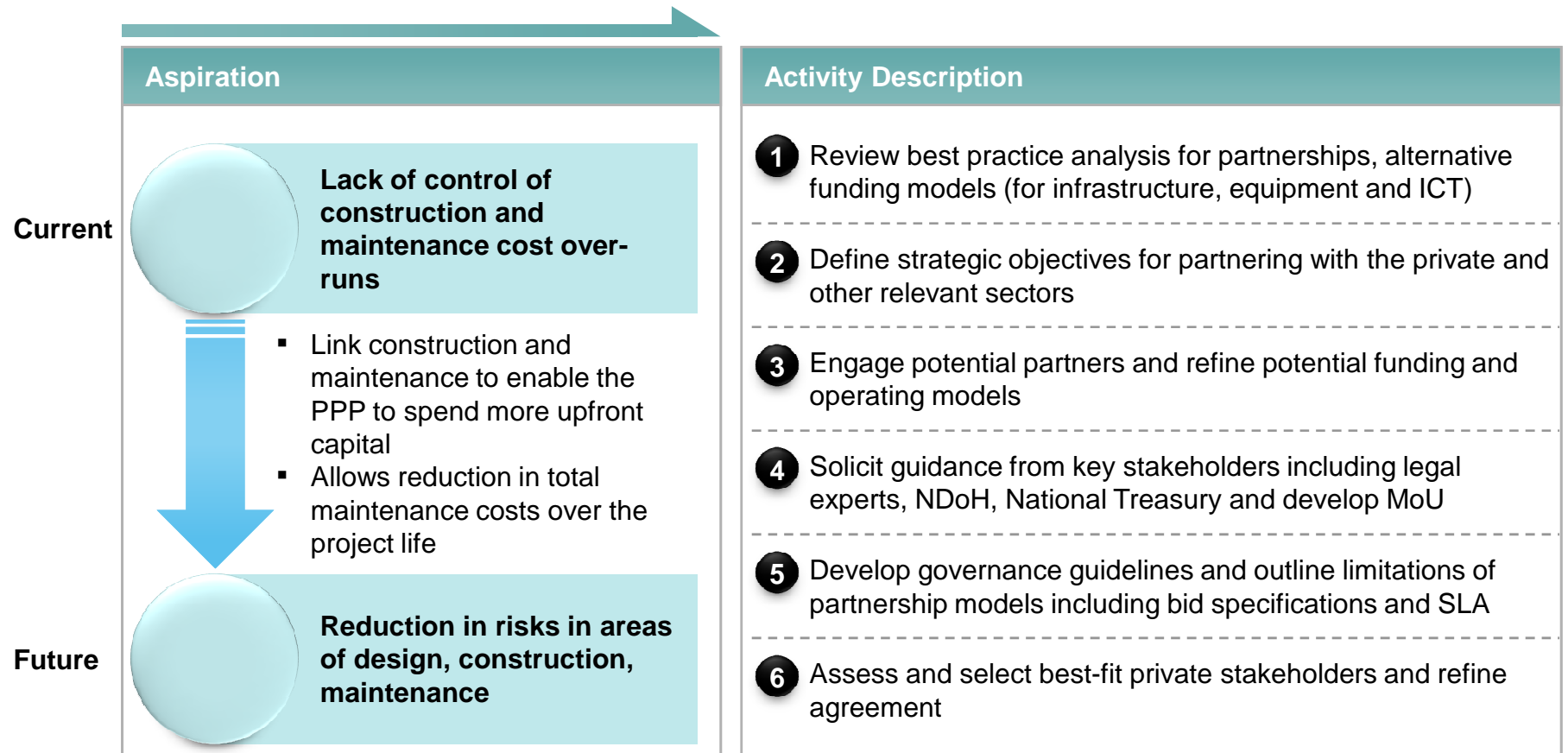
Focus area: Enable pervasive broadband capabilities and uninterrupted ICT systems in all PHCs



Impact: Ensure that all PHC have ICT connectivity by 2017/8

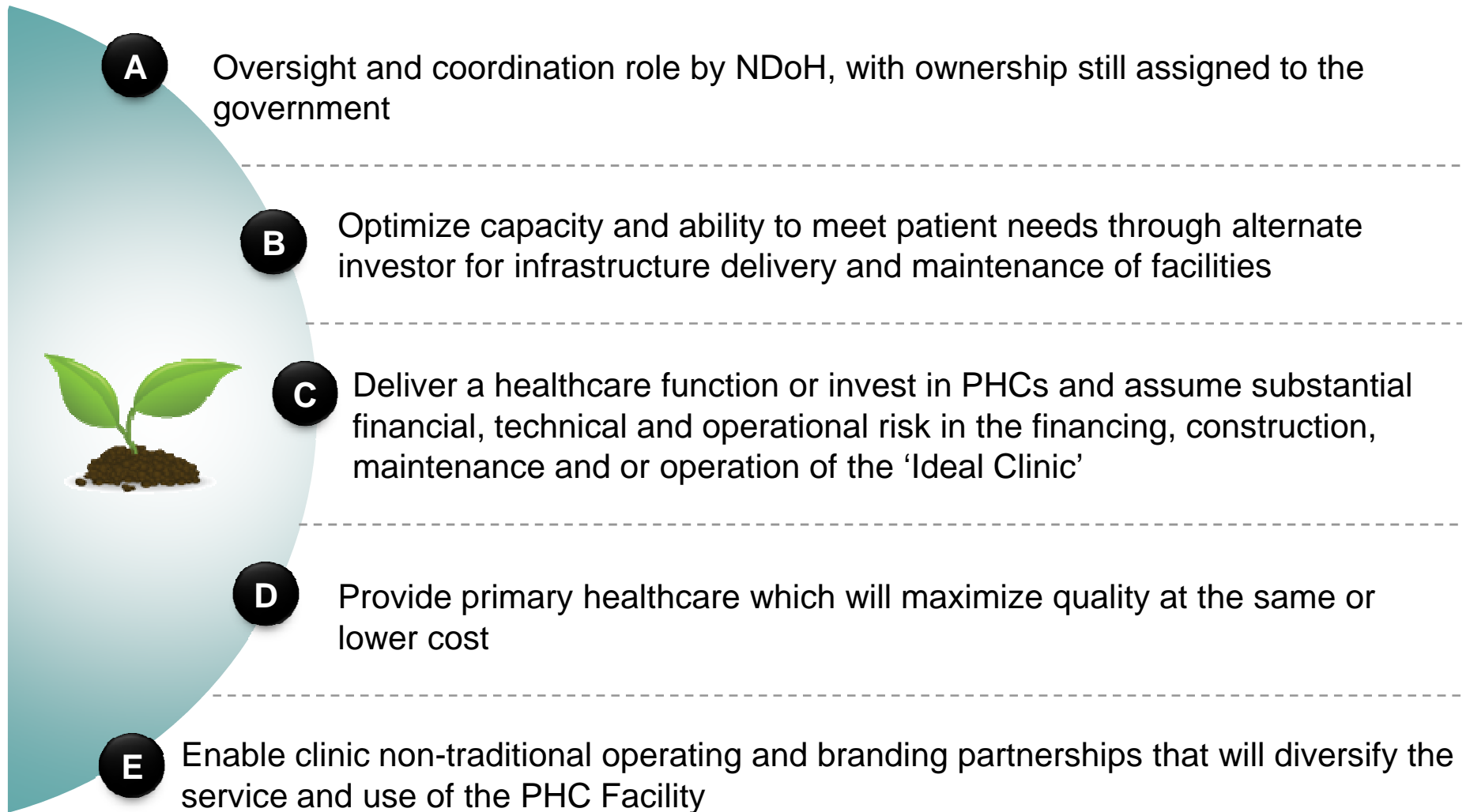
1 PPPs offer substantial construction and maintenance efficiencies with strong focus on value for money which can accelerate the roll-out

Focus area: Define the strategy for other/private stakeholder partnership in the 'Ideal Clinic' roll-out

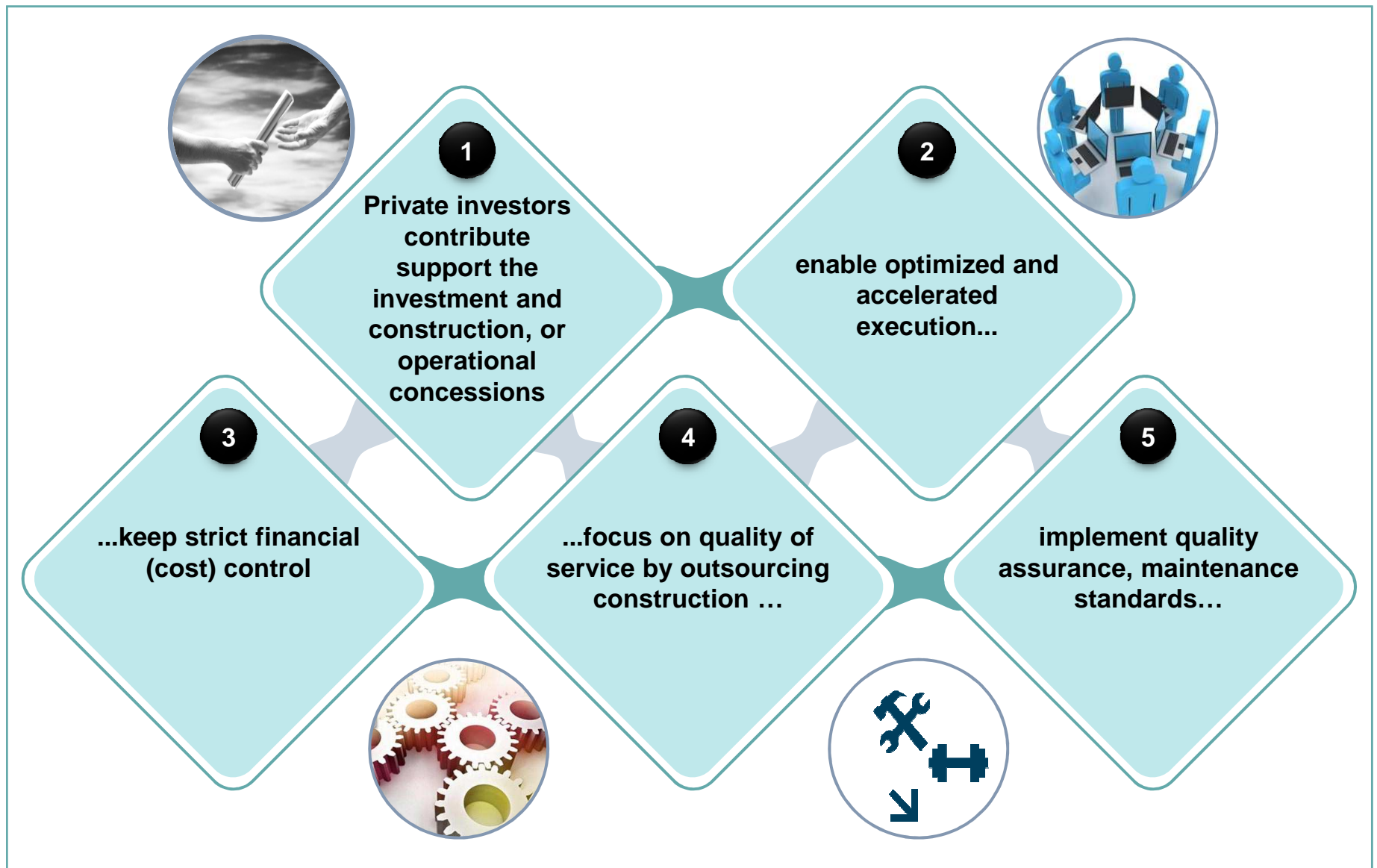


Impact: Private financing also allows the government to focus on delivering core services or capability

1 Key principles related to the involvement of private sector in the 'Ideal Clinic' roll-out



1 Five areas of benefit in the private sector collaboration



1 NDoH with Treasury can pull several leverage a wide spectrum of options to infrastructure financing that will fund the infrastructure roll-out

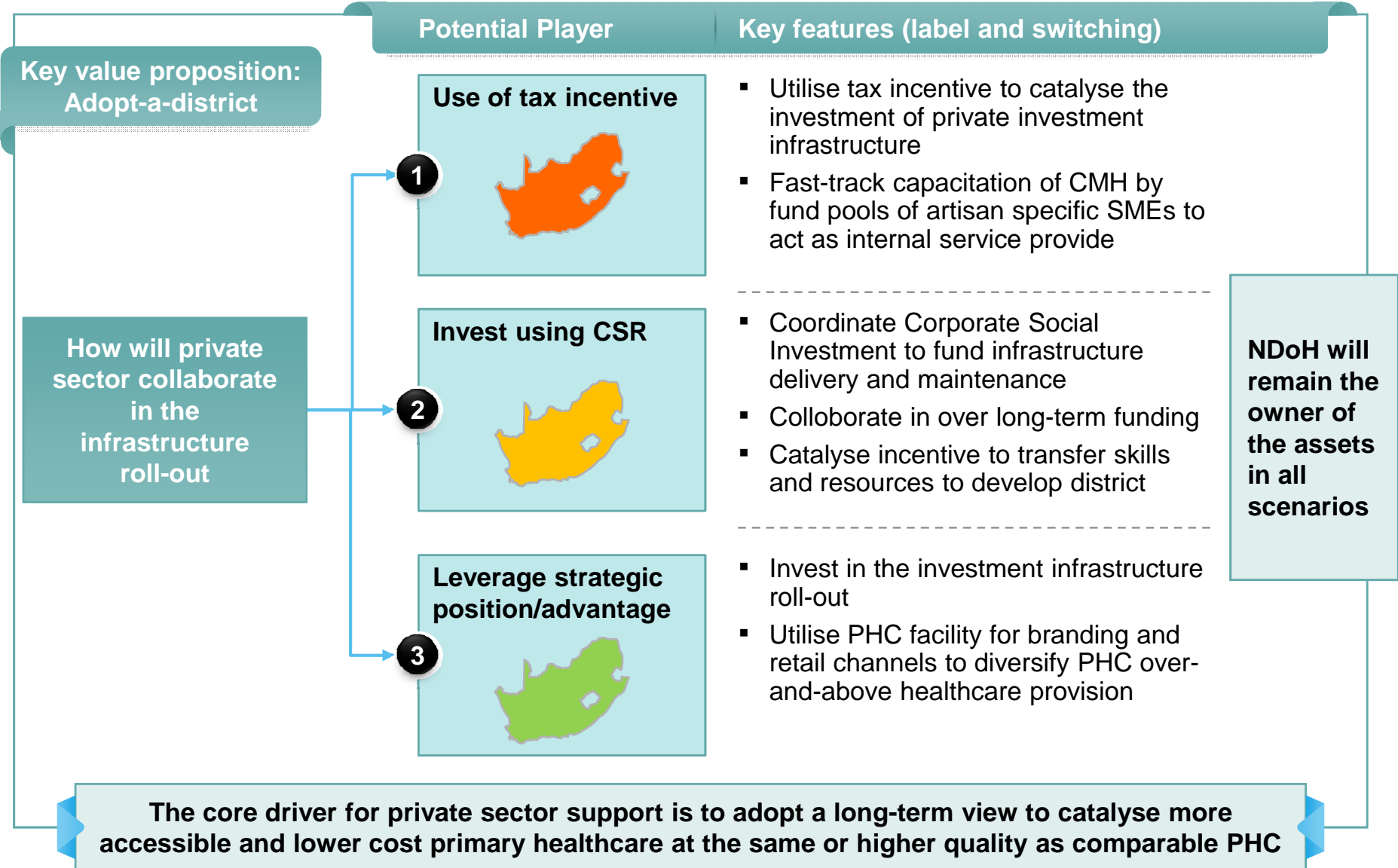
Potential areas of investigation

Duration of contract period	Level of government control	Sources of funding		Description	Examples
	Direct government financing	Taxes	Government loan	<ul style="list-style-type: none"> Drive procurement Utilise outsourcing Exploit Contracting 	<ul style="list-style-type: none"> Increased U.S. onshore wind capacity additions by 9% p.a. between 2007-15
		Subsidies		<ul style="list-style-type: none"> Often low or no interest 	<ul style="list-style-type: none"> Issued \$300 mn worth of Australian infrastructure bonds in tax incentive for private sector to help finance the NBN-high speed internet services
	Debt	Bank loan	Bonds	<ul style="list-style-type: none"> Need for government guarantee 	<ul style="list-style-type: none"> Sourced \$526 mn for Niger in 2005 via HIPC debt restructuring for the initial healthcare infrastructure scale-up
				<ul style="list-style-type: none"> Requires credit rating Interest rate risk 	<ul style="list-style-type: none"> Sold Vietnamese government bonds to increase funding for health facility upgrades Scale up of insurance¹ significant expenditure increase (4x increase in per capita expenditure 1998 – 2008)
	PPP investment	Design/Build	(D/B) Operate Maintain AA2	<ul style="list-style-type: none"> Often transferred back to state 	<ul style="list-style-type: none"> Docklands Light Railway is a successful PPP where the construction and operations were very clearly separated
				<ul style="list-style-type: none"> Existing assets Typically for part-subsidized projects (e.g. shadow tolls) 	<ul style="list-style-type: none"> Reached 25% cost savings; higher productivity led to shorter ALOS and more efficient facility utilization
		(D/O) Operate Maintain RR3		<ul style="list-style-type: none"> Existing assets Typically stand-alone profitable 	<ul style="list-style-type: none"> Granted concession for management of health systems in 5 of 21 health districts (paid on a fee per inhabitant)

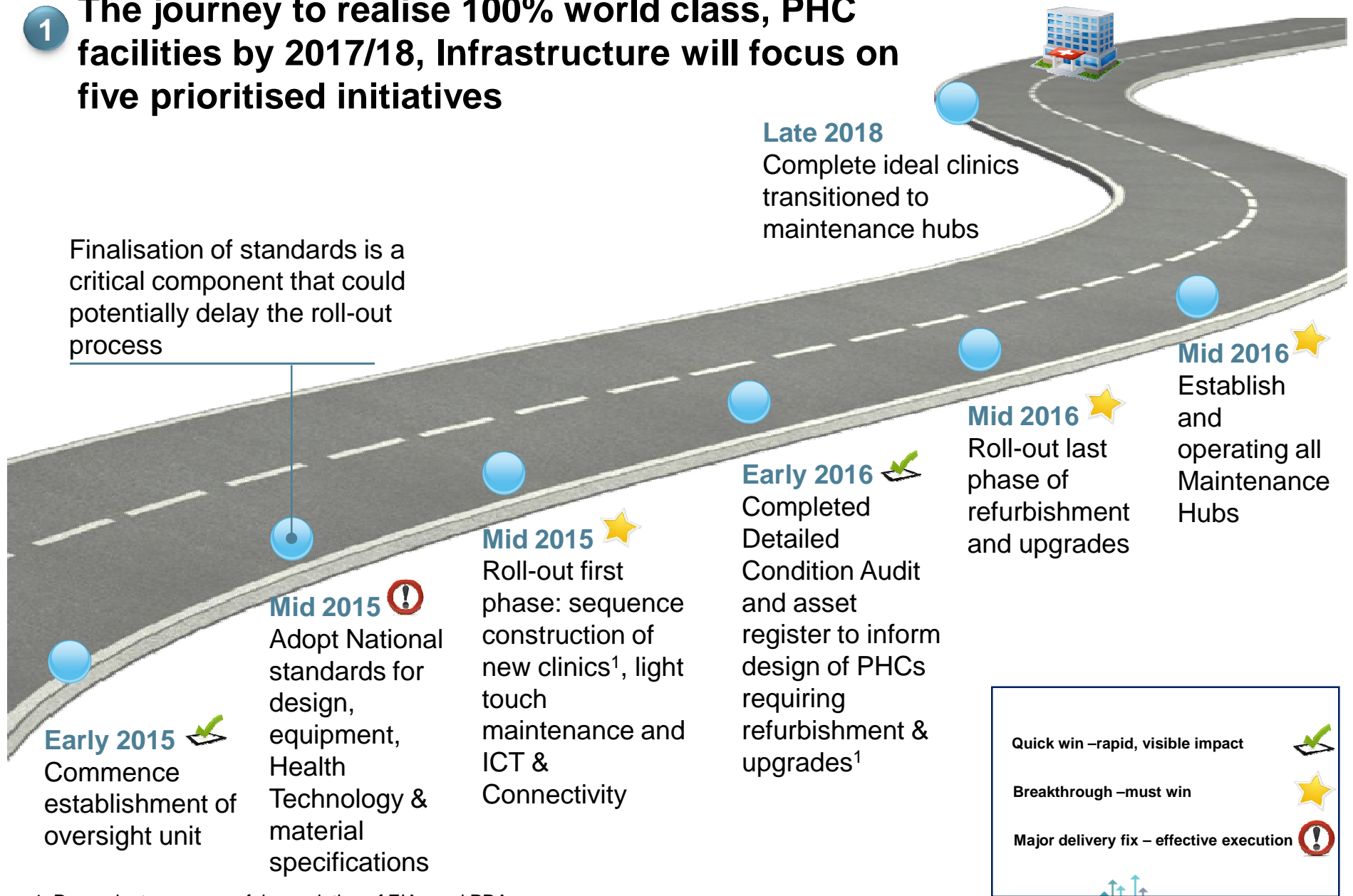
1 Social Health insurance had 62% coverage of the eligible population and was financed through 4.5% payroll tax; 2 Asset Availability risk = Investor is compensated for making the asset available; 3 Revenue at Risk = Investor needs to generate ROIC from project/concession revenues

SOURCE: Project Finance Magazine; McKinsey Corporate Finance

1 Private sector collaboration in the Ideal Clinic roll-out could potentially be centred around private players 'Adopting-a-district'...



1 The journey to realise 100% world class, PHC facilities by 2017/18, Infrastructure will focus on five prioritised initiatives



1. Dependent on successful completion of EIAs and PDA,
SOURCE: Infrastructure Workstream – Health Labs

ASPIRATION

Ambition of what the 'Ideal clinic' potentially look like in 2018



SOURCE: Infrastructure Workstream – Health Labs

2 Overview of the approach to establish Clinic maintenance hubs

PRELIMINARY

Objective:

To establish a dedicated maintenance hubs for all clinics, with dedicated resources

Initiative concept/details/highlights:

- Develop dedicated roving clinic maintenance units to improve turn around times.
- The hub must be a cost center for a number of PHC clinics and not within the hospital maintenance
- In all provinces, the Department of Health should take responsibility for its maintenance programme
- Establish and develop the skills required within the maintenance hubs (store manager, artisans, operation contractors)
 - Ensure remuneration of skilled artisan within healthcare facilities are market related
 - Dedicated ongoing skills development programmes
- Optimize stores managements to comply with the materials specification and support the required turnaround time for maintenance
- Develop of fault reporting mechanisms with specified turnaround times
- Ensure SCM delegations must be streamlined to the requirements of the hub

Develop Clinic maintenance hubs to reduce turnaround time for maintenance

Owner

- Provincial Department of Health

Key stakeholders identified:

- Clinics, CHC and Hospitals
- Districts/ Regions
- SCM
- HR
- Budget office
- Head office infrastructure unit

Required resources

- Finance, Equipment, HR, Fleet

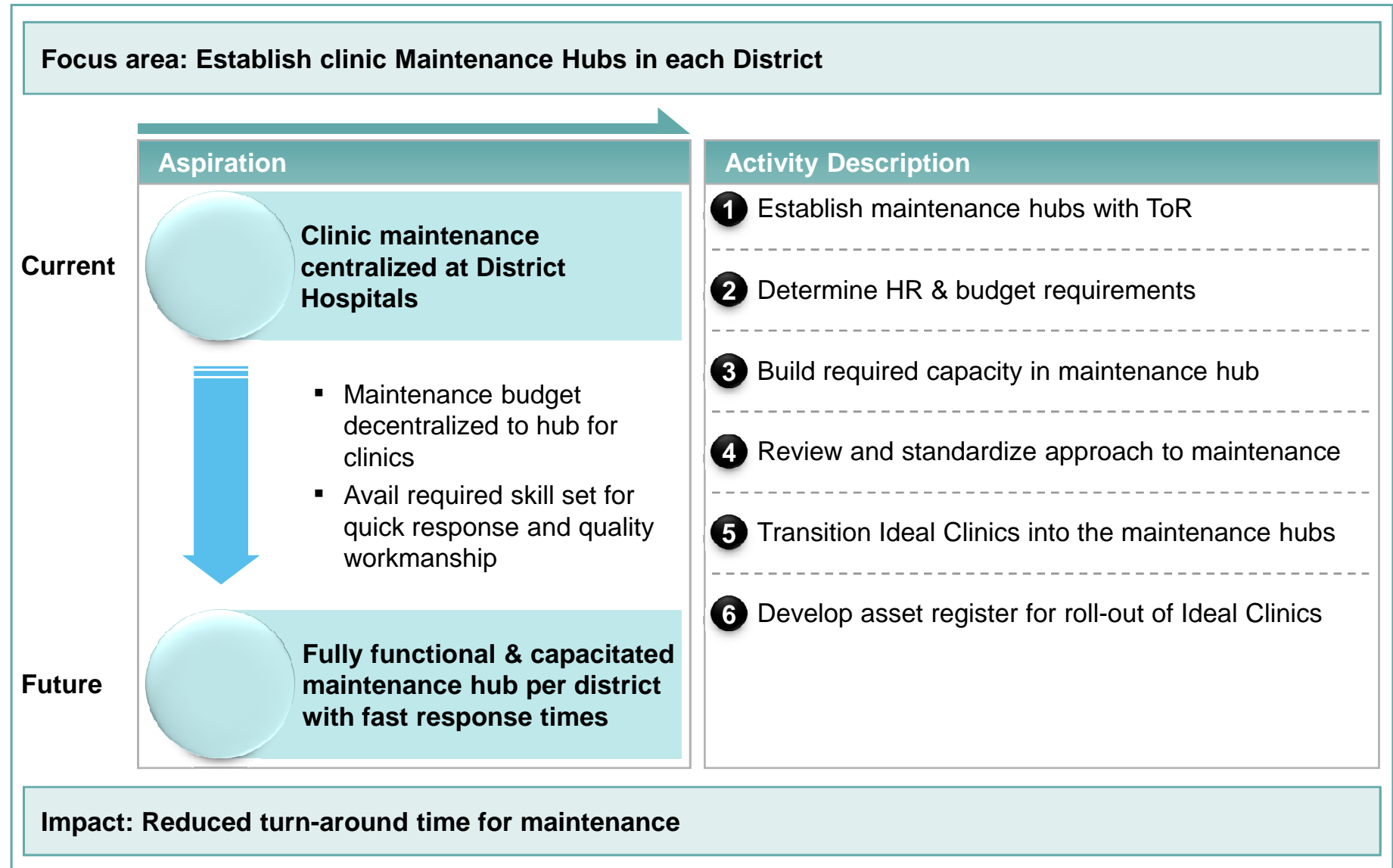
Implementation timeframe

- Start date: 01/04/2015
- End Date: Ongoing

Key milestones

- Feb 2015: Establish, pilot and operationalize
- June 2015: Optimized operating model

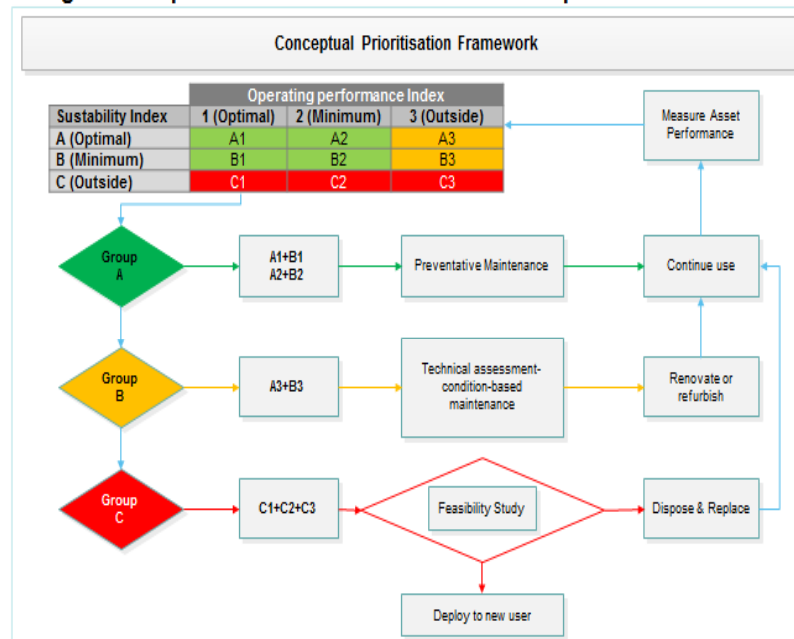
2 Establishing dedicated maintenance hubs for clinics with dedicated resources and skills with quick turn-around times



BREAKTHROUGH INITIATIVE: ESTABLISH CLINIC MAINTENANCE HUB

2 Clinic Maintenance Hubs will transition from backlog- to scheduled maintenance supported by the iMaintenance app

BREAKTHROUGH INITIATIVE: DETAILED ROLL OUT OF IDEAL CLINIC INFRASTRUCTURE PROGRAM
In order to ensure a systematic roll-out of 'Ideal Clinics' it is critical to categorise scope of work and estimated time to complete



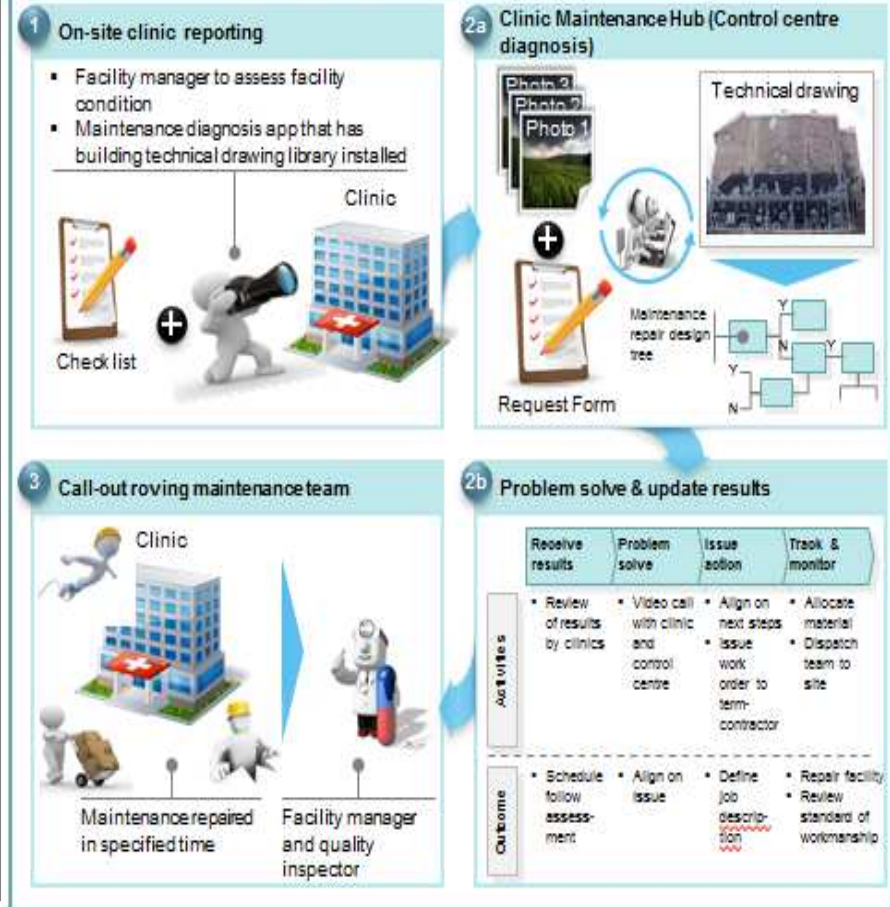
SOURCE: DPW-Guidelines for Users



- Parallel upgrade and maintenance work should be performed across different condition facilities
- Detailed condition assessments will inform the scope of work



Overview of innovative approach to pro-active maintenance

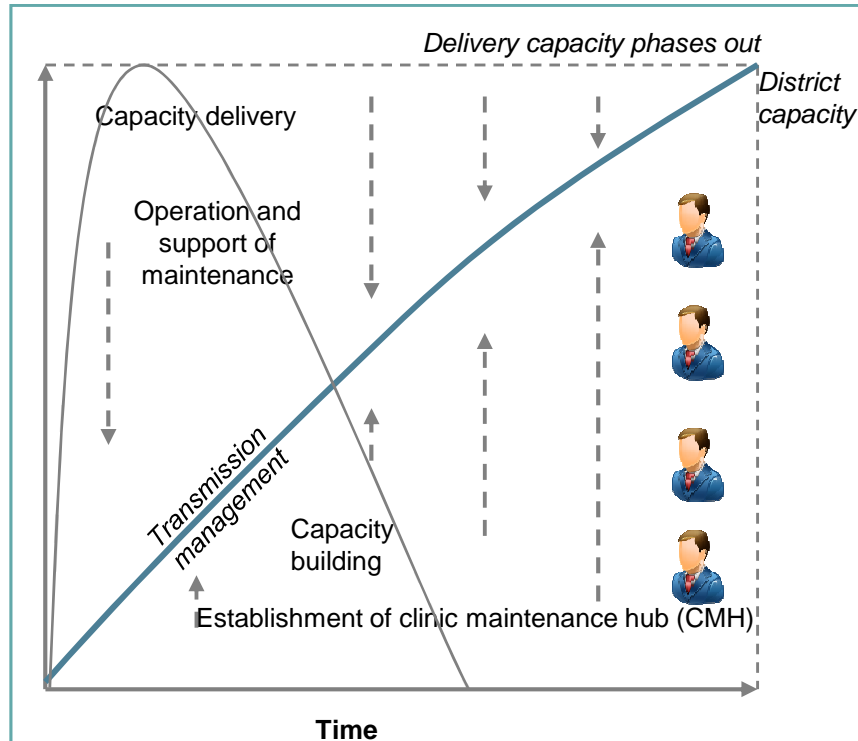


iMaintenance app intended to support core capability of Clinic Maintenance Hubs

SOURCE: Infrastructure Workstream – Health Labs



2 Overtime CMH will transition from backlog maintenance to proactive support catalysed by the iMaintenance app



- Parallel upgrade and maintenance work should be performed across different condition facilities
- Core to the success of CMHs will be to pilot iMaintenance and scale management and use based on the maturation of capabilities

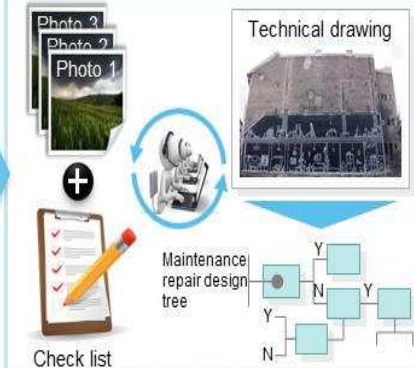
Overview of innovative approach to pro-active maintenance

1 On-site clinic self-diagnosis (iMaintenance)

- Maintenance diagnosis app that has building technical drawing library installed
- X-ray enabled tablet



2a Maintenance control centre diagnosis



3 Call-out maintenance team



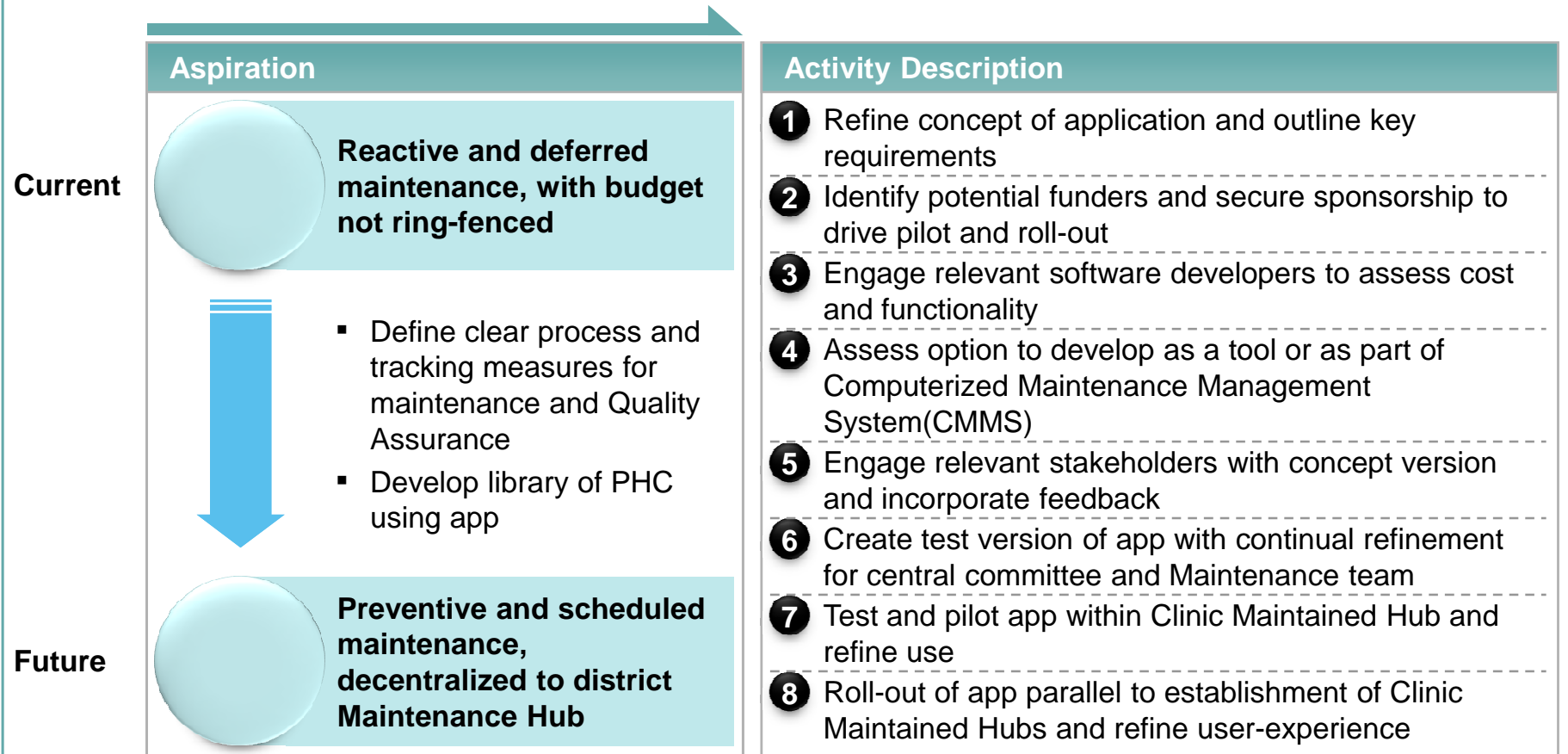
2b Problem solve & update results

	Receive results	Problem solve	Issue action	Track & monitor
Activities	Review of results by clinics	Video call with clinic and control centre	Align on next steps	Allocate material Dispatch team to site
Outcome	Schedule follow assessment	Align on issue	Define job description	Repair facility Review standard of workmanship

iMaintenance app intended to form part of core capability of CMHs.

2 Use of a mobile app to self-diagnose maintenance, will ensure clinics take ownership of facility management and become more pro-active

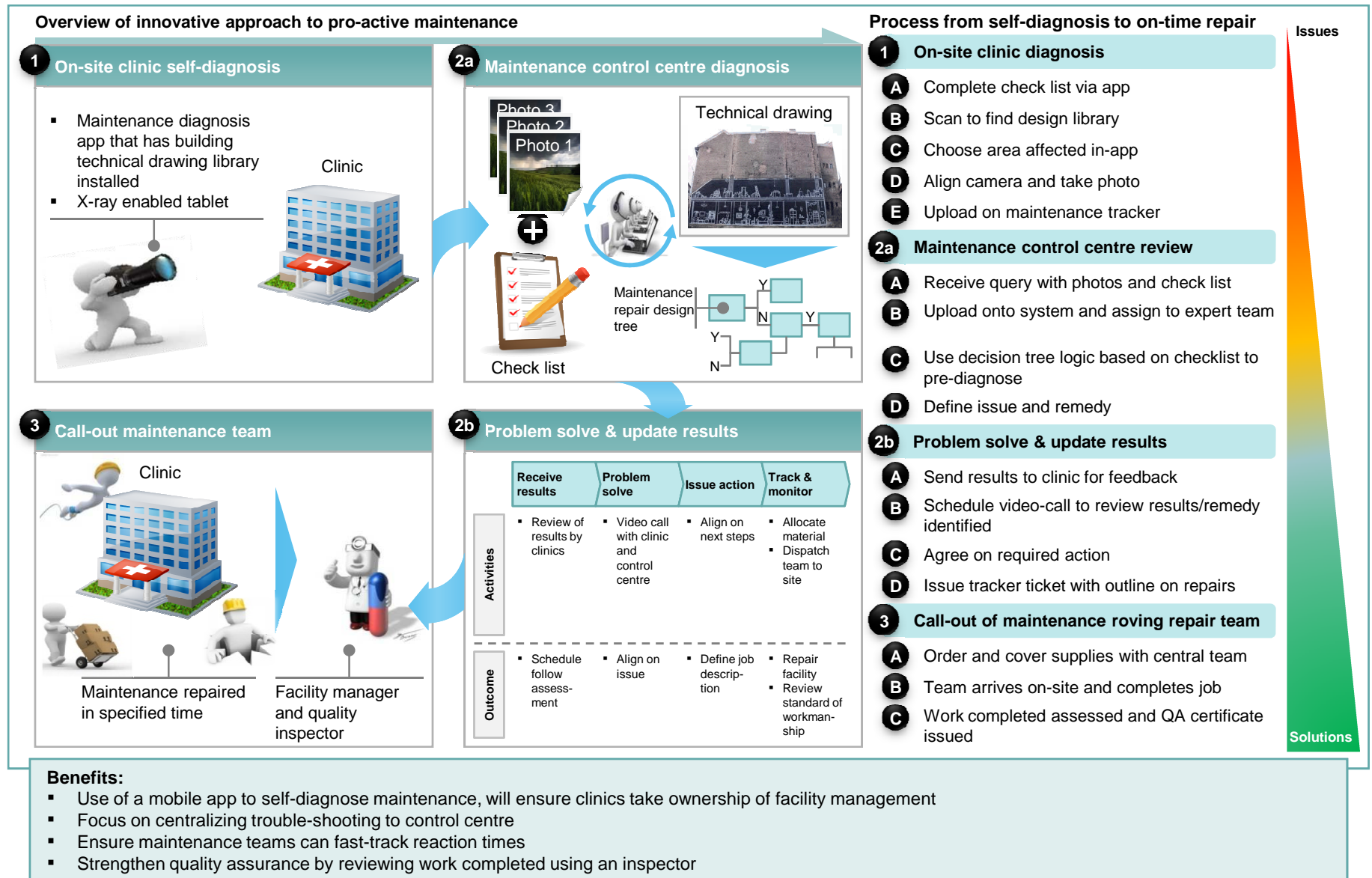
Focus area: Develop and pilot iMaintenance app for to fast-track diagnosis, decision making and repairs`



Impact: Reduction in the turnaround time of maintenance activities

2 Innovative maintenance techniques will fast-track diagnosis, decision making and repairs by centralizing infrastructure experts

ILLUSTRATIVE

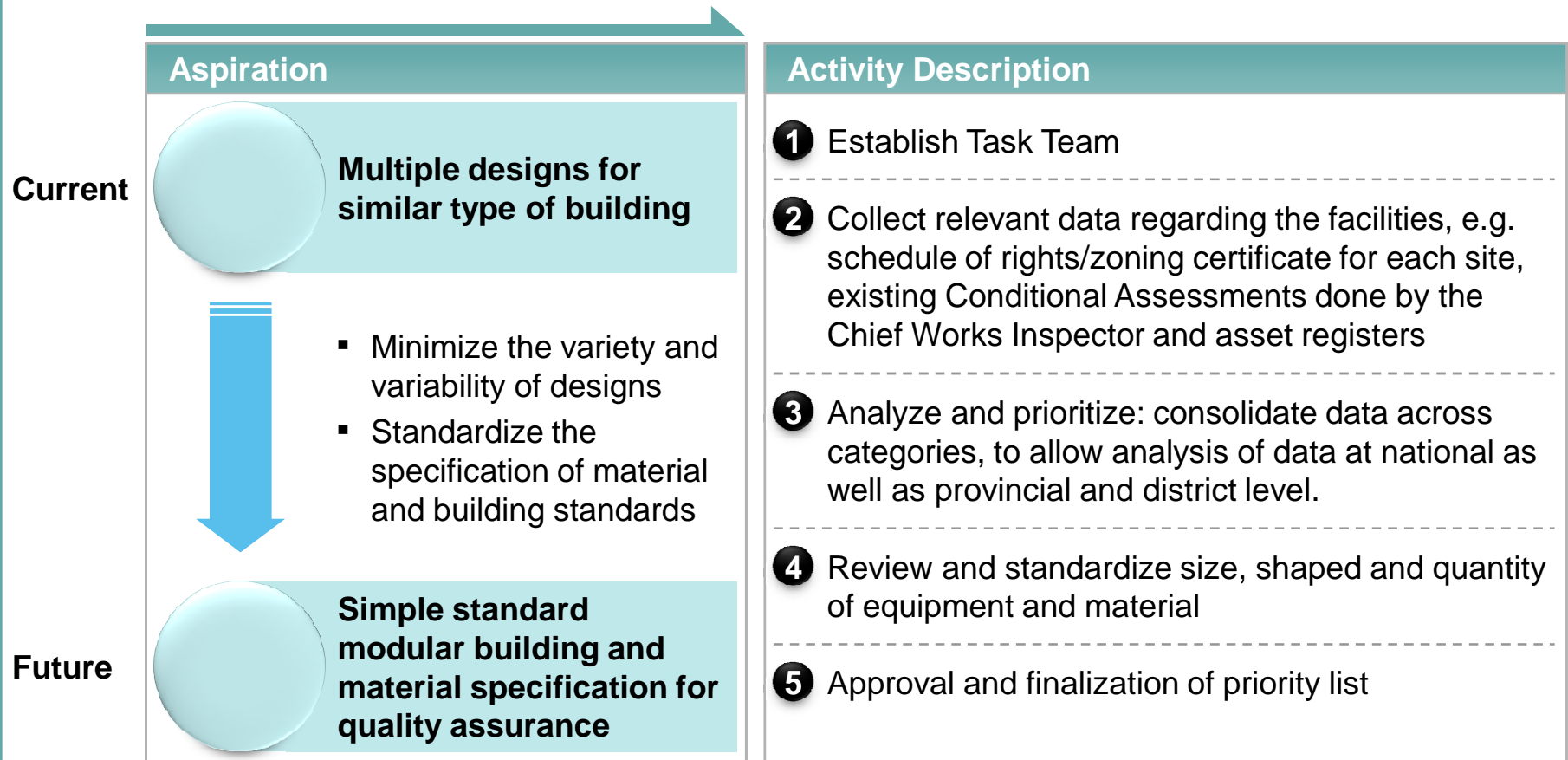


Benefits:

- Use of a mobile app to self-diagnose maintenance, will ensure clinics take ownership of facility management
- Focus on centralizing trouble-shooting to control centre
- Ensure maintenance teams can fast-track reaction times
- Strengthen quality assurance by reviewing work completed using an inspector

2 To ensure the 'Ideal Clinic' facility can be replicated in an easy way, it is key to standardise design specifications

Focus area: Update Ideal Clinic technical standards and material specifications for PHCs for a "sustainable" 'Ideal Clinic'



Impact: Rapid roll-out and high quality infrastructure

3 Overview of the approach to update ideal clinic technical standards

Objective:

To develop a comprehensive minimum standard in terms of functionality and quality applied uniformly

Initiative concept/details/highlights:

- Define work to be carried out by small task team under the direction of the UISS
- Synthesize comprehensive minimum national standard based on:
 - IUSS norms & guidelines
 - SANS 10400,
 - Integrated Clinical Services Management (ICSM)
 - Provincial existing standards
- Determine finishes, fixings and detailed specifications
- Workshop stakeholders and adopt national standard

Standardization is critical for rapid roll-out

Owner

- National Department of Health

Key stakeholders identified:

- CSIR, SABS
- Provincial Depts. of Health
- DPW (and other implementing agents)
- CIDB
- Professional bodies (ECSA, SACAP, etc.)

Required resources

- Task Team, cost to be calculated

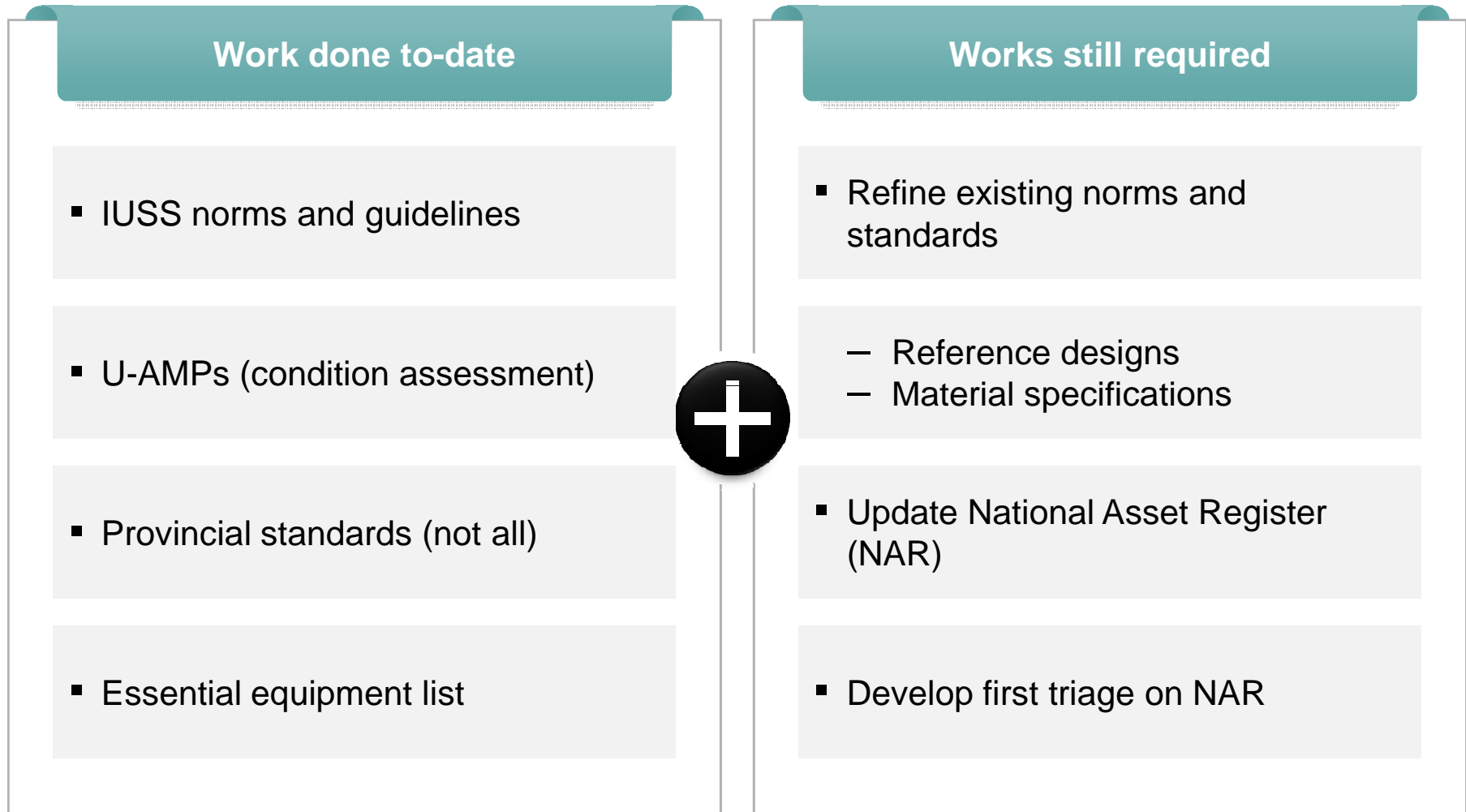
Implementation timeframe

- Start date: 5 January 2015
- End Date: 31 March 2015

Key milestones

- 1 March 2015 (draft standard)
- 16 March 2015 (Acceptance workshop)
- 1 April 2015 (roll-out)

3 Work done to date on technical specification standardisation gives infrastructure roll-out a headstart although more refinement is required



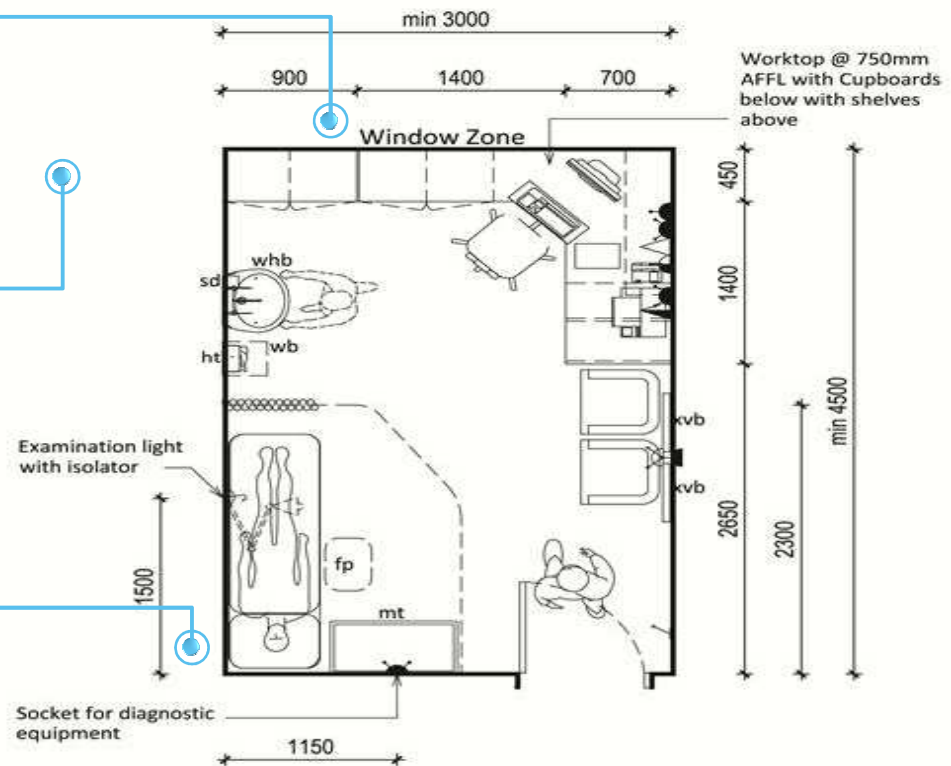
3 IUSS guideline gives overview of the required room specifications but further refinement is required to be an Ideal Clinic specifications

Room Data Sheet for PHC Consulting Room

- No technical specification on the ideal window dimensions to maximize infection control

Ventilation control non-conductive since:

- Fresh area comes in through the door
- Passes through patient and could possible contaminate clinician
- No measure of thermal performance, and there is a need to control room temp below 25°
- Position of the bed should ideally be located on the right hand side of the attending side of the patient should be
- No technical specification for equipment and finishes e.g. washable paint



- Prescribed minimum room dimensions are not adequate enough for variable (alternative desk design and location of bed)
- Architecture rendering is largely driven by mirror

3 Varied level of details and use generic size for most rooms has been outlined

List of prescribed spaces per facility: Clinics and CHCs

Public spaces

- Entrance
- Reception
- Waiting areas
- Ablutions
- Community meeting room (optional)

Primary and community care spaces

- Consulting rooms
- Counselling rooms
- Treatment rooms
- Birthing room
- Emergency room
- Specimen collection
- Sputum collection

Optional areas

- Staff accommodation
- Vegetable garden
- Children's' play area

Administration spaces

- Sister's office
- Clerks' office with record storage

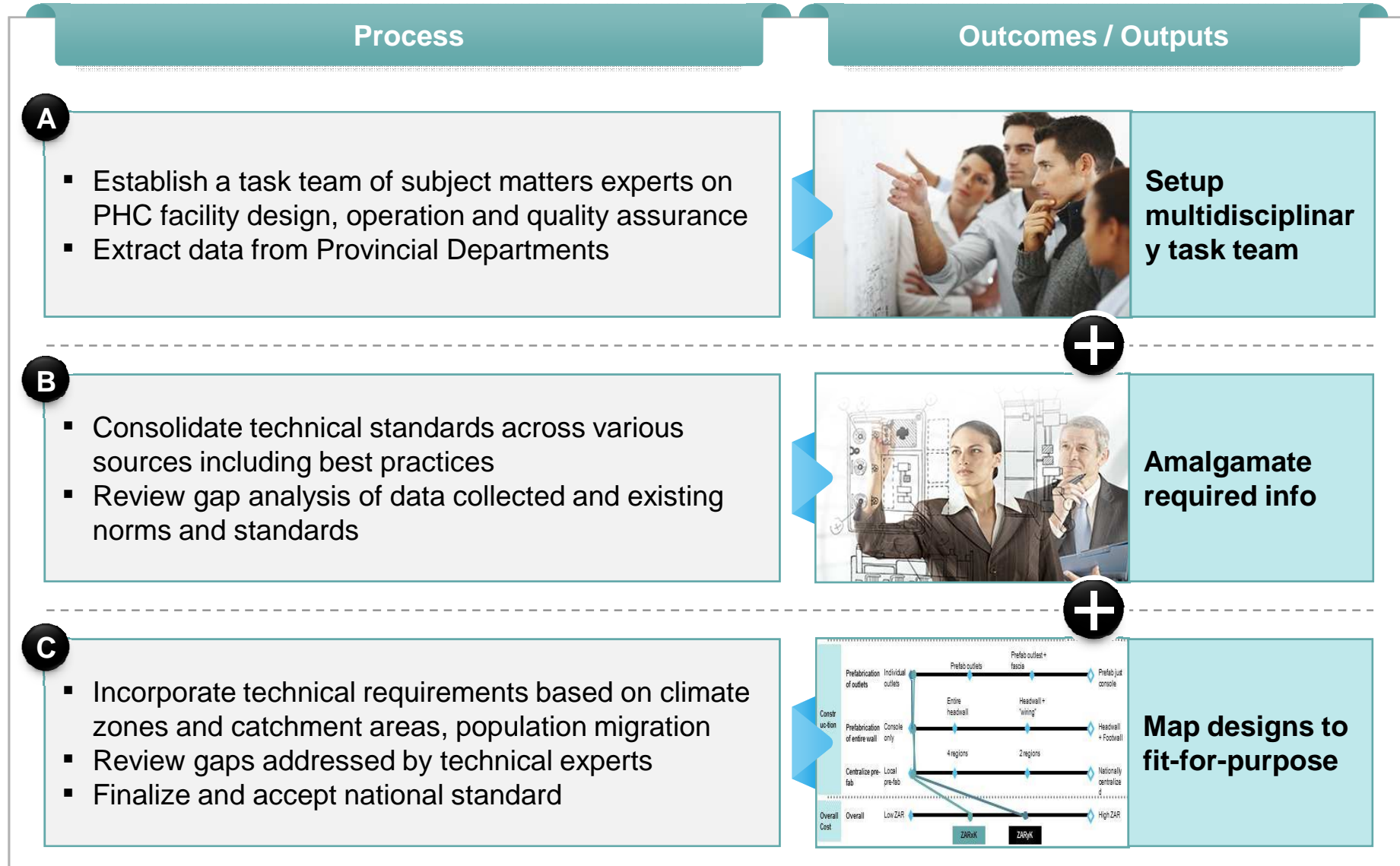
Support spaces

- Storage - linen, equipment, medicine, consumables
- Security gatehouse
- Records
- Sluice
- Clean utility
- Dirty utility
- Waste area (external)

Staff spaces

- Staff room

3 Expert task teams will accelerate process to create national standards within the next 6 months



3 Designing conceptual layout plans of the three streams will give task team a perspective on key considerations when designing each PHC



What the conceptual layouts are

- Interpretation of the work generated in the IUSS
- Offer a better understanding of how the three streams function internally
- Provide insight into how adjacency and patient flow should work
- Indicate the room requirements which each stream should include
- Provide planning concepts that can be implemented in both new clinics and existing clinic which require extensions



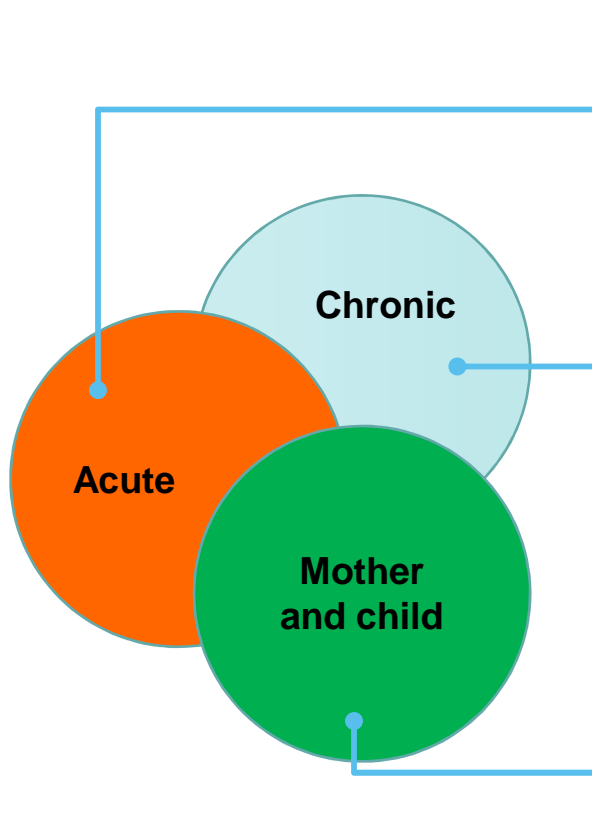
What the conceptual slides are not

- Definitive technical drawings for the PHC
- The single standards for all clinics as the allocation of space is driven by the specific requirements for each clinic
- Limiting on the 3 stream room requirements and can be adjusted according to end user needs
- Inclusive of support services such as central storage, services and administration, which may be incorporated into the areas if required

3 To stream patient flow the design layout of the 'Ideal Clinic' will be centred around the three streams

PRELIMINARY

Overview of the three streams of healthcare services in PHCs

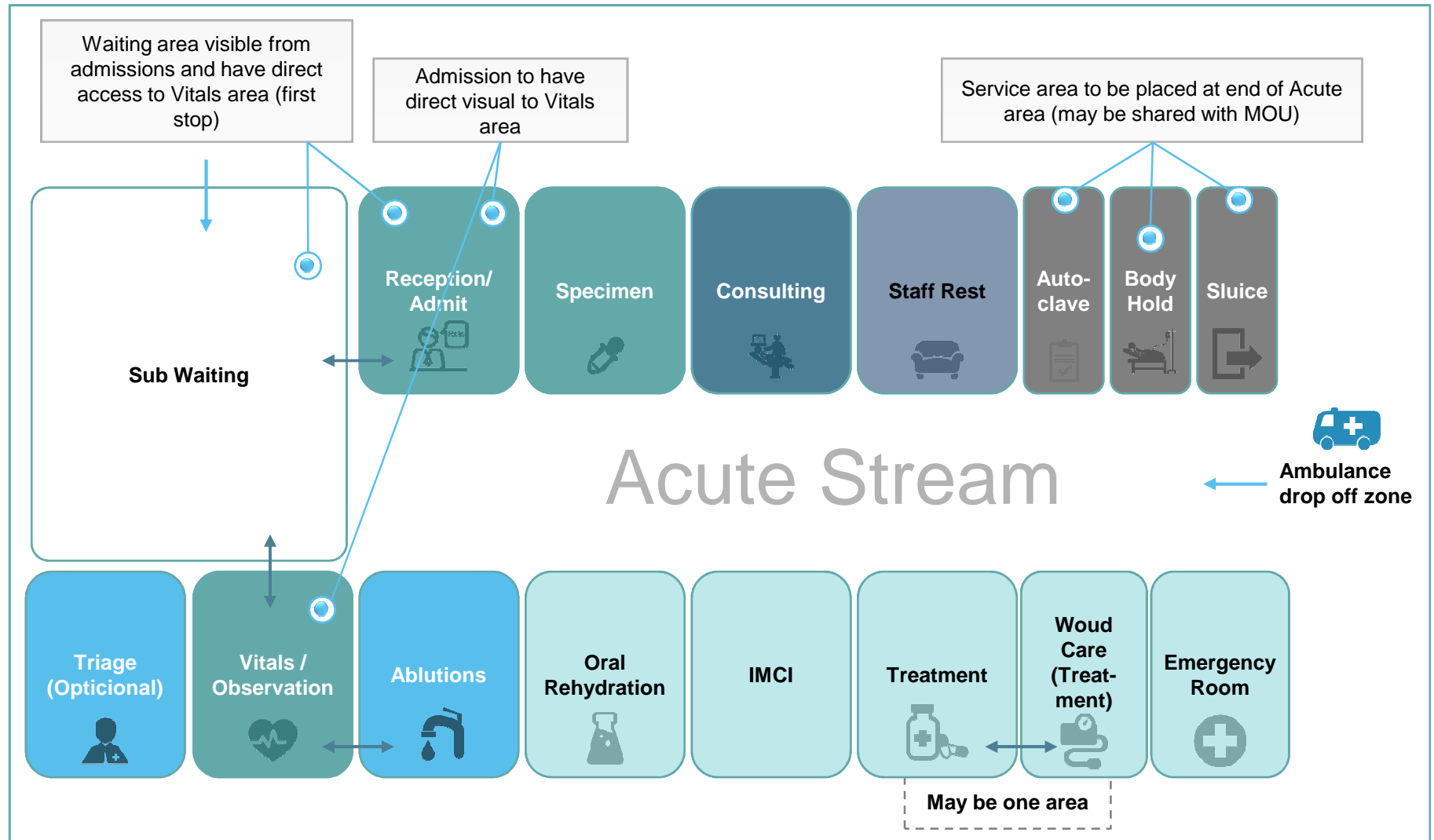


- Focus area will includes:
 - New cases before diagnosis e.g. coughing before diagnosis of TB)
 - Minor procedures and wound care
 - Preventive and promotive Care
- Chronic conditions include those that continue or persist and will require management over an extended period of time
- These include: non-communicable diseases, mental health services, HIV and tuberculosis, and other communicable diseases
- Mother and child health (pre and post-natal) and family planning
- MOU (Mid-wife Obstetrics Unit) in larger clinic and CHCs

- PHC facilities are the facility-based point of care that is closest to the community that receives healthcare services

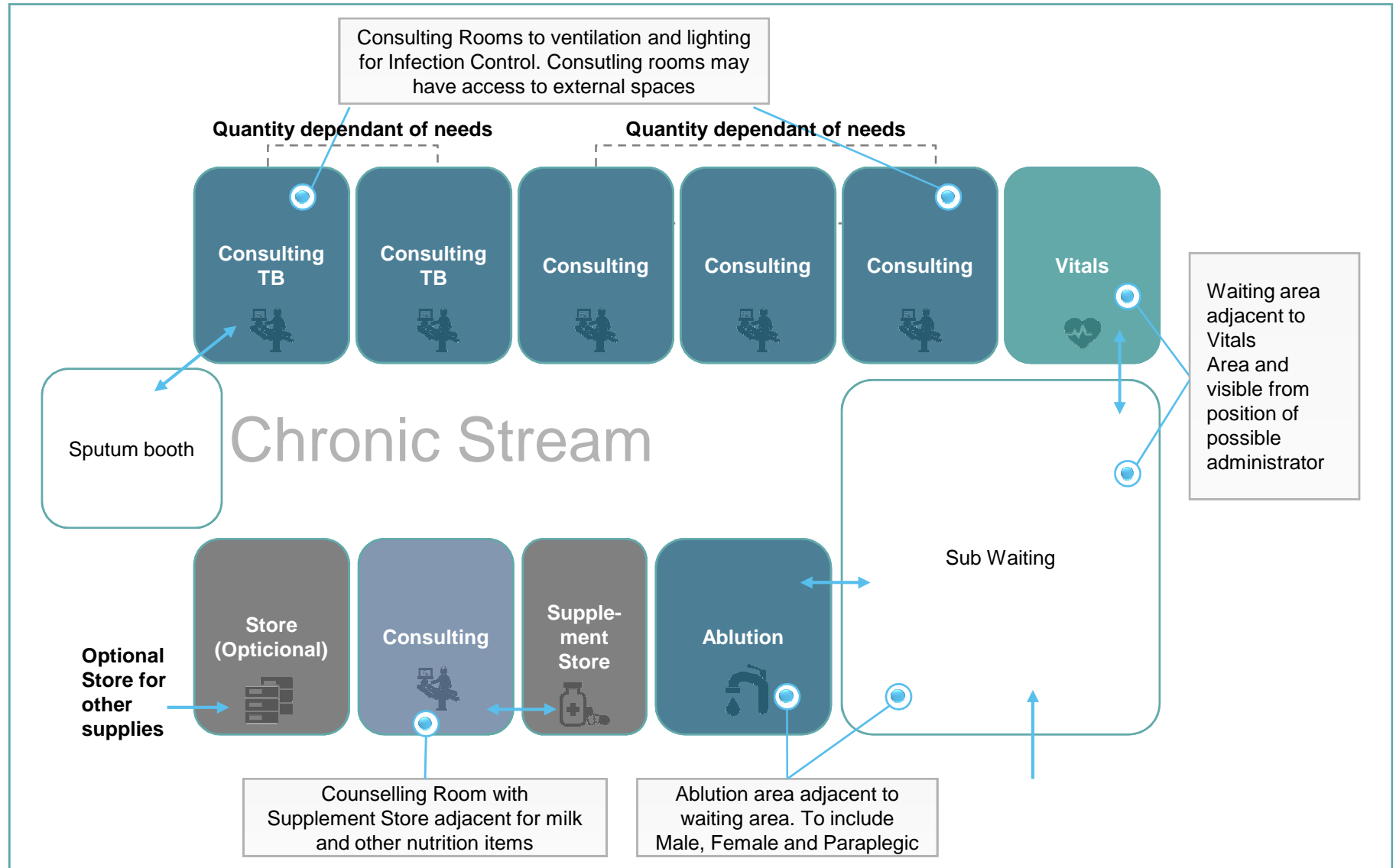
3 Acute service must have easy access for both patient & emergency services and accommodate new and emergency cases.

BASIC CONCEPTUAL LAYOUT



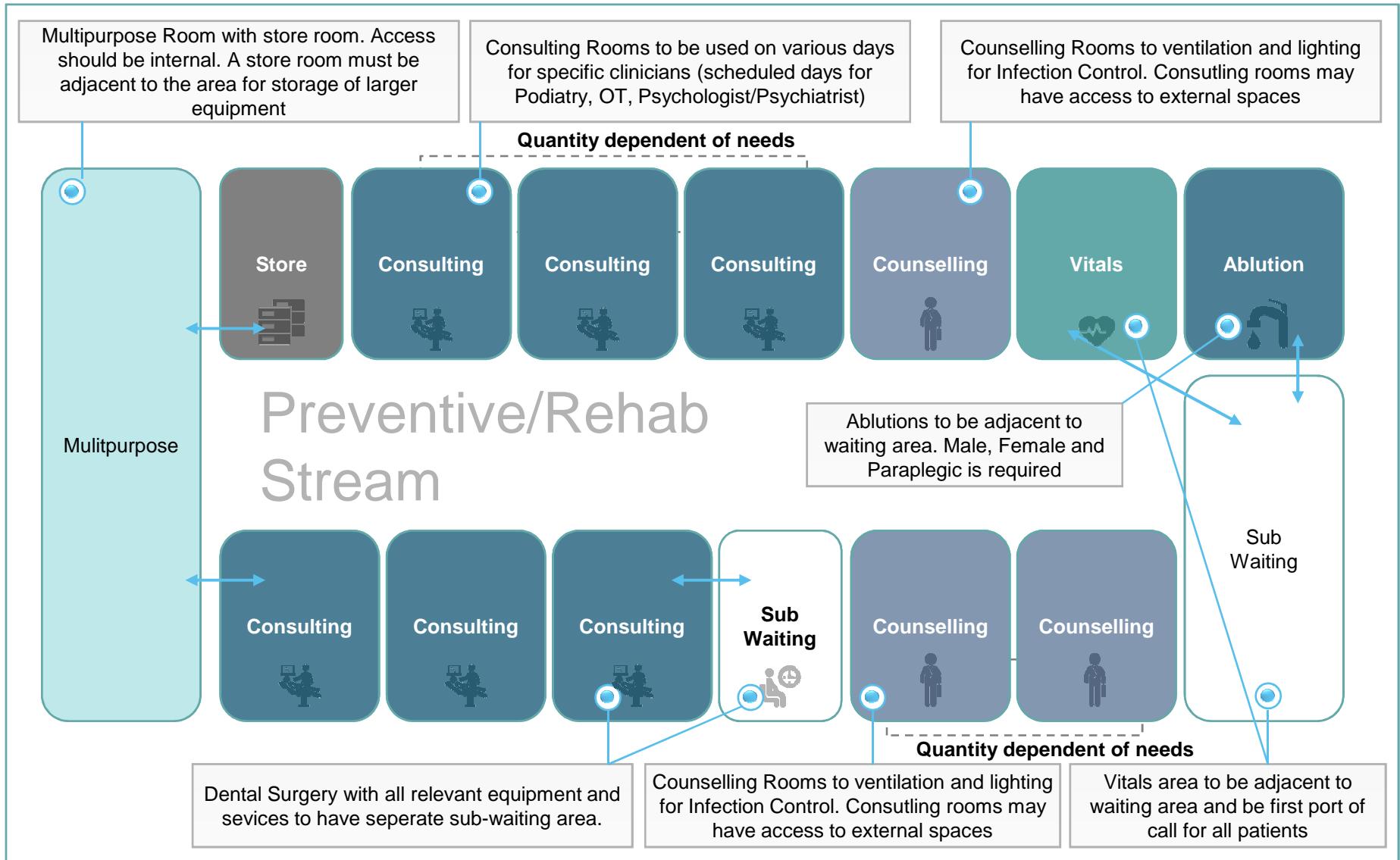
3 To maximise infection control, mitigate kurtotic flow patterns and provide a non-segregated health service

BASIC CONCEPTUAL LAYOUT



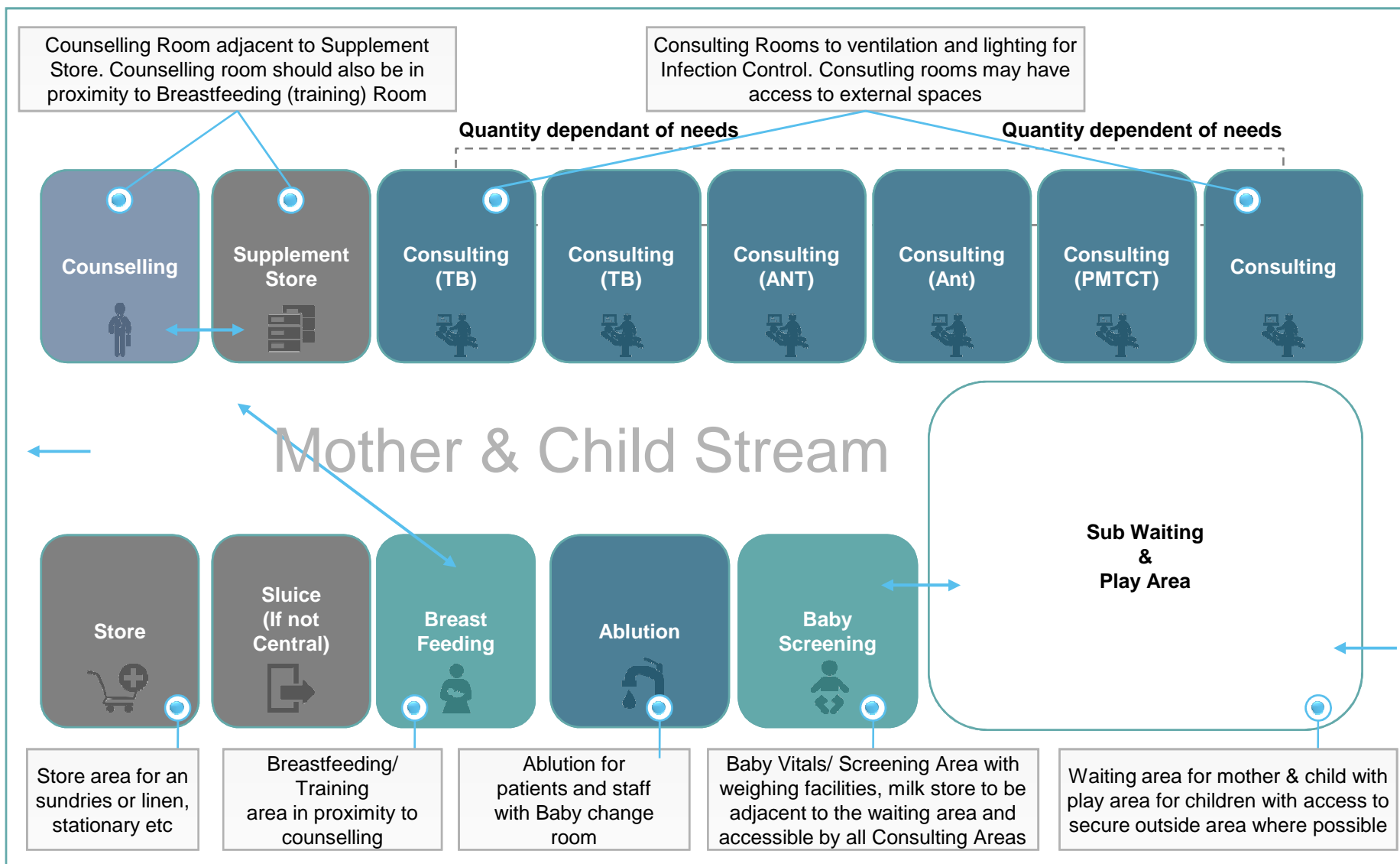
3 Chronic, preventive and promotive care by clinicians on a schedule basis

BASIC CONCEPTUAL LAYOUT



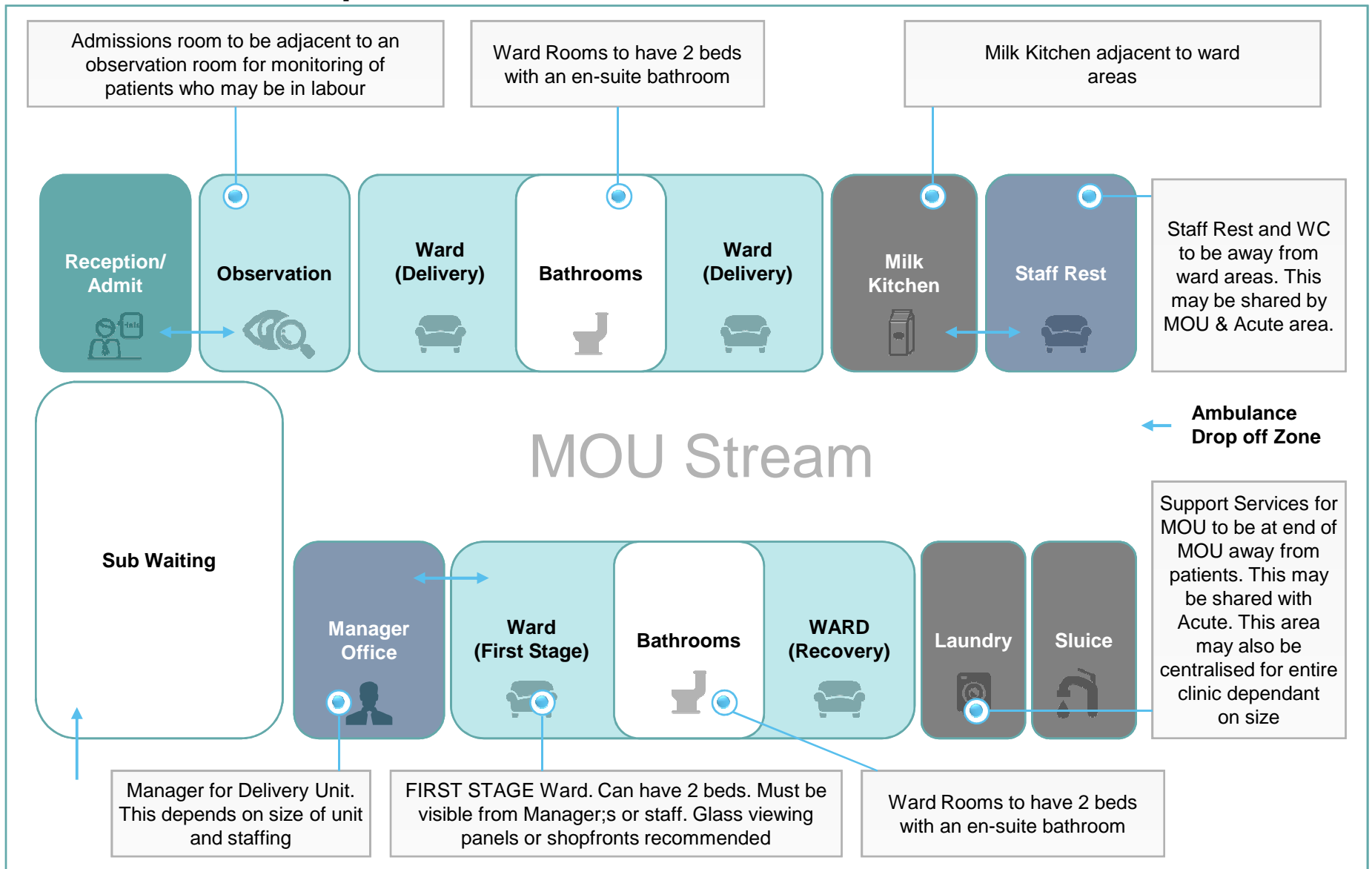
3 Dedicated Mother & Child area which provides a welcoming and functional space for both new and existing parents with children

BASIC CONCEPTUAL LAYOUT



3 MOU stream will serve specific cases for deliveries, should have an ambulance drop-off or access

BASIC CONCEPTUAL LAYOUT



3 A detailed plan to update ideal clinic technical standards to ensure that the solution is credible and accepted has been drafted

No.	Actions / Analysis	Owner	Due date	Output / Deliverable	Inputs/support needed
1	Establish terms of reference for task team	Lab Infrastructure Workstream	21-11-2014	Terms of Reference	Identification of expertise required centrally and provincially
2	Mobilize task team: Central coordinator & small technical committee (Central committee, national) and Provincial members	NDoH (person to be decided)	15-Dec-14	Task team with Terms of Reference	Approval of initiative and authorisation to proceed (person to be decided), participation of task team members to be agreed with provinces
3	Plan acceptance workshop (agenda, attendees, venue, travel, budget)	Central Coordinator	15-Dec-14	Proposed Workshop programme	Administrative and travel support
4	Authorisation of proposed workshop	NDoH (person to be decided)	25-Jan-15	Approved final workshop programme	Approval of workshop (person to be decided)
5	Extraction of existing standards and designs	Provincial Task Team Members	16-Jan-15	Extracted data per province	Input from Provincial infrastructure departments & provincial dept. of public works. Inputs required: <ul style="list-style-type: none"> • Building materials specifications • Layout designs • Compliance of infrastructure with infection control • Innovative building technologies • Implemented green technologies
6	Information to be sent to central coordinator	Provincial Task Team Members and coordinator	16-Jan-15	Central database of existing standards	Infrastructure to create database (person to be decided)
7	Collation of data and gap analysis	Central Coordinator	16-Feb-15	First draft national standard	Administrative support staff
8	First draft to be circulated to Provinces	Central Coordinator	16-Feb-15	Circulated first draft national standard	
9	Gaps addressed by Technical Committee	Technical Committee	27-Feb-15	Proposed gap remedies	
10	Proposed gap remedies to be sent to Central Coordinator	Provincial Task Team Members	06-Mar-15	Second draft	
11	Second draft circulated to Provinces	Central Coordinator	13-Mar-15		
12	Provincial members to supply feedback	Provincial Task Team Members	20-Mar-15	Feedback	
13	Consolidate third draft	Technical Committee	23-Mar-15	Consolidated third draft	
14	Consolidated third draft circulated to Provinces	Central Coordinator	23-Mar-15		
15	Workshop stakeholders	Task team	30-Mar-15	Publishable Final standard	Administrative support staff
16	Acceptance of standards based on workshop recommendation	NDoH (person to be decided)	07-Apr-15	Accepted National Standard (containing material specifications)	Sign-off on final national standard

4 Overview of the approach consolidate & update asset register

PRELIMINARY

Objective:

To create a national database of all assets, including a category of condition and asset ownership

Initiative concept/details/highlights:

- Create database which will allow the identification of quick wins and the sequencing of the programme to address all the facilities:
 - A small no. of facilities can be brought up to standard very rapidly and at modest cost
 - In some facilities it may be possible to rapidly effect significant improvements (from the patient's point of view) while awaiting more extensive renovations
 - Database will also identify facilities requiring additional space, bulk services and transport requirements
 - Facilities not owned by Provincial Depts. of Health, will require an executive decision about relocation

Efficient “FIT” at facilities critical for Programme Management

Owner

- National Department of Health

Key stakeholders identified:

- Provincial Depts. of Health, Depts. of Transport
- Public Works
- Municipal Metros
- National Treasury
- Educational Institutions

Required resources

- Task Coordinator (National), Task Team including public & private sector and professionals from the built environment

Implementation timeframe

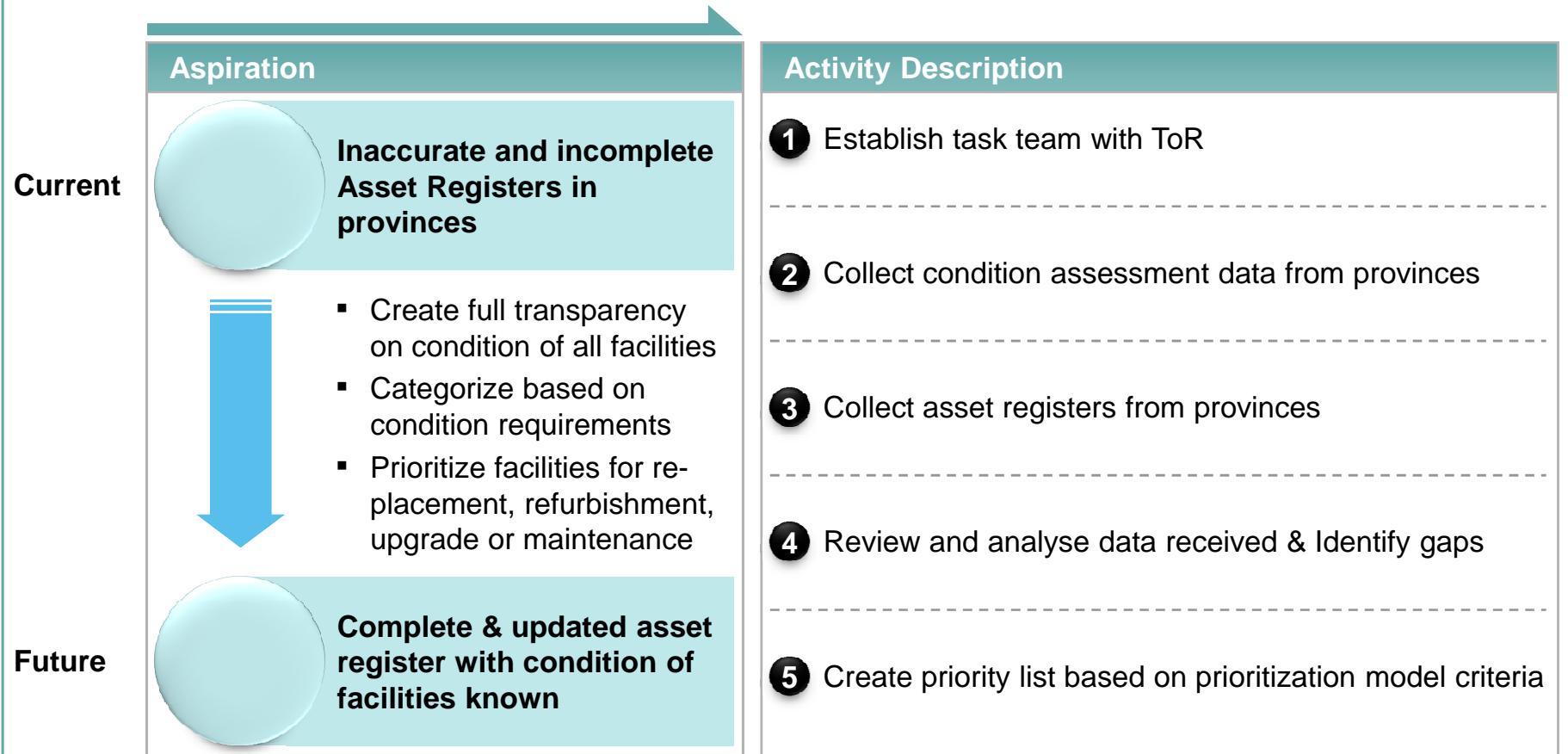
- Start date: 5 January 2015
- End Date: 30 June 2015

Key milestones

- Final Asset Register (date)

4 Use of a single source homogenous PHC database is critical to understand the asset delivery and maintenance roll-out approaches

Focus area: Create and update an integrated asset register: Quantify, categorize & prioritize all PHC facilities



Impact: Clear roll-out approach for effective and efficient programme management

4 Allocating capacity and funding is critical to rapidly developing a consolidated asset register with conditional and functional assessments

Update and consolidation of an Integrated Asset Register (Three-Pronged Approach)

A Use of relevant tertiary education teams¹

- Partner with DoHE to create programme for students to develop technical drawing existing drawings
- Allocate teams with supervisors to validate and guide process
- Enforce process as critical for community outreach (to drive community involvement) and enhance practical experience of students

B Second expertise from various departments

- Accelerate current work of PPTCRM teams
- Identify critical skills within Departments (DPW, Treasury, NDoH, etc.) to assist in the asset register consolidation

C Contract PSP to fill up where gaps in capacity exist

- Use current process to fill gaps where Government officials and tertiary task teams are unable to reach
- Prioritise information gathering vs quick fixes

Overall need to:

- Co-ordinate resources across the country
- Fast-track participation of tertiary institutions and other departments
- Integrate info into a standard format
- Use terms of reference as guideline for requirements
- Support from DPME to track and monitor progress



¹ Includes FETs, technicians and universities whom have built-environment courses (e.g., technical drawing, architecture, quantity surveying) where groups of students will be surprised to develop overall drawings of current facilities as a pre-requisite for practical course work

5 Overview of the approach to design and implement central oversight delivery unit

Objective:

To centralize procurement to a standalone committee per district

Initiative concept/details/highlights:

- Standardize financial delegation across all provinces and the delegations of the powers to appoint infrastructure service providers to unit
- Focus of delivery unit will be governance, planning ,procurement and quality assurance for all PHC in the specified district with reference to infrastructure procurement
 - Ensure that all bids for infrastructure procurement include an evaluation criteria for functionality
 - Allocate a technical expert in each unit
- Ensure delegation of power to effect implementation at all levels and assume responsibility for the on-time project completion
- Specify training to be provided in specification, evaluation and adjudication committees
- Implementation of Service Delivery Agreements and improved contractual administration

Minimize delay between planning and construction commissioning

Owner

- HOD

Key stakeholders identified:

- Provincial Treasury
- National & Provincial Department of Health
- Other government departments & agencies
- Private sector

Required resources

- Finance, Human Resources

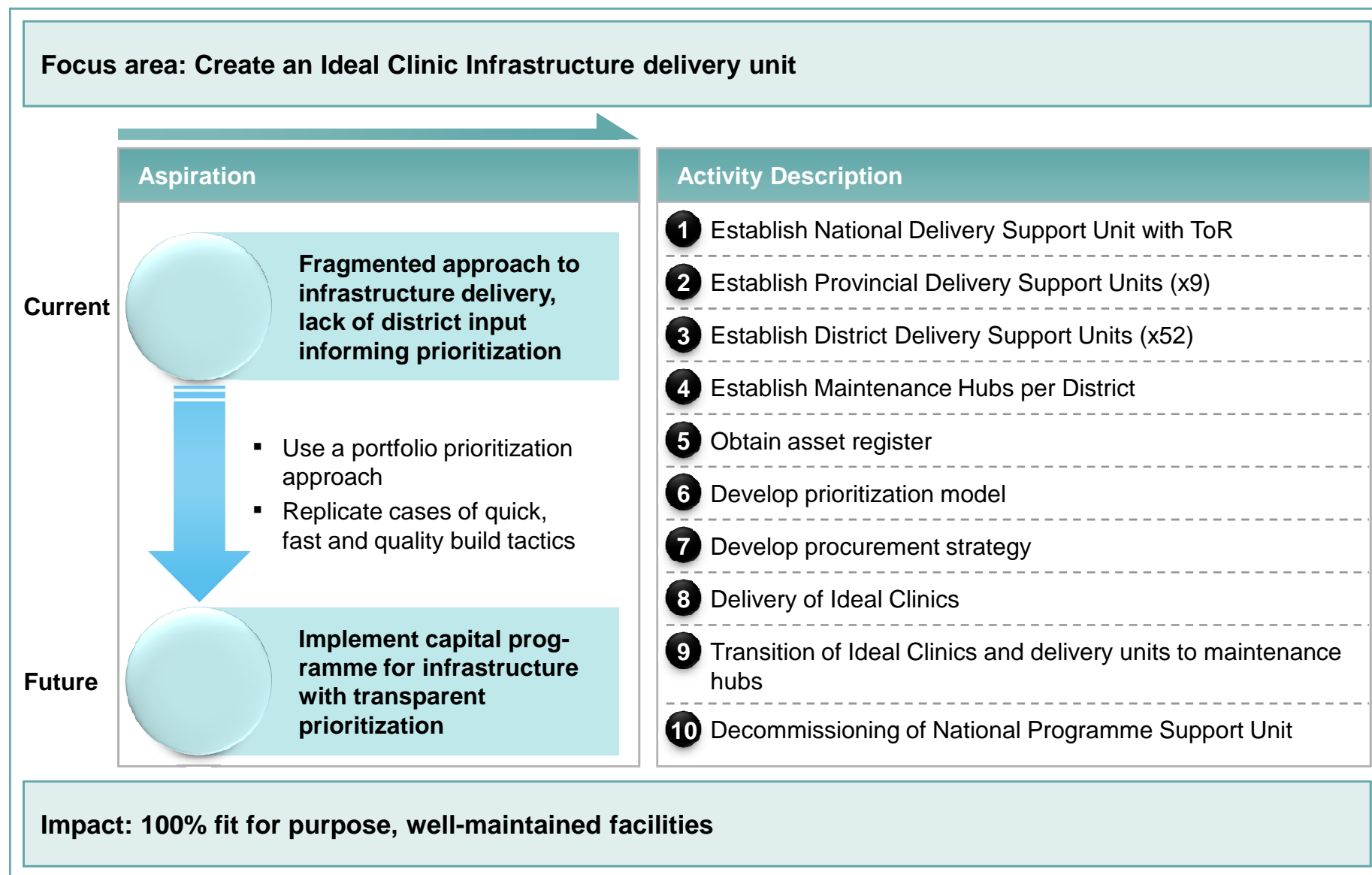
Implementation timeframe

- Start date: 1 December 2014
- End Date: 15 December 2017

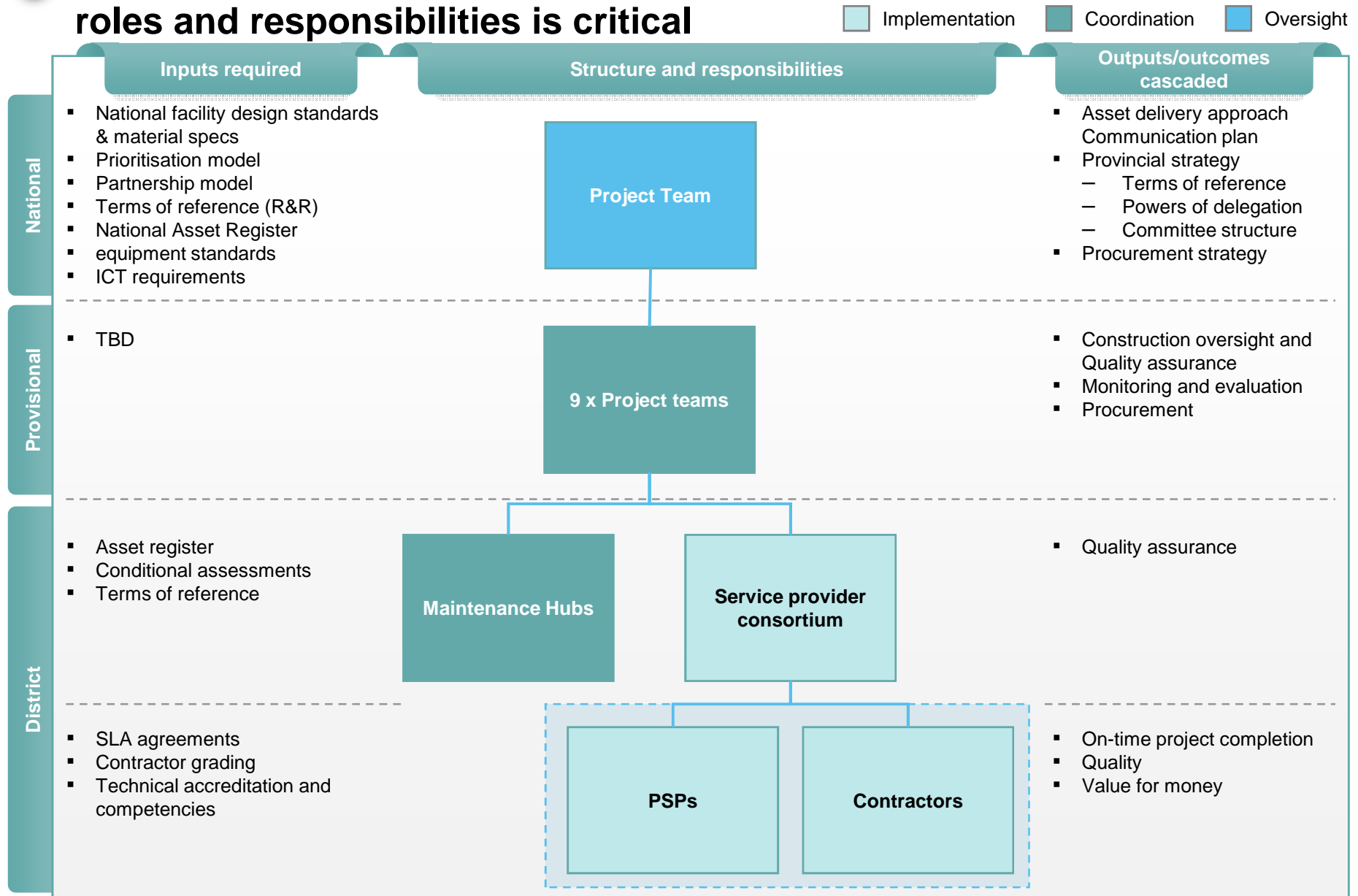
Key milestones

- Feb 2015: Committee established & operational
- March 2016: All procurement & contract finalized

5 To ensure a systematic roll-out is critical to have a detailed roll-out programme, clear governance structures and programme approach



5 A central project team to co-ordinate, govern, prioritise and outline roles and responsibilities is critical



Contents

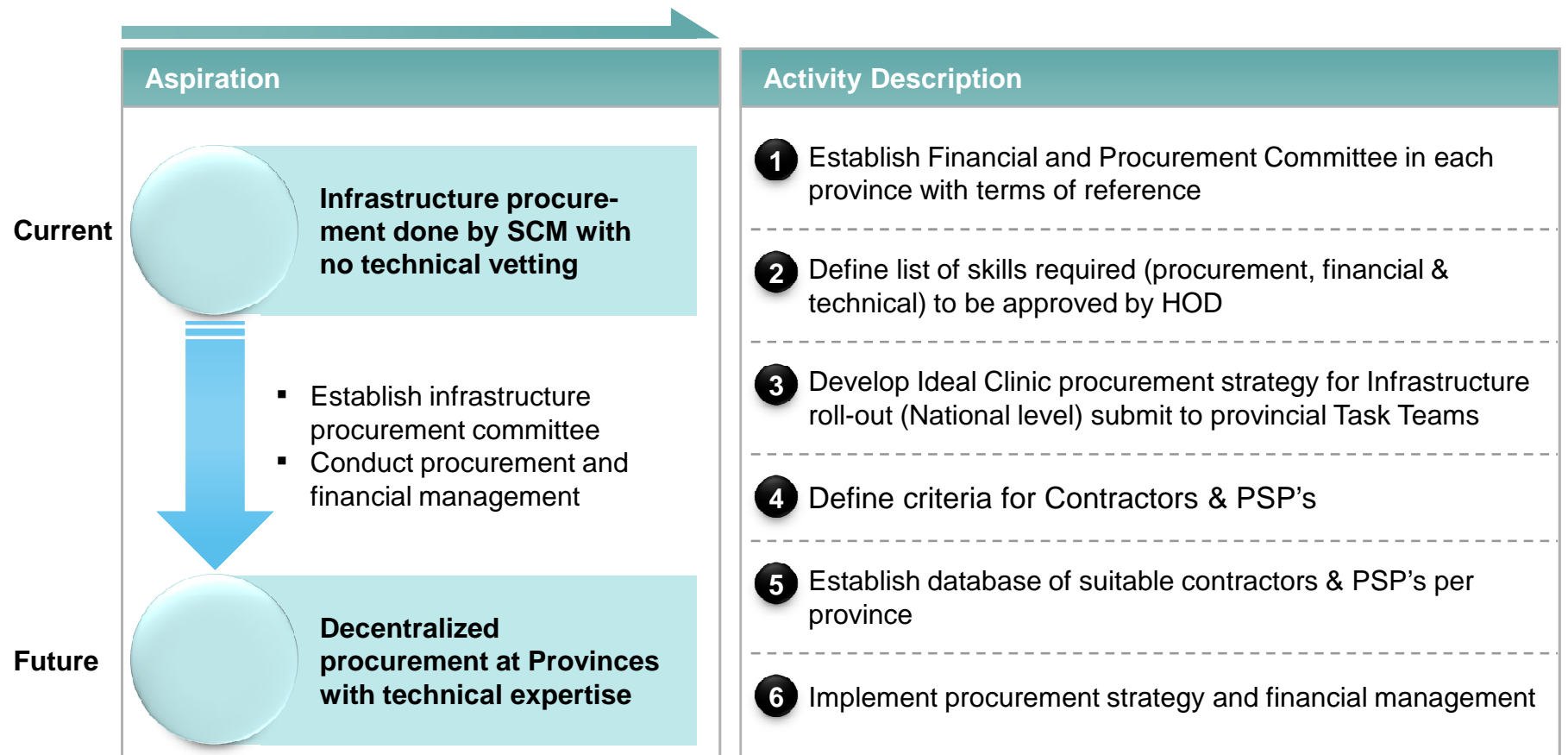
- Context and case for change
- Aspirations
- Issues and Root causes
- **Solutions/initiatives**

▫ **Business As Usual
Initiatives**



6 Establishing a technical and independent infrastructure procurement committee will reduce turn-around times and ensure effective bid specification, evaluation and adjudication

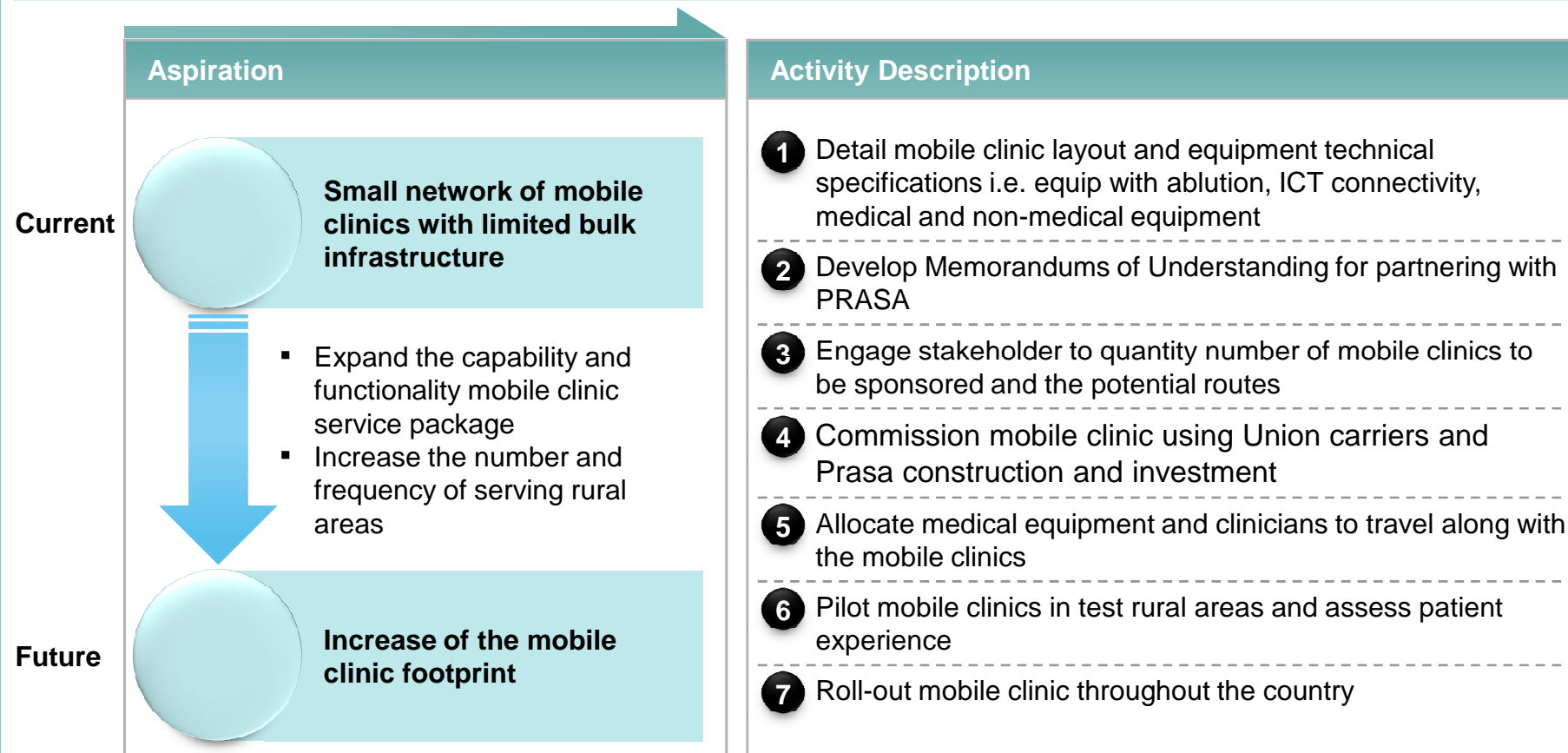
Focus area: Implement a central committee to oversee delivery of the Ideal Clinic Infrastructure roll-out



Impact: Reduced turn-around time between tender phase and construction commencement

7 Replicating the Phelophepa1 clinic on wheels, will increase mobile PHC facilities' reach and relevance to rural areas

Focus area: Increase PHC footprint using PRASA decommissioned coaches as mobile clinics (mobile train clinic)



Impact: Decrease the time required to roll-out PHC facilities to roll-out to rural areas

1 Transnet-Phelophepa is a healthcare clinic on wheels that travels into rural areas in South Africa, to provide health care general health, dental and eye checks in rural communities, and dispense treatments for diagnosed conditions

Back-up