Ideal Clinic Realisation and Maintenance

Infrastructure

Full Lab Report
November 2014
Contents

- Context and case for change
- Aspirations
- Issues and Root causes
- Solutions/initiatives
Preliminary results suggest the majority of the roll-out should be focused on refurbishment and extension of PHCs.

Key drivers of low scores include: poor design, poor build quality, inappropriate materials, inadequate bulk services and lack of maintenance in many facilities.

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
ASPIRATIONS

Key elements of the infrastructure of an “Ideal clinic”

What does this look like: How will it be different

A Design & layout
- 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
- 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
- Develop a national standard and specifications for all equipment
- Ensure availability and quality of essential equipment
- Ensure scheduled maintenance of equipment

D ICT connectivity
- 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
- Use directional signage to decrease in the amount of congestion and waiting times
- Reduce response times for maintenance

F Sustainable
- 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
- 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
- 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

SOURCE: Infrastructure Workstream – Health Labs
To achieve this Infrastructure will develop an effective infrastructure rollout plan to ensure 100% world class PHCs by 2017

<table>
<thead>
<tr>
<th>ASPIRATION</th>
<th>TARGET</th>
</tr>
</thead>
<tbody>
<tr>
<td>▪ Ensure NDoH realises 100% world class, PHC facilities by 2017/18</td>
<td>▪ Define clearly the infrastructure roll-out plan and technical specification for the ‘Ideal Clinic’ state</td>
</tr>
<tr>
<td>▪ Ensure quality, on-time, value-for-money construction</td>
<td>▪ Define the supply chain management process and project management strategies that will reduce turnaround time</td>
</tr>
<tr>
<td>▪ Define and propose feasible options related to private sector involvement</td>
<td>▪ Define the supply chain management process and project management strategies that will reduce turnaround time</td>
</tr>
<tr>
<td>▪ Ensure that all PHCs are well maintained</td>
<td>▪ Define and propose feasible options related to private sector involvement</td>
</tr>
</tbody>
</table>

SOURCE: Infrastructure Workstream – Health Labs
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:

<table>
<thead>
<tr>
<th>Description</th>
<th>Impact of the issue</th>
</tr>
</thead>
</table>
| **Lack of adherence to governance procedures** | - Protracted delegation of powers for projects reducing the quality and on-time completion of projects  
- Delayed maintenance response leading to backlog maintenance |
| **No integrated asset delivery plan** | - 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** | - 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** | - 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.

SOURCE: Infrastructure Workstream – Health Labs
Across the construction and maintenance value chain we have identified areas that need to be addressed

- Limited finalised comprehensive norms and standards for infrastructure: Poor process and progress related to maintenance (i.e. defining requirements and routines)
- Backlog of reactive maintenance deficiency in monitoring and evaluation
- Lack of detail related to facility design and specification
- Insufficient management and coordination of capex infrastructure projects across entire PHC network
- Financial delegation not standardized at provincial level
- Lack of quality on time project construction and delivery: Ineffective bid-specification, evaluation, adjudication and contract management
- Prolonged turn-around for procurement

- Fragmented Development Management: no single body to manage, maintain and upgrade facilities
- Unclear appropriation of Funds: Limited transparency of project identification and prioritization process-unclear infrastructure plan
- Implementing Agent not Performing: specification committee not comprising of technical people
- Lack of strategic planning & clinical input at conceptual stage: lack of detail related to facility design and specification
- Design development not based on norms & standards
- Insufficient management and coordination projects: limited transparency on the implementation planning

SOURCE: Infrastructure Workstream – Health Labs
**Four key issues have been prioritised that relate to the identification and prioritisation process**

<table>
<thead>
<tr>
<th>Description</th>
<th>Root cause</th>
<th>Implications</th>
</tr>
</thead>
</table>
| Fragmented Asset Management| - 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 | - Delayed initiation of asset construction, causes an expiration of property rights acquired from municipality |
| Implementing agent not performing| - 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 | - Lack of quality and quantity assurance leading to delays and demolition of structures  
- Lack of recourse for sub-standard work  
- Enforce contract penalties |
| Unclear appropriation of funds| - Skewed maintenance budget allocation where is backlog maintenance is de-prioritised and budgeted | - Inadequate funding for maintenance, for emergency, backlog and routine.  
- No process to updated and sign off on cost escalations  
- Mistakes are only corrected on clients budget |
| Delayed Maintenance response| - More than one department responsible for maintenance and disparity increased by lack of roles that are not defined in detail  
- Suboptimal maintenance planning, implementation and budgeting (historical budgeting) | - 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

Dimensions for successful asset management

- Break building into functional areas & risk categories
- Break infrastructure down into components
- Compile maintenance schedules for components
- Identity tasks, labour, material requirements & costs
- Execute maintenance plan
- Update plan & maintenance schedules
- Repeat & improve annually

Bottlenecks in process:

- No single integrated view on the condition of facilities
- Limited scheduled maintenance
- Limited understanding of priority tasks
- Lack of asset maintenance plans
- No approved maintenance strategy for Provinces
- Lack of Life Cycle Maintenance plans for buildings, plant & machinery
- Lack of enablers for development & execution of daily maintenance plans
- No set aside budgets for maintenance

IUSS Health Facility Guides – Maintenance provide health facility guidance that cover norms & standards for infrastructure maintenance in healthcare facilities from primary to tertiary healthcare

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-standardized signage

SOURCE: Infrastructure Workstream
Three key issues have been identified with respect to the design and definition of specifications

<table>
<thead>
<tr>
<th>Description</th>
<th>Root cause</th>
<th>Implications</th>
</tr>
</thead>
</table>
| Lack of strategic planning & clinical input at conceptual stage | - 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 | - 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 |
| Insufficient management and coordination projects | - Lack of quality and quantity assurance leading to delays and demolition of structures  
- National Department of Health Infrastructure Unit presentation suggests:  
  - 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 | - 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  
  - Specifically DPW and DoH |
| Design development not based on norms & standards | - 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 | - 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)

<table>
<thead>
<tr>
<th>Insights</th>
<th>Description</th>
<th>Implications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reception &amp; waiting area</td>
<td>• Reception and waiting area too small</td>
<td>• No waiting area outside clinic premises</td>
</tr>
<tr>
<td></td>
<td>• Clinic layout can be improved</td>
<td>• Limited shelter to protect from exposure to elements</td>
</tr>
<tr>
<td></td>
<td>• Ventilation in clinic 1 was extremely poor</td>
<td>• Poor patient flow and infection control</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Prolonged increased waiting times for poor layout</td>
</tr>
<tr>
<td>Equipment and furniture</td>
<td>• Clinic 1 &amp; 2, not enough sitting facilities for all feet</td>
<td>• Recommendation to revisit the equipment standards:</td>
</tr>
<tr>
<td></td>
<td>• Adequate medical equipment</td>
<td>- E.g. Minimum requirement for seating facilities for all feet</td>
</tr>
<tr>
<td>Waste services</td>
<td>• Medical Waste collection is rare, leading to cross contamination with new disposables</td>
<td>• Infection control risk.</td>
</tr>
<tr>
<td></td>
<td>• Limited general waste collection</td>
<td>• Staff/patient safety.</td>
</tr>
<tr>
<td>Abolition</td>
<td>• Ablutions inadequate for patient volume</td>
<td>• Ablutions require more regular maintenance than the remainder of building</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Word of mouth opinion affects patients willingness to visit specific clinics</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Patients are at clinics for 2-8 hours, at will require ablation facilities at least once</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Mothers need to change and breastfeed children</td>
</tr>
</tbody>
</table>

**SOURCE:** Clinic visits – October 13th and 14th 2014
Findings from clinic visits showing lack of standards and monitoring – Municipality operated clinics (2/5)

<table>
<thead>
<tr>
<th>Insights</th>
<th>Description</th>
<th>Implications</th>
</tr>
</thead>
</table>
| **5 Dispensary** | ▪ Limited space  
▪ No Pharmacist | ▪ Lack of resources  
▪ Allocated space below requirement |
| **6 Equipment and furniture** | ▪ Clinic 1 & 2, not enough sitting facilities for all feet  
▪ Adequate medical equipment | ▪ Recommendation to revisit the equipment standards:  
– E.g. Minimum requirement for seating facilities for all feet |
| **7 Security** | ▪ Lack of screening for prohibited items  
▪ Lack of required infrastructure for safe storage of firearms  
– Lack of adequate & visible security  
– No screening or detectors for prohibited items  
– No gun safe at security office | ▪ 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** | ▪ No Services Board (font size of text)  
– Observed in clinic 1 and 2  
– Limited pedestrian and public transport infrastructure  
▪ Lack ambulance access | ▪ 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

SOURCE: Clinic visits – October 13th and 14th 2014
## Two been identified with respect to management of procurement-project commissioning

<table>
<thead>
<tr>
<th>Description</th>
<th>Root cause</th>
<th>Implications</th>
</tr>
</thead>
</table>
| Financial delegation not standardized at provincial level | - Accounting officers per province are not enforced to apply the National Treasury thresholds.  
  - 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  
  - RT contracts could assist to expedite some items to avoid lengthy procurement | - Non standardisation of simplified procurement processes i.e. standardise delegation of power throughout province, district and municipal level |
| Ineffective bid specification, evaluation and adjudication | - Some quotations are not evaluated on quality  
  - 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 | - 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  
  - 10 Years for latent defects liability period is too long limits ability to still hold the contractor liable for latent defects after final completion |

**SOURCE:** Infrastructure Workstream – Health Labs
Three issues have been prioritised with respect to monitoring facility requirements and maintenance

<table>
<thead>
<tr>
<th>Description</th>
<th>Root cause</th>
<th>Implications</th>
</tr>
</thead>
</table>
| Manage procurement-project commissioning | - Increased backlog on planned projects  
- Absence of operational and maintenance budgeting | - Poor quality of work  
- Late completion of projects & cost escalations |
| Poor people and performance management | - Poor monitoring of progress on projects (lack of, ongoing training of infrastructure personnel) | - Poor monitoring of progress on projects (lack of, ongoing training of infrastructure personnel) |
| Limited finalized comprehensive norms and standards for infrastructure | - 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  
- Unqualified documents contribute to poor planning, due to constant changes | - Poor compliance to norms and standards  
- Poor quality equipment  
- Poor maintainability of infrastructure |

SOURCE: Infrastructure Workstream – Health Labs
Contents

- Context and case for change
- Aspirations
- Issues and Root causes
- Solutions/initiatives
  - Business As Usual Initiatives
Infrastructure workstream will unlock bottlenecks across the entire construction and maintenance value chain

Create clear maintenance measures and process:
- Track performance manage facility delivery and maintenance
- Detail the granular maintenance requirements and timetable

Outline Quality Assurance and monitoring standards:
- Replicate cases of quick, fast, build tactics
- Implement Quality Assurance routines and standards
- Duration and rate of progress for project delivery

Define effective supply chain and project management process:
- Reduce contracting turn-around
- Simplify procurement process

Identify and prioritize

Create clear governance process:
- Adopt a central body to drive evaluation and delivery process
- Use a portfolio prioritization approach

Define sustainable world class Asset Delivery process:
- Standardize designs
- Use simple modular design systems for ease of roll-out
- Use of energy efficient technology
- Ensure ICT connectivity
- Centralize register for medical and non-medical equipment
- Updated accuracy of Asset registers
- Use of population dynamics info

Manage procurement-project commissioning

‘Ideal Clinic’ Infrastructure Roll-out and Maintenance Plan

Solutions to address the bottlenecks identified in the construction and maintenance value chain

SOURCE: Infrastructure Workstream – Health Labs
Infrastructure workstream will be focusing on five initiatives to ensure 100% world class, PHC facilities by 2017/18

1. **Breakthrough – must win**
   - Create and implement a detailed roll out of Ideal Clinic Infrastructure Program
   - Establish Clinic Maintenance Hub (CMH)
     - Catalyze with iMaintenance app

2. **Quick win – rapid, visible impact**
   - Update ideal clinic technical standards

3. **Major delivery fix – effective execution**
   - Consolidate & update asset register
   - 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

SOURCE: Infrastructure Workstream – Health Labs
## Overview of the approach to create and implement a detailed roll out of Ideal Clinic Infrastructure Program

### 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

<table>
<thead>
<tr>
<th>Owner</th>
<th>Infrastructure workstream, HOD</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Key stakeholders identified:</strong></td>
<td></td>
</tr>
<tr>
<td>Provincial Treasury</td>
<td></td>
</tr>
<tr>
<td>National, Provincial &amp; District Department of Health</td>
<td></td>
</tr>
<tr>
<td>Other government departments and agencies</td>
<td></td>
</tr>
<tr>
<td>Private sector</td>
<td></td>
</tr>
<tr>
<td><strong>Required resources</strong></td>
<td>Finance, Human Resources</td>
</tr>
<tr>
<td><strong>Implementation timeframe</strong></td>
<td>Start date: January 2015</td>
</tr>
<tr>
<td></td>
<td>End Date: 15 December 2017</td>
</tr>
<tr>
<td><strong>Key milestones</strong></td>
<td>2015: 25% of clinics compliant</td>
</tr>
<tr>
<td></td>
<td>2016: 65% of clinics compliant</td>
</tr>
<tr>
<td></td>
<td>2017: 100% of clinics compliant</td>
</tr>
</tbody>
</table>

**SOURCE:** Infrastructure Workstream – Health Labs
To ensure a systematic roll-out is critical to have a detailed roll-out programme, clear governance structures and programme approach.

### Aspiration

**Current**
- Fragmented approach to infrastructure delivery, lack of district input informing prioritisation
  - Use a portfolio prioritisation approach
  - Replicate cases of quick, fast and quality build tactics

**Future**
- Implement capital programme for infrastructure with transparent prioritisation

### Activity Description

1. Establish National Programme Support Unit with ToR
2. Establish Provincial Programme Support Units (x9)
3. Establish District Programme Support Units (x52)
4. Establish Maintenance Hubs per District
5. Obtain asset register
6. Develop prioritization model
7. Develop procurement strategy
8. Delivery of Ideal Clinics
9. Transition of Ideal Clinics and delivery units to maintenance hubs
10. Decommissioning of National Programme Support Unit

**Impact:** 100% fit for purpose, well-maintained facilities

SOURCE: Infrastructure Workstream – Health Labs
Overview of the planned longevity for Ideal Clinics once the renovations to facilities take place

**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)

SOURCE: IUSS Health Facility Guides - Maintenance
Using category of facility condition and performance together with accessibility ratings will guide the overall prioritisation approach for the roll-out program.

<table>
<thead>
<tr>
<th>Condition rating</th>
<th>Condition</th>
<th>Action required</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>Very good</td>
<td>Planned preventative maintenance</td>
<td>The component or building is either new or has recently been maintained, does not exhibit any signs of deterioration</td>
</tr>
<tr>
<td>4</td>
<td>Good</td>
<td>Condition based maintenance</td>
<td>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</td>
</tr>
<tr>
<td>3</td>
<td>Fair</td>
<td>Repairs required</td>
<td>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</td>
</tr>
<tr>
<td>2</td>
<td>Bad</td>
<td>Rehabilitation required</td>
<td>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</td>
</tr>
<tr>
<td>1</td>
<td>Very bad</td>
<td>Replacement required</td>
<td>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</td>
</tr>
</tbody>
</table>

SOURCE: IUSS Health Facility Guides - Maintenance
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

Conceptual Prioritisation Framework

<table>
<thead>
<tr>
<th>Sustainability Index</th>
<th>1 (Optimal)</th>
<th>2 (Minimum)</th>
<th>3 (Outside)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A (Optimal)</td>
<td>A1</td>
<td>A2</td>
<td>A3</td>
</tr>
<tr>
<td>B (Minimum)</td>
<td>B1</td>
<td>B2</td>
<td>B3</td>
</tr>
<tr>
<td>C (Outside)</td>
<td>C1</td>
<td>C2</td>
<td>C3</td>
</tr>
</tbody>
</table>

- **Group A**
  - A1+B1
  - A2+B2
  - Preventative Maintenance
  - Continue use

- **Group B**
  - A3+B3
  - Technical assessment-condition-based maintenance
  - Renovate or refurbish

- **Group C**
  - C1+C2+C3
  - Feasibility Study
  - Dispose & Replace
  - Deploy to new user

**SOURCE:** DPW-Guidelines for Users
# Sequencing and categorisation for PHCs for the roll-out programme procurement strategy

<table>
<thead>
<tr>
<th>Facility category Condition (# of PHCs)</th>
<th>Infrastructure roll-out requirement</th>
<th>Sequence of events proposed</th>
</tr>
</thead>
<tbody>
<tr>
<td>New PHC build</td>
<td>Open tender: Independently sourced projects</td>
<td>Hub</td>
</tr>
<tr>
<td>165</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Upgrade</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Refurbish</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2192</td>
<td>Framework agreement contract</td>
<td>Hub</td>
</tr>
<tr>
<td>DCA Design Cost Construction Handover</td>
<td>All expertise in one package</td>
<td></td>
</tr>
<tr>
<td>Maintain</td>
<td>Management contract</td>
<td>Hub</td>
</tr>
<tr>
<td>723</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**SOURCE:** Infrastructure Workstream – Health Labs
**Recommended procurement strategy for new, larger refurbishment and upgrades to enable big bang and efficient resource leveling**

**Roll-out procurement strategy**

<table>
<thead>
<tr>
<th>Plan</th>
<th>Design</th>
<th>Procure</th>
<th>Construct</th>
<th>Handover</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Enhanced Traditional Contract**
- Single sourcing approach of one contractor
- Package certain number of clinics in the same package
- One contractor constructing a number of projects in parallel
- Requires sufficient budget

**Advantages**
- Promotes packaging of clinics to allow for big-bang implementation approach by eliminating multiple tender rounds
- Enables for construction various condition clinics that are at various stages of readiness

**Framework**

**SOURCE:** Infrastructure Delivery Management System (IDMS)
Ideal procurement strategy minor refurbishment and upgrades as well as maintenance aimed at maximising local economic development.

Beneficial contract arrangement since it: promotes local contractor; high involvement of local labour and skills transfer; skills transfer and mentorship through the management contractor to local sub-contractor; reduced establishment cost; promotes buy in from local communities.
Risks identified that will need to be mitigated to ensure rapid roll-out of Ideal Clinic Infrastructure

**Risk Register**

**Capacity and capability:**
- Co-ordination of decanting
- Capacitate Clinic Maintenance Hub due to uncompetitive salaries
- Capacity and technical expertise of Implementing Agents
- Limited industry capacity

**Governance:**
- Effect of Provincialization on ability to reach 100% target for all PHCs
- Performance and progress of:
  - Dept. of Public Works
  - SITA in the ICT roll-out

**Regulations:**
- Delays from lengthy of EIA process
- Postponement as a result of Heritage regulations
- Protracted process related to land acquisition

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

**Key considerations of how Ideal Clinic Infrastructure Roll-out will be different**

- 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

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

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

SOURCE: Infrastructure Workstream – Health Labs
### Enhancing the ICT connectivity capability of PHCs

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

#### Aspiration

**Current**

- Limited or no access ICT with unreliable broadband capabilities

  - Align to NHI aspirations and programme roll-out
  - Leverage international donor and private sector expertise and funding

**Future**

- Nationwide uninterrupted ICT connectivity and Health technology usage

#### Activity Description

1. Create equipment register of current ICT equipment
2. Define technical standard and tele-medical equipment/technology requirements
3. Review range of connectivity equipment and capability based on region within the country
4. Outline terms of reference for task team (technical implementation) and skills required
5. Resource the core team to coordinate roll-out and maintenance of ICT and Health technology
6. Engage relevant private service providers, local and international, to review bid offering of potential product and bundle offering
7. Pilot roll-out of ICT and upskill PHC teams with the necessary knowledge required
8. Co-ordinate national roll-out and track-progress for seamless integration

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

SOURCE: Infrastructure Workstream – Health Labs
**BREAKTHROUGH INITIATIVE: DETAILED ROLL OUT OF IDEAL CLINIC INFRASTRUCTURE PROGRAM**

**PPP 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

<table>
<thead>
<tr>
<th>Aspiration</th>
<th>Activity Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Lack of control of construction and maintenance cost over-runs</strong></td>
<td>1. Review best practice analysis for partnerships, alternative funding models (for infrastructure, equipment and ICT)</td>
</tr>
<tr>
<td></td>
<td>2. Define strategic objectives for partnering with the private and other relevant sectors</td>
</tr>
<tr>
<td></td>
<td>3. Engage potential partners and refine potential funding and operating models</td>
</tr>
<tr>
<td></td>
<td>4. Solicit guidance from key stakeholders including legal experts, NDoH, National Treasury and develop MoU</td>
</tr>
<tr>
<td></td>
<td>5. Develop governance guidelines and outline limitations of partnership models including bid specifications and SLA</td>
</tr>
<tr>
<td></td>
<td>6. Assess and select best-fit private stakeholders and refine agreement</td>
</tr>
</tbody>
</table>

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

**SOURCE:** Infrastructure Workstream – Health Labs
Key principles related to the involvement of private sector in the ‘Ideal Clinic’ roll-out

A. Oversight and coordination role by NDoH, with ownership still assigned to the government

B. Optimize capacity and ability to meet patient needs through alternate investor for infrastructure delivery and maintenance of facilities

C. Deliver a healthcare function or invest in PHCs and assume substantial financial, technical and operational risk in the financing, construction, maintenance and or operation of the ‘Ideal Clinic’

D. Provide primary healthcare which will maximize quality at the same or lower cost

E. Enable clinic non-traditional operating and branding partnerships that will diversify the service and use of the PHC Facility

SOURCE: Infrastructure Workstream – Health Labs
Five areas of benefit in the private sector collaboration

1. Private investors contribute support the investment and construction, or operational concessions.

2. enable optimized and accelerated execution...

3. ...keep strict financial (cost) control

4. ...focus on quality of service by outsourcing construction ...

5. implement quality assurance, maintenance standards...
NDoH with Treasury can pull several leverage a wide spectrum of options to infrastructure financing that will fund the infrastructure roll-out

<table>
<thead>
<tr>
<th>Sources of funding</th>
<th>Description</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct government financing</td>
<td>Drive procurement, Utilise outsourcing, Exploit Contracting</td>
<td>Increased U.S. onshore wind capacity additions by 9% p.a. between 2007-15</td>
</tr>
<tr>
<td>Taxes Subsidies</td>
<td>Often low or no interest</td>
<td>Issued $300 mn worth of Australian infrastructure bonds in tax incentive for private sector to help finance the NBN-high speed internet services</td>
</tr>
<tr>
<td>Government loan</td>
<td>Need for government guarantee</td>
<td>Sourced $526 mn for Niger in 2005 via HIPC debt restructuring for the initial healthcare infrastructure scale-up</td>
</tr>
<tr>
<td>Debt</td>
<td>Requires credit rating, Interest rate risk</td>
<td>Sold Vietnamese government bonds to increase funding for health facility upgrades</td>
</tr>
<tr>
<td>Bonds</td>
<td>Often transferred back to state</td>
<td>Scale up of insurance 1 significant expenditure increase (4x increase in per capita expenditure 1998 – 2008)</td>
</tr>
<tr>
<td>Design/Build</td>
<td></td>
<td>Often transferred back to state</td>
</tr>
<tr>
<td>PPP investment</td>
<td>Existing assets, Typically for part-subsidized projects (e.g. shadow tolls)</td>
<td>Docklands Light Railway is a successful PPP where the construction and operations were very clearly separated</td>
</tr>
<tr>
<td>(D/B) Operate Maintain AA2</td>
<td></td>
<td>Reached 25% cost savings; higher productivity led to shorter ALOS and more efficient facility utilization</td>
</tr>
<tr>
<td>(D/O) Operate Maintain RR3</td>
<td>Existing assets, Typically stand-alone profitable</td>
<td>Granted concession for management of health systems in 5 of 21 health districts (paid on a fee per inhabitant)</td>
</tr>
</tbody>
</table>

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
Private sector collaboration in the Ideal Clinic roll-out could potentially be centred around private players ‘Adopting-a-district’…

### How will private sector collaborate in the infrastructure roll-out

#### Key value proposition: Adopt-a-district

- **Use of tax incentive**
  - Utilise tax incentive to catalyse the investment of private investment infrastructure
  - Fast-track capacitation of CMH by fund pools of artisan specific SMEs to act as internal service provider

- **Invest using CSR**
  - Coordinate Corporate Social Investment to fund infrastructure delivery and maintenance
  - Collaborate in over long-term funding
  - Catalyse incentive to transfer skills and resources to develop district

- **Leverage strategic position/advantage**
  - Invest in the investment infrastructure roll-out
  - Utilise PHC facility for branding and retail channels to diversify PHC over-and-above healthcare provision

> NDoH will remain the owner of the assets in all scenarios

**The core driver for private sector support is to adopt a long-term view to catalyse more accessible and lower cost primary healthcare at the same or higher quality as comparable PHC**

**SOURCE:** Infrastructure Workstream – Health Labs
The journey to realise 100% world class, PHC facilities by 2017/18, Infrastructure will focus on five prioritised initiatives

- **Mid 2016** Establish and operating all Maintenance Hubs
- **Mid 2016** Roll-out last phase of refurbishment and upgrades
- **Early 2016** Completed Detailed Condition Audit and asset register to inform design of PHCs requiring refurbishment & upgrades
- **Mid 2015** Roll-out first phase: sequence construction of new clinics, light touch maintenance and ICT & Connectivity
- **Early 2015** Commence establishment of oversight unit
- **Mid 2015** Adopt National standards for design, equipment, Health Technology & material specifications
- **Late 2018** Complete ideal clinics transitioned to maintenance hubs

Finalisation of standards is a critical component that could potentially delay the roll-out process.

---

1. Dependent on successful completion of EIAs and PDA,

SOURCE: Infrastructure Workstream – Health Labs
Ambition of what the ‘Ideal clinic’ potentially look like in 2018

SOURCE: Infrastructure Workstream – Health Labs
**Overview of the approach to establish Clinic maintenance hubs**

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

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

**Key milestones**
- Start date: 01/04/2015
- End Date: Ongoing
- Feb 2015: Establish, pilot and operationalize
- June 2015: Optimized operating model
Establishing dedicated maintenance hubs for clinics with dedicated resources and skills with quick turn-around times

**Focus area: Establish clinic Maintenance Hubs in each District**

<table>
<thead>
<tr>
<th>Aspiration</th>
<th>Activity Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinic maintenance centralized at District Hospitals</td>
<td>1 Establish maintenance hubs with ToR</td>
</tr>
<tr>
<td>- Maintenance budget decentralized to hub for clinics</td>
<td>2 Determine HR &amp; budget requirements</td>
</tr>
<tr>
<td>- Avail required skill set for quick response and quality workmanship</td>
<td>3 Build required capacity in maintenance hub</td>
</tr>
<tr>
<td>Future</td>
<td>4 Review and standardize approach to maintenance</td>
</tr>
<tr>
<td>Fully functional &amp; capacitated maintenance hub per district with fast response times</td>
<td>5 Transition Ideal Clinics into the maintenance hubs</td>
</tr>
<tr>
<td></td>
<td>6 Develop asset register for roll-out of Ideal Clinics</td>
</tr>
</tbody>
</table>

Impact: Reduced turn-around time for maintenance
Clinical Maintenance Hubs will transition from backlog- to scheduled maintenance supported by the iMaintenance app.

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

iMaintenance app intended to support core capability of Clinic Maintenance Hubs.

SOURCE: Infrastructure Workstream – Health Labs
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.

iMaintenance app intended to form part of core capability of CMHs.
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 fast-track diagnosis, decision making and repairs**

**Aspiration**

**Current**
- Reactive and deferred maintenance, with budget not ring-fenced
  - Define clear process and tracking measures for maintenance and Quality Assurance
  - Develop library of PHC using app

**Future**
- Preventive and scheduled maintenance, decentralized to district Maintenance Hub

**Activity Description**

1. Refine concept of application and outline key requirements
2. Identify potential funders and secure sponsorship to drive pilot and roll-out
3. Engage relevant software developers to assess cost and functionality
4. Assess option to develop as a tool or as part of Computerized Maintenance Management System (CMMS)
5. Engage relevant stakeholders with concept version and incorporate feedback
6. Create test version of app with continual refinement for central committee and Maintenance team
7. Test and pilot app within Clinic Maintained Hub and refine use
8. Roll-out of app parallel to establishment of Clinic Maintained Hubs and refine user-experience

**Impact:** Reduction in the turnaround time of maintenance activities

SOURCE: Infrastructure Workstream – Health Labs
Innovative maintenance techniques will fast-track diagnosis, decision making and repairs by centralizing infrastructure experts

### Overview of innovative approach to pro-active maintenance

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td><strong>On-site clinic self-diagnosis</strong>&lt;br&gt;• Maintenance diagnosis app that has building technical drawing library installed&lt;br&gt;• X-ray enabled tablet</td>
</tr>
<tr>
<td>2a</td>
<td><strong>Maintenance control centre diagnosis</strong>&lt;br&gt;• Technical drawing&lt;br&gt;• Maintenance repair design tree&lt;br&gt;• Check list&lt;br&gt;• Link to technical drawing library&lt;br&gt;• Monitoring &amp; repair control centre&lt;br&gt;• Manual and digital check list&lt;br&gt;• Photo 1&lt;br&gt;• Photo 2&lt;br&gt;• Photo 3</td>
</tr>
<tr>
<td>3</td>
<td><strong>Call-out maintenance team</strong>&lt;br&gt;• Clinic&lt;br&gt;• Photo 4&lt;br&gt;• Photo 5&lt;br&gt;• Maintenance repaired in specified time&lt;br&gt;• Facility manager and quality inspector</td>
</tr>
<tr>
<td>2b</td>
<td><strong>Problem solve &amp; update results</strong>&lt;br&gt;• Receive results&lt;br&gt;• Problem solve&lt;br&gt;• Issue action&lt;br&gt;• Track &amp; monitor&lt;br&gt;• Review of results by clinics&lt;br&gt;• Video call with clinic and control centre&lt;br&gt;• Align on next steps&lt;br&gt;• Allocate material&lt;br&gt;• Dispatch team to site&lt;br&gt;• Schedule follow assessment&lt;br&gt;• Align on issue&lt;br&gt;• Define job description&lt;br&gt;• Repair facility&lt;br&gt;• Review standard of workmanship</td>
</tr>
</tbody>
</table>

### Process from self-diagnosis to on-time repair

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td><strong>On-site clinic diagnosis</strong>&lt;br&gt;• Complete check list via app&lt;br&gt;• Scan to find design library&lt;br&gt;• Choose area affected in-app&lt;br&gt;• Align camera and take photo&lt;br&gt;• Upload on maintenance tracker</td>
</tr>
<tr>
<td>2a</td>
<td><strong>Maintenance control centre review</strong>&lt;br&gt;• Receive query with photos and check list&lt;br&gt;• Upload onto system and assign to expert team&lt;br&gt;• Use decision tree logic based on checklist to pre-diagnose&lt;br&gt;• Define issue and remedy</td>
</tr>
<tr>
<td>2b</td>
<td><strong>Problem solve &amp; update results</strong>&lt;br&gt;• Send results to clinic for feedback&lt;br&gt;• Schedule video-call to review results/remedy identified&lt;br&gt;• Agree on required action&lt;br&gt;• Issue tracker ticket with outline on repairs</td>
</tr>
<tr>
<td>3</td>
<td><strong>Call-out of maintenance roving repair team</strong>&lt;br&gt;• Order and cover supplies with central team&lt;br&gt;• Team arrives on-site and completes job&lt;br&gt;• Work completed assessed and QA certificate issued</td>
</tr>
</tbody>
</table>

**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
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’

<table>
<thead>
<tr>
<th>Aspiration</th>
<th>Activity Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Minimize the variety and variability of designs</td>
</tr>
<tr>
<td></td>
<td>Standardize the specification of material and building standards</td>
</tr>
<tr>
<td>Future</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Simple standard modular building and material specification for quality assurance</td>
</tr>
</tbody>
</table>

Impact: Rapid roll-out and high quality infrastructure
### 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.

<table>
<thead>
<tr>
<th>Initiative concept/details/highlights:</th>
<th>Owner</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Define work to be carried out by small task team under the direction of the UISS</td>
<td>National Department of Health</td>
</tr>
<tr>
<td>- Synthesize comprehensive minimum national standard based on:</td>
<td></td>
</tr>
<tr>
<td>- IUSS norms &amp; guidelines</td>
<td>CSIR, SABS</td>
</tr>
<tr>
<td>- SANS 10400,</td>
<td>Provincial Depts. of Health</td>
</tr>
<tr>
<td>- Integrated Clinical Services Management (ICSM)</td>
<td>DPW (and other implementing agents)</td>
</tr>
<tr>
<td>- Provincial existing standards</td>
<td>CIDB</td>
</tr>
<tr>
<td>- Determine finishes, fixings and detailed specifications</td>
<td>Professional bodies (ECSA, SACAP, etc.)</td>
</tr>
<tr>
<td>- Workshop stakeholders and adopt national standard</td>
<td></td>
</tr>
</tbody>
</table>

**Key stakeholders identified:**
- 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)

*Standardization is critical for rapid roll-out*
Work done to date on technical specification standarisation gives infrastructure roll-out a headstart although more refinement is required.

**Work done to-date**

- IUSS norms and guidelines
- U-AMPs (condition assessment)
- Provincial standards (not all)
- Essential equipment list

**Works still required**

- Refine existing norms and standards
  - Reference designs
  - Material specifications
- Update National Asset Register (NAR)
- Develop first triage on NAR

SOURCE: Infrastructure Workstream – Health Labs
IUSS guideline gives overview of the required room specifications but further refinement is required to be an Ideal Clinic specifications

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

SOURCE: IUSS Health Facility Guides: Primary Health Care Facilities
**QUICK WIN: UPDATE IDEAL CLINIC TECHNICAL STANDARDS**

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

<table>
<thead>
<tr>
<th>List of prescribed spaces per facility: Clinics and CHCs</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Public spaces</strong></td>
</tr>
<tr>
<td>▪ Entrance</td>
</tr>
<tr>
<td>▪ Reception</td>
</tr>
<tr>
<td>▪ Waiting areas</td>
</tr>
<tr>
<td>▪ Ablutions</td>
</tr>
<tr>
<td>▪ Community meeting room (optional)</td>
</tr>
<tr>
<td><strong>Primary and community care spaces</strong></td>
</tr>
<tr>
<td>▪ Consulting rooms</td>
</tr>
<tr>
<td>▪ Counselling rooms</td>
</tr>
<tr>
<td>▪ Treatment rooms</td>
</tr>
<tr>
<td>▪ Birthing room</td>
</tr>
<tr>
<td>▪ Emergency room</td>
</tr>
<tr>
<td>▪ Specimen collection</td>
</tr>
<tr>
<td>▪ Sputum collection</td>
</tr>
<tr>
<td><strong>Optional areas</strong></td>
</tr>
<tr>
<td>▪ Staff accommodation</td>
</tr>
<tr>
<td>▪ Vegetable garden</td>
</tr>
<tr>
<td>▪ Children’s’ play area</td>
</tr>
<tr>
<td><strong>Administration spaces</strong></td>
</tr>
<tr>
<td>▪ Sister’s office</td>
</tr>
<tr>
<td>▪ Clerks’ office with record storage</td>
</tr>
<tr>
<td><strong>Support spaces</strong></td>
</tr>
<tr>
<td>▪ Storage - linen, equipment, medicine, consumables</td>
</tr>
<tr>
<td>▪ Security gatehouse</td>
</tr>
<tr>
<td>▪ Records</td>
</tr>
<tr>
<td>▪ Sluice</td>
</tr>
<tr>
<td>▪ Clean utility</td>
</tr>
<tr>
<td>▪ Dirty utility</td>
</tr>
<tr>
<td>▪ Waste area (external)</td>
</tr>
<tr>
<td><strong>Staff spaces</strong></td>
</tr>
<tr>
<td>▪ Staff room</td>
</tr>
</tbody>
</table>

**SOURCE:** Health Facility Guides: Primary Health Care Facilities
3 QUICK WIN: UPDATE IDEAL CLINIC TECHNICAL STANDARDS

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

**Process**

- Establish a task team of subject matters experts on PHC facility design, operation and quality assurance
- Extract data from Provincial Departments

**Outcomes / Outputs**

- Setup multidisciplinary task team

**A**

- Consolidate technical standards across various sources including best practices
- Review gap analysis of data collected and existing norms and standards

**B**

- Incorporate technical requirements based on climate zones and catchment areas, population migration
- Review gaps addressed by technical experts
- Finalize and accept national standard

**C**

SOURCE: Infrastructure Workstream – Health Labs
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

**SOURCE:** Infrastructure Workstream – Health Labs
To stream patient flow the design layout of the ‘Ideal Clinic’ will be centred around the three streams.

- **Focus area will include:**
  - 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

SOURCE: Infrastructure Workstream – Health Labs
Acute service must have easy access for both patient & emergency services and accommodate new and emergency cases.

BASIC CONCEPTUAL LAYOUT

- Waiting area visible from admissions and have direct access to Vitals area (first stop)
- Admission to have direct visual to Vitals area
- Service area to be placed at end of Acute area (may be shared with MOU)
- Sub Waiting
- Acute Stream
- Triage (Optional)
- Vitals / Observation
- Ablutions
- Oral Rehydration
- IMCI
- Treatment
- Wound Care (Treatment)
- Emergency Room

SOURCE: Infrastructure Workstream – Health Labs
3. To maximise infection control, mitigate kurtotic flow patterns and provide a non-segregated health service.

SOURCE: Infrastructure Workstream – Health Labs
Chronic, preventive and promotive care by clinicians on a schedule basis

- Consulting Rooms to be used on various days for specific clinicians (scheduled days for Podiatry, OT, Psychologist/Psychiatrist)
- Counselling Rooms to ventilation and lighting for Infection Control. Consulting rooms may have access to external spaces
- Ablutions to be adjacent to waiting area. Male, Female and Paraplegic is required
- Vitals area to be adjacent to waiting area and be first port of call for all patients

SOURCE: Infrastructure Workstream – Health Labs
Dedicated Mother & Child area which provides a welcoming and functional space for both new and existing parents with children.

- Counselling Room adjacent to Supplement Store. Counselling room should also be in proximity to Breastfeeding (training) Room.
- Consulting Rooms to ventilation and lighting for Infection Control. Consulting rooms may have access to external spaces.

**Quick Win: Update Ideal Clinic Technical Standards**

**Basic Conceptual Layout**

**Source:** Infrastructure Workstream – Health Labs
MOU stream will serve specific cases for deliveries, should have an ambulance drop-off or access

- Admissions room to be adjacent to an observation room for monitoring of patients who may be in labour
- Ward Rooms to have 2 beds with an en-suite bathroom
- Milk Kitchen adjacent to ward areas
- Staff Rest and WC to be away from ward areas. This may be shared by MOU & Acute area.
- Staff Rest and WC to be away from ward areas. This may be shared by MOU & Acute area.
- Ambulance Drop off Zone
- Support Services for MOU to be at end of MOU away from patients. This may be shared with Acute. This area may also be centralised for entire clinic dependant on size

**MOU Stream**

- Reception/Admit
- Observation
- Ward (Delivery)
- Bathrooms
- Ward (Delivery)
- Milk Kitchen
- Staff Rest
- Sub Waiting
- Manager Office
- Ward (First Stage)
- Bathrooms
- WARD (Recovery)
- Laundry
- Sluice

**Manager for Delivery Unit. This depends on size of unit and staffing**

**FIRST STAGE Ward. Can have 2 beds. Must be visible from Manager's or staff. Glass viewing panels or shopfronts recommended**

**Ward Rooms to have 2 beds with an en-suite bathroom**

SOURCE: Infrastructure Workstream – Health Labs
## Quick Win: Update Ideal Clinic Technical Standards

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

<table>
<thead>
<tr>
<th>No.</th>
<th>Actions / Analysis</th>
<th>Owner</th>
<th>Due date</th>
<th>Output / Deliverable</th>
<th>Inputs/support needed</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Establish terms of reference for task team</td>
<td>Lab Infrastructure Workstream</td>
<td>21-11-2014</td>
<td>Terms of Deliverable</td>
<td>Identification of expertise required centrally and provincially</td>
</tr>
<tr>
<td>2</td>
<td>Mobilize task team: Central coordinator &amp; small technical committee (Central committee, national) and Provincial members</td>
<td>NDoH (person to be decided)</td>
<td>15-Dec-14</td>
<td>Task team with Terms of Reference</td>
<td>Approval of initiative and authorisation to proceed (person to be decided), participation of task team members to be agreed with provinces</td>
</tr>
<tr>
<td>3</td>
<td>Plan acceptance workshop (agenda, attendees, venue, travel, budget)</td>
<td>Central Coordinator</td>
<td>15-Dec-14</td>
<td>Proposed Workshop programme</td>
<td>Administrative and travel support</td>
</tr>
<tr>
<td>4</td>
<td>Authorisation of proposed workshop</td>
<td>NDoH (person to be decided)</td>
<td>25-Jan-15</td>
<td>Approved final workshop programme</td>
<td>Approval of workshop (person to be decided)</td>
</tr>
</tbody>
</table>
| 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:  
  - 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                                                  |
Overview of the approach consolidate & update asset register

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

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)

Efficient “FIT” at facilities critical for Programme Management
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

<table>
<thead>
<tr>
<th>Aspiration</th>
<th>Activity Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Inaccurate and incomplete Asset Registers in provinces</td>
</tr>
<tr>
<td></td>
<td>▪ Create full transparency on condition of all facilities</td>
</tr>
<tr>
<td></td>
<td>▪ Categorize based on condition requirements</td>
</tr>
<tr>
<td></td>
<td>▪ Prioritize facilities for replacement, refurbishment, upgrade or maintenance</td>
</tr>
<tr>
<td>Future</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Complete &amp; updated asset register with condition of facilities known</td>
</tr>
</tbody>
</table>

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

1. Establish task team with ToR
2. Collect condition assessment data from provinces
3. Collect asset registers from provinces
4. Review and analyse data received & Identify gaps
5. Create priority list based on prioritization model criteria

SOURCE: Infrastructure Workstream – Health Labs
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)**

**Use of relevant tertiary education teams**
- 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

**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

**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

SOURCE: Infrastructure Workstream – Health Labs
### Overview of the approach to design and implement central oversight delivery unit

**Objective:**
To centralize procurement to a standalone committee per district

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

<table>
<thead>
<tr>
<th>Key stakeholders identified:</th>
<th>Required resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Provincial Treasury</td>
<td>- Finance, Human Resources</td>
</tr>
<tr>
<td>- National &amp; Provincial Department of Health</td>
<td></td>
</tr>
<tr>
<td>- Other government departments &amp; agencies</td>
<td></td>
</tr>
<tr>
<td>- Private sector</td>
<td></td>
</tr>
</tbody>
</table>

**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

**Minimize delay between planning and construction commissioning**

**Source:** Infrastructure Workstream – Health Labs
To ensure a systematic roll-out is critical to have a detailed roll-out programme, clear governance structures and programme approach.

Focus area: Create an Ideal Clinic Infrastructure delivery unit

<table>
<thead>
<tr>
<th>Aspiration</th>
<th>Activity Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current</td>
<td>Fragmented approach to infrastructure delivery, lack of district input informing prioritization</td>
</tr>
<tr>
<td></td>
<td>▪ Use a portfolio prioritization approach</td>
</tr>
<tr>
<td></td>
<td>▪ Replicate cases of quick, fast and quality build tactics</td>
</tr>
<tr>
<td>Future</td>
<td>Implement capital programme for infrastructure with transparent prioritization</td>
</tr>
</tbody>
</table>

Impact: 100% fit for purpose, well-maintained facilities

1. Establish National Delivery Support Unit with ToR
2. Establish Provincial Delivery Support Units (x9)
3. Establish District Delivery Support Units (x52)
4. Establish Maintenance Hubs per District
5. Obtain asset register
6. Develop prioritization model
7. Develop procurement strategy
8. Delivery of Ideal Clinics
9. Transition of Ideal Clinics and delivery units to maintenance hubs
10. Decommissioning of National Programme Support Unit

SOURCE: Infrastructure Workstream – Health Labs
A central project team to co-ordinate, govern, prioritise and outline roles and responsibilities is critical

- National facility design standards & material specs
- Prioritisation model
- Partnership model
- Terms of reference (R&R)
- National Asset Register
- Equipment standards
- ICT requirements

- TBD

- Asset delivery approach
- Communication plan
- Provincial strategy
  - Terms of reference
  - Powers of delegation
  - Committee structure
- Procurement strategy

- Construction oversight and Quality assurance
- Monitoring and evaluation
- Procurement

- Quality assurance

- On-time project completion
- Quality
- Value for money

**Inputs required**

**Structure and responsibilities**

**Outputs/outcomes cascaded**

**National**

- Maintenance Hubs
- Service provider consortium

**Provisional**

- 9 x Project teams

**District**

- PSPs
- Contractors

**Terms of reference**

- Asset register
- Conditional assessments
- Terms of reference

**Oversight**

**Implementation**

**Coordination**

**SOURCE:** Infrastructure Workstream – Health Labs
Contents

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

**Aspiration**

- Infrastructure procurement done by SCM with no technical vetting
- Establish infrastructure procurement committee
- Conduct procurement and financial management
- Decentralized procurement at Provinces with technical expertise

**Activity Description**

1. Establish Financial and Procurement Committee in each province with terms of reference
2. Define list of skills required (procurement, financial & technical) to be approved by HOD
3. Develop Ideal Clinic procurement strategy for Infrastructure roll-out (National level) submit to provincial Task Teams
4. Define criteria for Contractors & PSP’s
5. Establish database of suitable contractors & PSP’s per province
6. Implement procurement strategy and financial management

**Impact:** Reduced turn-around time between tender phase and construction commencement
### BUSINESS-AS-USUAL

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

<table>
<thead>
<tr>
<th>Focus area: Increase PHC footprint using PRASA decommissioned coaches as mobile clinics (mobile train clinic)</th>
</tr>
</thead>
</table>

#### Current
- Small network of mobile clinics with limited bulk infrastructure
- Expand the capability and functionality mobile clinic service package
- Increase the number and frequency of serving rural areas

#### Future
- Increase of the mobile clinic footprint

#### Aspiration

#### Activity Description

1. Detail mobile clinic layout and equipment technical specifications i.e. equip with ablution, ICT connectivity, medical and non-medical equipment
2. Develop Memorandums of Understanding for partnering with PRASA
3. Engage stakeholder to quantify number of mobile clinics to be sponsored and the potential routes
4. Commission mobile clinic using Union carriers and Prasa construction and investment
5. Allocate medical equipment and clinicians to travel along with the mobile clinics
6. Pilot mobile clinics in test rural areas and assess patient experience
7. Roll-out mobile clinic throughout the country

**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

SOURCE: Infrastructure Workstream – Health Labs
Back-up