Improving Healthcare Deserts in Sub-Saharan Africa:

A Health Improvement Pilot Study Leveraging a Global, Cloud-based Telemedicine Platform

12.12.22 Status Report

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In collaboration with

Teladoc HEALTH

MedicalImpactVentures

Providence

Precious Gems
At the Heart of the Community

URBAN HEALTH 360
Urban Health is a microcosm of global health

Pilot Success Factors

- Partnering organizations
- Train-the-trainer approach
- Local champions
- Data collection

Africans Helping Africans Knowledge and Credibility Transfer
Sustainability Model

Global Experts — Includes African Diaspora physician groups

"Onsite Providers" develop into "Supporting Providers"

Supporting Providers

Onsite Providers

AFRICANS

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The Pilot: By the Numbers

40,000

approximate population of Opoji, a network of 13 villages
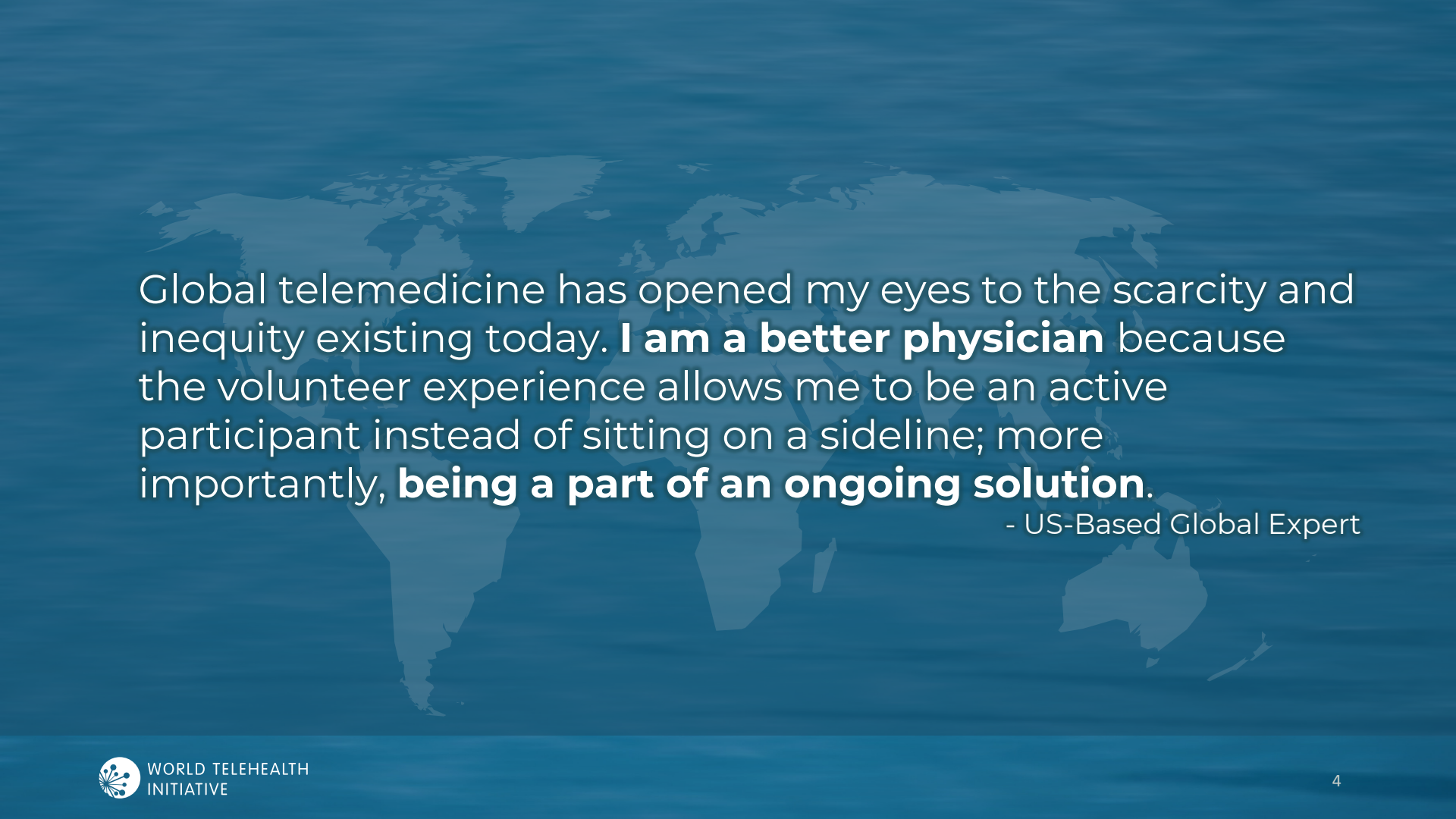
21

global experts
(multi-specialty, mostly US-based)

72

onsite providers
(includes 18 med students)

125

Supporting/onsite provider sessions
(including group learning and group care)

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Global telemedicine has opened my eyes to the scarcity and inequity existing today. **I am a better physician** because the volunteer experience allows me to be an active participant instead of sitting on a sideline; more importantly, **being a part of an ongoing solution**.

- US-Based Global Expert

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Data-Driven Health Value Narratives

- Population and provider **outcomes data** collection
- **Feature film** and companion interviews
- **White paper** and abstract submission
- Outcomes **microsite** and amplification

Clinic in Opoji, Edo State, Nigeria

Health Desert Impact:
Ongoing Assessment Measures

- Local provider skill improvement

- Provider/patient ratio

- Access to care (hours and distance)

- Global expertise availability

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The telemedicine sessions have helped me interact with many medical personnel across the medical field and this has **increased my knowledge** spectrum.

- Local Provider

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Exponential Capacity Building

The administrative and clinical team gather around the telehealth device upon its arrival in Nigeria.

Key Findings

- **Results:** As a result of the WTI pilot, provider-to-patient ratios were improved
  - Prior to the program, medical **access was baselined at 5%** of the time (9 hrs/wk vs 168 hrs/wk), with limited specialty access
  - After the Opoji Comprehensive Medical Center was opened with telehealth support, patients had **access to specialty care 100%** of the time (24 hours per day)

- **Conclusion:** Telemedicine technology can improve capacity building in Sub-Saharan Africa with relatively minimal resource allocation in a replicable and scalable manner

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With the guidelines received, **treatment becomes easier**, and patients are able to verbalise by themselves.

- Local Provider Survey

Being able to interact with global specialists has boosted my skills.

- Local Provider Survey
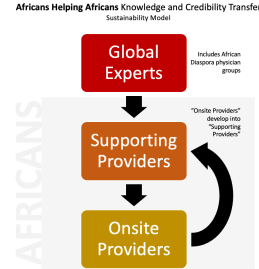
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Lessons and Implications

- Original knowledge transfer design gave way to a hub-and-spoke model of care (right)
    - Future programming may require a hybrid model
    - Sites may prioritize care access over knowledges transfer
- Qualitative data collection might facilitate culturally responsive provider-impact studies
    - Could provide better context to understanding improvements in local provider confidence, knowledge and competency
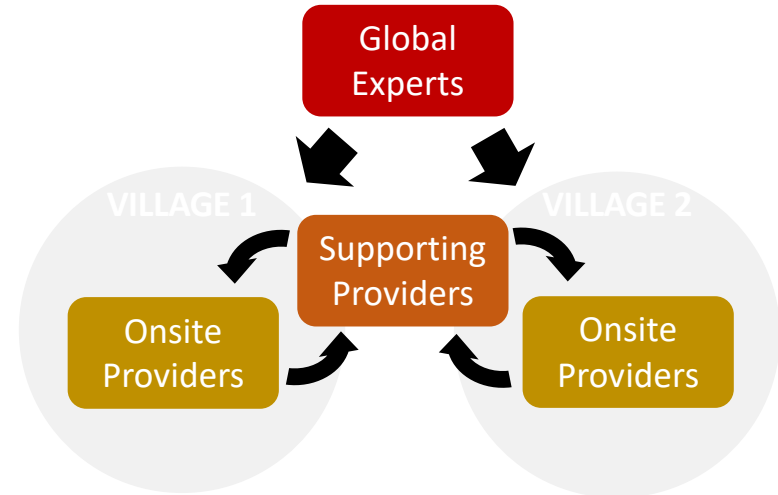

Nurses gather around the telehealth device for a group session in Nigeria.

Original Design

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Sustainability Model

Global Experts — Includes African Diaspora physician groups

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Supporting Providers — "Onsite Providers" develop into "Supporting Providers"

Onsite Providers

Hub-and-Spoke Design

Global Experts

VILLAGE 1

VILLAGE 2

Supporting Providers

Onsite Providers

Onsite Providers

Potential Future Sites and Projects

The pilot measurably demonstrated the potential for cloud-based telehealth devices to impact low-resourced areas affected by health disparities and improve sustainable care.

Future programming may include:
- **Expansion –**The data-driven, measurable model is scalable to additional villages
- **Replication –**Can be replicated in other low-resource areas/countries where WTI has relationships
- **Knowledge transfer –**The curriculum can be worked to prepare other low-resource regions for the implementation of similar telemedicine outreach.

- Rwanda
- Malawi
- Ghana
- Uganda
- Senegal

Together, we are transforming global healthcare.

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Backup Slides

Initial kick-off meeting and introduction to the technology with onsite clinical team.

Teladoc Health Lite

Intuitive touch screen interface

Port panel with high-speed input and outputs

4-speaker audio system for crystal clear dialogue

Closable storage compartment for secure peripheral storage

Compact, maneuverable design that fits below a hospital bed

- Peer-to-peer didactics

- Scheduled clinical consultations

- Surgical mentoring

- Emergent high-acuity cases

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