New technologies to facilitate the access to specialized care for leprosy patients

PAHO/WHO experiment for the region of the Americas

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Disease burden in the region of the Americas (2018)
• Integrated Leprosy management at first care level or centralized services in reference centre
• Loss of expertise, quality care to be preserved
• Telemedicine to ensure equity access to specialized care

Background

- International networks of experts
- Improves care quality for the patient, prevents
- Provides access to numerous resources and trainings to the users
- Adapts to the different contexts and needs of the countries
Telemedicine: participants

- 1 project team
- 10 experts (Regional office, Brazil, France, Paraguay)
- 2 accesses: web and mobile
- 6 countries (Argentina, Chile, Cuba, Haiti, Peru, Trinidad and Tobago)
- 4 languages (English, French, Spanish, Portuguese)
- 7 strands of work (Dermatology, leprosy, surgery, physical therapy, rehabilitation, wound care, stigma)
Telemedicine: material
Telemedicine: the platform

https://www.collegiumtelemedicus.org
Guyana,

Patient 22 years old, Lucio phenomena left patient blind and bedridden for the last 2 years

Follow-up for 5 months (messages + teleconference + video of patient progress)

Initial question: “Recommendations as to where best this care could be provided with consideration as to where care can be provided, e.g. Brazil, United States etc”

Finally: Follow-up locally + support with telemedicine.
Telemedicine: case examples

Guyana

Bullous lesion with vomiting, diarrhea, shortness of breath
Lab results: HB 9.2, Platelets 302,000; White blood cells 32,000; PMN cells 83.4, Lymp 4.1, Eosin 1.3; Basop 0.4; Mono 10.8; Electrolytes: Na 132.3; Cl 97.9; Ca 9.8; Urine: Leuk 2+; Bact 2+; Epit cells 2+, RBC 3 in 12 fields; cloudy Kidney function: Creatinine 0.9; BUN 19; Liver function: GGT 180; ALT 55; Phosp 2.0; Total Bilirubin 5.0, ECG sinus rhythm, CXR no abnormalities seen

Question from the reference leprosy center for the platform:

“Severe Leprosy Reaction type 2 suspected: Requested support for differential diagnosis and management”

Case resolution
Shortness of breath, tachycardia and palpitations may be caused by anemia during a sulphone syndrome. Sulfone hypersensitivity. Stop dapsone Secondary bacterial infection on skin lesions: IV antibiotics Severe ENL. Prednisolone doses to at least 1.5 mg per kg until clinical improvement and clofazimine up to 300 mg a day (after improvement of GI symptom.

After 3 days patient felt better “is feeling much better, Thanks to all the specialists that showed interest”
Telemedicine: consults summary

14 cases

- 8 “leprosy”
- 6 “dermato”
- 6 MB
- 1 PB
- 1 other diagnosis
- 3 G2D

Main reason (leprosy cases only)

- Reactions, adverse events: 3 cases
- Disabilities (G2D): 3 cases
- New patient: 2 cases
- Failure of treatment
- Second line treatment
## Telemedicine: Progress

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Achieved</th>
<th>Target</th>
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<tbody>
<tr>
<td>Number of monthly reports</td>
<td>6</td>
<td>6</td>
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<tr>
<td>Number of countries using the platform</td>
<td>2</td>
<td>7</td>
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<tr>
<td>Number of country’s file started</td>
<td>4</td>
<td>7</td>
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<tr>
<td>Number of country’s file finalized</td>
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<td>7</td>
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<tr>
<td>Budget (Platform + Human Resources)</td>
<td>9,144 USD</td>
<td>10,000 USD</td>
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<td>Platform in 4 languages</td>
<td></td>
<td>Mobile app + Web in french/english/spanish/portugues</td>
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Clinical achievements
Feasibility of an international program to support NLP by providing ready access to specialist opinions for leprosy and dermatology care
14 cases have been submitted from Haïti and Guyana over 6 months with 10 specialists registered and 7 referrers. All answered received within 48 hours
No relevant alert has been reported, no major / technical incident reported

2) Quality care: the telemedicine system aims to provide patients with the best health care possible: referrers noted a positive impact in improving their knowledge during the teleconferences, we noted treatment modifications / reduce of transfer (to the US)

Preserving knowledge
PAHO has the capacity to mobilize a network internationally, thus increasing relation between actors and countries, reinforcing the communication with countries focal points and helping with collecting and analyzing data from programs
Telemedicine: limitations

- Implementation takes time and use of the platform is still quite low.

- More facts would be required to invest more in such projects: research as user survey, medico economic analysis, define country needs etc...

- Interface to be made more user friendly (touch screen to enter patient data)

- Lack of time and dedicated human resources to the platform led the following countries request for assistance to be resolved by phone call, video chat and regular email: Panama (2 cases), Trinidad and Tobago (neurolysis), Nicaragua (differential diagnosis), Saint Vincent and Grenadines (drug treatment)
Thank you