• International commitment to eliminate Trachoma as a public health problem

• Includes reducing the level of TT to <1 cases per 1000 population

• Many TT initiatives working at scale

• We have a responsibility to monitor the quality of the service

• This responsibility is shared by surgeons, supervisors, MoH, supporting partners (NGOs), donors and WHO
The Need

- Challenges in TT outreach
  - Ensuring patient follow-up, especially at 3-6 months
  - Helping surgeons understand their strengths and weaknesses, and optimize performance
  - Thorough and timely reporting from field activities
- Partners were building various technology tools to track TT surgeries, but:
  - Designing and building technology is expensive
  - No one tool tracked the patient from registration through follow-up
  - Tools began overlapping geographically, complicating work for field staff
At a consultation coordinated by WHO in 2015, it was decided that the global community needed one application that would:

- Be available on a smartphone/tablet
- Track the patient from registration through follow-up
- Ensure patient follow-up
- Optimize surgeon performance
- Support timely reporting

The cost of development, use, and hosting would be free to countries; country programs would cover the related implementation costs.
Initial Assessments

- Initial assessments were done in Malawi and Ethiopia where feedback was collected on:
  - How to effectively incorporate the application into program activities
  - Wording and order of data fields
  - What reports would be needed and by whom for program activities
  - How much time/effort is needed in each country to manage the application-related activities
- Pilot activities then conducted in Nigeria and Tanzania and additional modifications made to the TT Tracker.

The initial iteration of the app did not offer a structure for longitudinal tracking of patients. The decision was made to develop an application using the CommCare platform, which includes patient tracking functionality.
TT Tracker: The Basics

- Allows programs to collect patient information at different intervention time points
- Includes timely follow-up lists, surgeon performance reports, and activity reports
- Gives surgeons access to patient information within their designated coverage area
We have aimed to build a system that can address some of the complex needs but easy enough for users:

- Similar to paper forms
- Logical progression
- Skip logic
- Multiple choice
- Instructions throughout
Data Collector’s View: Main menu

Patient Registration: Form used to enter personal information for a new patient receiving treatment

Patient Treatment Management: Folder for all forms related to an existing patient record (Evaluation/Screening, Record Surgery, Follow-up, Close-out)

Due for 24-hour / 7-14 day / 3-6 month follow-up: Lists of patients due for either 7-14 day or 3-6 month follow-up

Session Management: Form used to start or end the period of a surgical outreach activity

Modelled after ICTC Patient Record Cards
Session = specific surgical outreach event

- Can be a surgical campaign taking place over multiple days, or all surgical activities that take place at a static health center over one month.
- Patient registration and surgeries will be submitted under a designated session so that activities can be tracked to the location of the activity if needed.

**Example A:**
Camp Wollo School (Surgical camp)
Outreach dates: 4-6 October

<table>
<thead>
<tr>
<th></th>
<th>4 October</th>
<th>5 October</th>
<th>6 October</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surgeon A and B</td>
<td><img src="image1.png" alt="Icon" /></td>
<td><img src="image2.png" alt="Icon" /></td>
<td><img src="image3.png" alt="Icon" /></td>
</tr>
</tbody>
</table>

Creating sessions will automatically calculate:

**Open:** 4 October  **Close:** 6 October
Number of eye care workers: 2
Total number of days in session: 3
Total number of surgeries during session: 44
Average number of surgeries per surgeon per day: 7.3

**Example B:**
Chamwino Health Centre (Static site)
Outreach dates: 1-31 October

<table>
<thead>
<tr>
<th>October</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sun</td>
</tr>
<tr>
<td>1</td>
</tr>
<tr>
<td>8</td>
</tr>
<tr>
<td>15</td>
</tr>
<tr>
<td>22</td>
</tr>
<tr>
<td>29</td>
</tr>
</tbody>
</table>

Creating sessions will automatically calculate:

**Open:** 1 October  **Close:** 31 October
Number of eye care workers: 1
Total number of days in session: 31
Total number of surgeries during session: 5
Session Management

- **Open Session**: Form completed by a designated individual prior to the start of outreach
- **Update Session**: Form used to edit any incorrect/missing information initially entered for the Session
- **Close Session**: Form completed by a designated individual after the completion of an outreach event

*Not all Open Session questions appear in screenshots*
Record Registration

- Used to collect patient information for future tracking and analysis
  - Name
  - Age
  - Residence & contact information

**PATIENT REGISTRATION**

<table>
<thead>
<tr>
<th>ID</th>
<th>SITE</th>
</tr>
</thead>
<tbody>
<tr>
<td>AA-CR-6</td>
<td>September Static Site Beta One</td>
</tr>
<tr>
<td>AA-CR-6</td>
<td>Test Site Beta</td>
</tr>
<tr>
<td>AA-TT-10</td>
<td>Sample Session A</td>
</tr>
<tr>
<td>AA-TT-11</td>
<td>Temporary Session</td>
</tr>
</tbody>
</table>

**SESSION ID:** AA-TT-10

- **Site Name:** Sample Session A
- **Start Date:** 2018-04-01
- **Location Name:** Sample Village A
- **District Name:** Alpha One

**SAMPLE SESSION A**

- **Enter patient name:**
  - Field to enter patient name

- **Patient home region:**
  - Alpha
  - Beta
  - Delta

- **Who owns a phone with which we can contact the patient?**
  - Patient
  - Family member
  - Village leader
  - Health worker
  - Community volunteer
Data Collector’s View: Patient Treatment Management

Modelled after ICTC Patient Record Cards

**Update Patient Info:** Form used to update/correct errors of patient’s demographic/domicile information

**Record Evaluation:** Form used to enter diagnostic information for TT suspects (number of eyelashes touching the eye, evidence of epilation, etc.)

**Record Surgery:** Form to document what surgical procedures or treatment was performed on the patient

**24-hour / 7-14 day / 3-6 month follow-up:** Forms for 24-hour, 7-14 day, and 3-6 month follow-up

**Close Out Patient:** Form to remove a patient from the TT Tracker due to death, permanent move outside of the country, duplication, etc.
• Evaluation questions will be asked, based on whether the eye is suspected of TT or not
  • Saves time at camps
  • Contain questions found on the existing paper forms
• Surgery questions will be asked, based on whether the eye was operated or not
• Some question will be asked for EACH eye while others will be asked for ANY eye operated.
Follow-up forms are completed for each of the 3 follow-up time points. In addition to the patient summary, the Tracker helps users know if an eye was epilated or operated with a reminder message.
The TT Tracker is not just for collecting data, it’s for USING data.
Data Collector’s View: Patient Treatment Management Forms

All forms (except Close Out Patient) can be edited by users.
Data quality at the time of entry

If a data entry error has been submitted, surgeons can correct the error while in the field; it does not require sending the edit request to a data manager.
Supporting summary documentation has been included to assist users in viewing patient record information from the main patient list:

- **R/L**: Right/Left (eye)
- **S**: Surgery
- **E**: Epilation
- **R**: Referral
- **X**: Refusal
- **O**: Other
- **DSS**: Days since surgery

<table>
<thead>
<tr>
<th>ID</th>
<th>NAME</th>
<th>R/L</th>
<th>DSS</th>
</tr>
</thead>
<tbody>
<tr>
<td>AATT17</td>
<td>Sample Patient 2</td>
<td>R/-</td>
<td></td>
</tr>
<tr>
<td>AACR9</td>
<td>Surgeon Region Tester</td>
<td>-/-</td>
<td></td>
</tr>
<tr>
<td>AATT16</td>
<td>Test Patient 1</td>
<td>-/E</td>
<td></td>
</tr>
<tr>
<td>AATT18</td>
<td>Test Patient 2</td>
<td>S/E</td>
<td>29</td>
</tr>
</tbody>
</table>
Patient summaries allow users to see all information entered for the patient in one place, selecting the specific tab to review the information entered on that form:

- Registration, Evaluation/Screening, Surgery, Follow-up (24-hour, 7-14 day, 3-6 month)
- Follow-up Lists
- Surgical Outcome and Output Reports
- Patient Records/Line Lists
- Activity Summaries
Due for Follow-up Lists

- **Phone**
  - One list per time period
  - Can be searched by specific patient or district

- **Email**
  - Sent to designated officials responsible for follow-up planning
  - Lists are broken down by district and can be used as needed

<table>
<thead>
<tr>
<th>ID</th>
<th>Name</th>
<th>R/L</th>
<th>DSS</th>
</tr>
</thead>
<tbody>
<tr>
<td>UGCC3</td>
<td>Ariet Omod</td>
<td>S/S</td>
<td>129</td>
</tr>
<tr>
<td>UGCC8</td>
<td>Nebiyu Guell</td>
<td>S/S</td>
<td>129</td>
</tr>
<tr>
<td>UGCC23</td>
<td>Elizabeth Mina</td>
<td>S/S</td>
<td>127</td>
</tr>
<tr>
<td>UGCC11</td>
<td>Mary Joyce</td>
<td>S/S</td>
<td>129</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Overdue?</th>
<th>Name</th>
<th>Age</th>
<th>Sex</th>
<th>Patient District</th>
<th>Patient Village</th>
<th>Phone</th>
<th>Owner of</th>
<th>Surgery Date</th>
<th>Session Name</th>
<th>Session ID</th>
<th>Surgeon Name</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Adam</td>
<td>90</td>
<td>male</td>
<td>Alpha One</td>
<td>Villagename</td>
<td>55555555</td>
<td>clinic south</td>
<td>2017-10-13</td>
<td>AA-TT-2</td>
<td>Carol Burnett</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Leah</td>
<td>58</td>
<td>female</td>
<td>Alpha One</td>
<td>Reyn</td>
<td>55555555</td>
<td>clinic south</td>
<td>2017-07-21</td>
<td>AA-CR-5</td>
<td>Carol Burnett</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mariana</td>
<td>65</td>
<td>female</td>
<td>Alpha One</td>
<td>Gambella</td>
<td>22222222</td>
<td>Surgeon Region</td>
<td>2017-07-02</td>
<td>home12</td>
<td>AA-CR-4</td>
<td>Floyd DeBarbour</td>
</tr>
</tbody>
</table>
Surgical Outcome Reports

- Surgeon Performance Report can be emailed monthly to designated supervisors to assess surgical outcomes by surgeon.
- Report includes number of surgeries completed and surgical successes and/or complications for surgeries with outcome assessment completed.

<table>
<thead>
<tr>
<th>Region</th>
<th>Surgeon</th>
<th># of surgeries this month</th>
<th># of surgeries YTD</th>
<th># of surgeries with 7-14 day follow-up</th>
<th>Complication %</th>
<th>Over-correction %</th>
<th>Granuloma %</th>
<th>Contour-abnormality %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alpha</td>
<td>Carol Burnett</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Alpha, Beta</td>
<td>Chris Chross</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Beta</td>
<td>Dennis Duffy</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Alpha, Beta</td>
<td>Dr Drew Baird</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Region</th>
<th>Surgeon</th>
<th># of surgeries with 3-6 month follow-up</th>
<th>Complication %</th>
<th>Over-correction %</th>
<th>Granuloma %</th>
<th>Contour-abnormality %</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0%</td>
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<td>0</td>
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<td></td>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0%</td>
</tr>
</tbody>
</table>
Surgeon reports and performance

- Surgeons will receive a monthly email (if they are actively doing surgeries) showing their contribution and how many of those individuals completed a follow-up.

- Designated supervisors will receive a report of surgical outcomes to assess what issues and surgical complications need to be addressed, if any.
Emailed reports

Activity Summary Report Test 1

Follow-up Completion Rates

<table>
<thead>
<tr>
<th></th>
<th>24-hour</th>
<th>7-14 day</th>
<th>3-6 month</th>
</tr>
</thead>
<tbody>
<tr>
<td>Follow-up needed</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Follow-up completed</td>
<td>1</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>% completion</td>
<td>33%</td>
<td>67%</td>
<td>0%</td>
</tr>
</tbody>
</table>

Activity Report - District

More results have been included as a file attachment

Region  | District  | Total Screened | Male Screened | Female Screened | TT Total | TT Male | TT Female | TT Under15 | Surv |
---------|-----------|----------------|---------------|-----------------|----------|---------|-----------|------------|------|
Beta     | Beta One  | 60             | 30            | 30              | 0        | 0       | 0         | 0          | 0    |
Beta     | Beta Two  | 0              | 0             | 0               | 0        | 0       | 0         | 0          |      |
          | Alpha One | 85             | 35            | 50              | 0        | 0       | 0         | 0          | 0    |
          | Alpha Two | 0              | 0             | 0               | 0        | 0       | 0         | 0          | 0    |
          | Beta One  | 0              | 0             | 0               | 0        | 0       | 0         | 0          | 0    |

3 Attachments

Follow-up Compl... | Activity Report - ... | Activity Report - ...
<table>
<thead>
<tr>
<th>Name</th>
<th>Case Type</th>
<th>Edit</th>
<th>Copy</th>
<th>Export</th>
</tr>
</thead>
<tbody>
<tr>
<td>Template 1: Patient Line List</td>
<td>Patient</td>
<td>[Edit]</td>
<td>[Copy]</td>
<td>[Export]</td>
</tr>
<tr>
<td>This template contains all indicators related to surgical outreach: patient demographic and contact information, screening, diagnosis and treatment recommendations, surgery record, and outcome assessments for 24-hour, 7-14 day, and 3-6 month follow-ups. This template should remain unchanged but can be copied and used as the basis to create additional exports as desired by programs. It is a very robust set of indicators that can easily be limited (on a Copy) for program needs.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Template 2: Patient Visit Dates with Notes</td>
<td>Patient</td>
<td>[Edit]</td>
<td>[Copy]</td>
<td>[Export]</td>
</tr>
<tr>
<td>This template contains the diagnosis, treatment, follow-up dates and notes for patients. It does not include specific complications that may have been observed during outcome assessments. Users can download this template to see all dates of visits with patient and any relevant notes that were entered by the surgeon or assistant.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Template 3: Patient Referrals</td>
<td>Patient</td>
<td>[Edit]</td>
<td>[Copy]</td>
<td>[Export]</td>
</tr>
<tr>
<td>Contains indicators to track referral patients. Contains referral reason, where patient was referred and the patient closeout information to confirm if referral action was completed. Export will include all patients and User will then filter Excel form by patients with referral information.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Template A: Patient Information to Reassign Patients</td>
<td>Patient</td>
<td>[Edit]</td>
<td>[Copy]</td>
<td>[Export]</td>
</tr>
<tr>
<td>This template should remain unchanged and will be used by Administrators to reassign patient records to different sessions.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Template B: Session Information to Reassign Patients</td>
<td>Surgery_Session</td>
<td>[Edit]</td>
<td>[Copy]</td>
<td>[Export]</td>
</tr>
<tr>
<td>This template should not be modified; it will be used by Administrators to reassign patients to different Sessions.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
How to Access Program Data

- www.tttracker.org
- Metabase
  - https://dashboard.tttracker.org/
  - Emailed reports
- CommCare
- PDF Exporter
Support Package

- TT Tracker Overview Documents
- Project Planning Tools
- Metabase Data Visualization Tool
- PDF Exporter
- CommCare Export Templates (Patient Line Lists)
- Mobile Worker & Administrator Manuals
- Training Presentations
- Administrator support after training
For further information contact: support@sightsavers.org or visit www.ttttracker.org
The coverage area can be assigned to specific district(s) or entire region(s). Assigning the coverage area to the region gives workers access to records from all districts found within that region.
Coverage area and access demonstrated

<table>
<thead>
<tr>
<th>Surgeon assigned to</th>
<th>Can see/modify</th>
</tr>
</thead>
<tbody>
<tr>
<td>District 1 and District 3</td>
<td>Patients: P42, P32, P3</td>
</tr>
<tr>
<td>District 5</td>
<td>Patients: P19, P20, P30, P54</td>
</tr>
<tr>
<td>District 2, District 4 and District 6</td>
<td>Patients: P12, P22, P34, P2</td>
</tr>
</tbody>
</table>