DELIVERING PEACE OF MIND THROUGH REMOTE DIAGNOSIS.

Connect people to care immediately with our smartphone medical toolkit.

Develop powerful algorithms for new clinical insights

No more waiting rooms. No more guessing games.
ENABLING REMOTE CARE

TOOLKIT

+ SUITE OF SERVICES

CELLSCOPE DOCTORS

TELEMEDICINE PARTNERS

ENHANCED DIAGNOSIS

EAR

SKIN

THROAT

EYE
80% OF CHILDREN UNDER 3 GET EAR INFECTIONS

Leading cause of pediatric visits: 20M/yr
# of kids who have >3 visits/year: 4.6M
Cost of diagnosis and treatment: $4B/yr
**MORE THAN A MEDICAL DEVICE**

**INNOVATIVE HARDWARE**
- patented optical system
- pat-pending illumination
- diagnostic image quality

**INTUITIVE APP**
- simple, beautiful UX
- guided image capture
- eardrum detection

**INTEGRATED HEALTHCARE SERVICE**
- doctor’s response within 2 hours
- HIPAA-compliant secure web platform
- algorithms for assisted diagnostics
“In a weekend the Oto changed the way I practiced pediatric urgent care...It allowed for a much more authentic and transparent discussion.”
- Boston Children’s MD

“If it weren’t were for the Oto’s superior magnification and clear imaging, I would have missed an infection with my traditional otoscope.”
- Pediatrician, TX

Successful clinical validation at Children’s Healthcare of Atlanta/Emory supported by FDA Pediatric Device Consortium

Preferred by doctors and patients;
(University of California, Davis study)
DATABASE ENABLES ALGORITHMS
IMPROVE CARE IN THE CLINIC

- Patient engagement
- Continuity of care
- Digital record capture
- Medical education

ACCESS CARE AT HOME

- Peace of mind
- Emergency visit prevention
- Convenience & time savings
- Patient centered care
Increase awareness, grow customer base & collect data; initial focus in CA.

In-home pilots & Ongoing validation & EMR integration via partnerships.

PHASE I

DTC

PHASE II

Retail product and data-enabled services.

Large-scale distribution through health plans, hospital networks & telemedicine partners.

B2B
OTO HOME PILOT SYSTEM WITH CHOA/TCCN

**HARDWARE:**
Digital Otoscope

**MOBILE APP:**
iOS Mobile Application

**SERVICE:**
Connect to MD

- iPhone 5/5s and 6 compatible.
- Enables diagnostic quality imaging
- FDA Class I Device
- Guided ear exam and submission process.
- Real-time algorithm that allows parent to easily detect and capture images of the ear drum.
- Access to network of physicians.
- Clinical assessment within timely fashion
GUIDED PATIENT EXPERIENCE

USER INTERFACE: Guided Experience When Conducting an Ear Exam at Home
CONNECTION TO MDs

Parent is Connected From Within the App to an MD

An MD Reviews the Ear Exam Via a HIPAA Compliant, Secure Website Portal.
# PATIENT FLOW

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
<td>Parent orders CellScope Oto with promotional code</td>
</tr>
<tr>
<td>Step 2</td>
<td>Parent uses CellScope Oto system for ear-related issues</td>
</tr>
<tr>
<td>Step 3</td>
<td>Secure upload of symptoms &amp; video</td>
</tr>
<tr>
<td>Step 4</td>
<td>Video accessed by clinician</td>
</tr>
<tr>
<td>Step 5</td>
<td>Clinician connects to patient by phone/through app</td>
</tr>
<tr>
<td>Step 6</td>
<td>Family given advice and directed to pharmacy for Rx if necessary</td>
</tr>
</tbody>
</table>
Smartphone-enabled solutions to help patients get BETTER answers, FASTER
the AnemoCheck – a homegrown CHOA-GT-Emory anemia diagnostic

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Aflac Cancer and Blood Disorders Center
Children’s Healthcare of Atlanta
Department of Pediatrics
Emory University School of Medicine
Wallace H. Coulter Department of Biomedical Engineering
Georgia Institute of Technology and Emory University
a simple question from a girl with sickle cell anemia...

Can we develop an anemia test that:

• Patients (parents) can use at home
• Is simple to use
• Requires no additional equipment or electricity
• Is fast
• Is cheap and disposable
from ideation to prototype to publication

- Georgia Tech Biomedical Engineering senior undergraduate design project
- Funded by Children’s, GRA, and FDA’s Atlanta Pediatric Device Consortium

Disposable platform provides visual and color-based point-of-care anemia self-testing

Erika A. Tyburski,1,2,3,4,5 Scott E. Gillespie,3 William A. Stoy,4,4 Robert G. Mannino,1,2,3,4,5 Alexander J. Weiss,7 Alexa F. Siu,1 Rayford H. Bulloch,6 Karthik Thota,1 Anyela Cardenas,7 Wilena Session,5 Hanna J. Khoury,5 Siobhán O’Connor,8 Silvia T. Bunting,7 Jeanne Boudreaux,2,3 Craig R. Forest,4,9 Manila Gaddh,5 Traci Leong,10 L. Andrew Lyon,4,6 and Wilbur A. Lam1,2,3,4,5

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BACKGROUND. Anemia, or low blood hemoglobin (Hgb) levels, afflicts 2 billion people worldwide. Currently, Hgb levels are typically measured from blood samples using hematology analyzers, which are housed in hospitals, clinics, or commercial laboratories and require skilled technicians to operate. A reliable, inexpensive point-of-care (POC) Hgb test would enable cost-effective anemia screening and chronically anemic patients to self-monitor their disease. We present a rapid, stand...
the AnemoCheck - a chemical solution (pun intended)
AnemoCheck results

Hemoglobin levels

demonstration of the AnemoCheck

completed clinical assessment at CHOA and Emory comparing AnemoCheck vs. gold standard

we have an app for that!

- automated colorimetric analysis
- enables color blind patients
- potential for data transmission

how would the AnemoCheck be used?

- self-monitoring of anemia in chronically ill patients
- self-screening of anemia in the general healthy population
- inexpensive anemia testing in global health settings
next steps for the AnemoCheck

Aflac-funded study to assess home use by sickle cell patients

• conduct focus group study
• modify design, if needed
• test the system’s accuracy in the patients’ hands
• can patient home use of our system detect sickle cell complications at an early stage and decrease emergency room visits and urgent hospitalizations?

Sanguina, LLC formed dedicated towards commercialization of the AnemoCheck
acknowledgements

Byungwook Ahn, Jordan Ciciliano, Meredith Fay, Caroline Hansen, Elaissa Hardy, Rob Mannino, David Myers, Margo Rollins, Yumiko Sakurai, Yongzhi Qui, Reggie Tran, Alexa Siu, Erika Tyburski, Alex Weiss

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CDC
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Funding

[Image of various logos including National Institutes of Health, National Science Foundation, Aflac Cancer & Blood Disorders Center, Georgia Research Alliance, Georgia Centers of Innovation, Children's Healthcare of Atlanta]
clinical assessment at CHOA and Emory comparing AnemoCheck visual interpretation vs. gold standard


n = 238 patients with anemia of different degrees and causes
clinical assessment at CHOA and Emory comparing optional custom smartphone app vs. gold standard

Serial AnemoCheck measurements over 45 days.
serial AnemoCheck measurements over 45 d
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