Remote Medical Consultation for Ghana
A Social Networking Approach

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October 17, 2008
IMAGINE...
What if...
Barriers
meets

“curb-side consultation”
Roadmap

- Context
- Solution
- Partnerships
Context

- Problems with paper medical records
- Disparity in numbers of doctors and specialists
Context

“They just left en masse, swallowed up by the US and UK”
- Doctor in Ghana
But I can get in touch with the consultant, I say, “Look, this is my patient. I hadn’t seen you for some time. If you do that for me…”

Doctor in a Smaller District Hospital

human resource shortages + a broken referral system = informal remote consultation

I call consultants from the teaching hospital.
Some private doctors also call me…

Doctor in an Urban Hospital
Dec 2006 – Jan 2007
Needs Assessment
• Semi-structured Interviews
• Prototype testing
• 70 Interviews

Exploratory Fieldwork
• Unstructured interviews
• Rapid ethnography
• 15 interviews, 1 focus group

Jun – Aug 2007
Pilot Deployment
• Training
• 2 Month Deployment
• 73 Participants

Apr – Jun 2008
Deployment
• Ongoing Deployment
• Evaluation Interviews
• Semi-structured interviews
LOGIN

ConnectingDoctors.Org #00

Language
- English

User block
- secure server:
  - Login
  - Registration

Login
- What is ConnectingDoctors.Org all about?
- Click here to find out.

But what if I don't have an account yet?
- Click here to register.

Username:
Password:
Login

Forgot your password?

© 2000-2005 iPath (version 2.0.5)
© 2006-2007 Intel Corporation (modifications)

Access to this server is restricted to project participants.
For more information about this project, please see www.tierstore.net.

Script executed in 0.066 seconds. 0.006 seconds for SQL and seconds for XSLT.
Personal Accountability:
Doctors are given immediate feedback on cases which depend on their contribution

Group Collaboration:
Doctors can also work together in groups or simply browse cases made available to a certain group
Integration with Referral Infrastructure

Support of both private and public cases will allow this system to be used both for patient referral and for open consultation.
Flexible Case Assignment

- Request consult from colleagues, doctors-on-call, referral hospitals, or specialist groups
- Draw on existing contacts or create new contacts from existing professional networks
- Notification by text message (SMS) and email
### Ghana ReACH #20

#### ReACH.Administrator's Cases (3)

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#### Other Cases (10)

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**Admin**
- Manage My Groups
Blood-red sweat on fingers

Initial Diagnosis: Haemorrhoid?

Patient Complaints
Female, 10 yrs., complains about blood-red sweat on fingers, face; pain in fingers and the left eye. Possible Haemorrhoid? Hypertension with PANDAS syndrome.

History
First time blood-red sweat has appeared one year ago. In that time she suffered from erythematous inflammation after which she complained of hyperactivity. Rheumatism has been diagnosed. Blood-red sweat happens on fingers, the left cheek, buttocks. Approximately for an hour before its occurrence she is complain for "the general bad state of health", dizziness, rising of blood pressure (up to 100/70, but her usual pressure - 90/60), sometimes - nasal bleedings.

Treatment So Far
n/a

Blood
- IgG cytomegalovirus - positive, 02,9 Mo/l
- Cu - 27,6 mcMol/l (N-13,0-24,4)

Clinical Findings
- C-reactive protein 1,27 mcMol/l (N-2,22-3,81)
- Circulating Immune Complexes - >65 (N-20-70 units) or 88%
- KPS - 555 U/l (0-155)
- LDG - 325 U/l (0-500)

Investigations
- Bacterial test of sweat - negative.
- MRI of brain - asymmetric expansion of lateral ventricles.
- CT of brain, encephalography, sonography of thyroid and liver - without abnormalities.

Annotations
- Add comment

Questions:
1. Specification of the diagnosis?
2. Treatment?
First Design Principle:
Split Interaction: Locally Synchronous, Globally Asynchronous
Second Design Principle: Social Networking as a Primary Frame
Third Design Principle: Optional Overlay on Existing Workflow
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- Respects existing hierarchies
- The “new” model of remote consultation parallels a familiar task
- A self-updating hospital directory
- Creates a baseline for trust
- Optional
Outcome

• More than 125 doctors enrolled
• 40 consultations exchanged
• Participants from the U.S., Canada, Mali, Nigeria, South Africa, and the U.K.
• Invitation to integrate training with all GCPS workshops for all doctors nationally
A WORD ON PARTNERSHIPS...
Types of Partners

- Technology providers → KNet, Axon Incorporated
- Government agencies → Ministry of Health
- Individual hospitals, schools, etc. → CRH, DEDH, KATH, etc.
- NGOs → GPSF, GCPS
- Local businesses
- Universities
- International counterparts to all of the above
Technology Provider: Axon
Ministry of Health and the Hospitals
NGOs: Ghana College of Physicians and Surgeons Foundation, USA (GPSF)
Special Thanks To

Collaborators
Paul Aoki
Melissa Ho
Matei Zaharia

Supporters
Dr. Debra
Dr. Ghartey
Dr. Kwamin
Dr. Vortia

All of our partners,
And all the other doctors, volunteers, technicians, and advisors without which none of this would be possible!

THANK YOU!