電話相談の解析

Data Source: Tele health 10600 (Case-2)

Duration: *December, 2009*
Total Records: *10000*
Selected Records: *400*

CDR: Call Detail Record
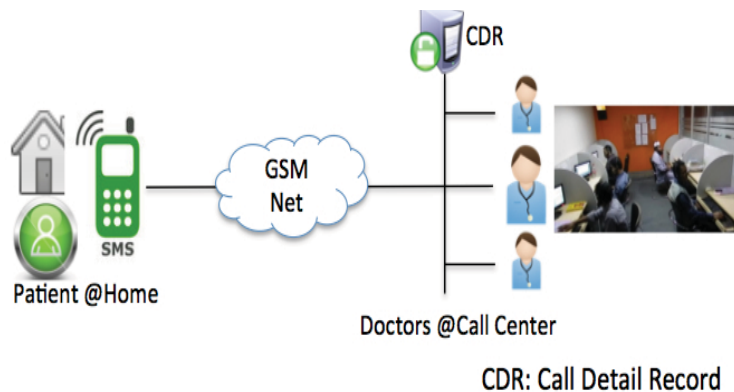
33% of patients are females → Progress on females

17% follow up patients → Popular !!!

Observed	
(a) Caller	Relatives: 10%
(b) Age distribution of the patient	0-10: 29%, 11-20 years: 15% 21-30: 24%, 31-40 years: 17% 41-50 years: 9%, 50+ years: 7 %
(c) Sex	Male: 67%, Female: 33%
(d) Location	Rural: 30%, Urban: 70%
(e) Call completion	Complete: 68%, Incomplete: 32%
(f) Time of call	Day (8:00-15:30): 57 % Evening (15:30-23:00): 18% Night
(g) Time occupancy of a single call	Introd Advice
(h) Consultancy about	Diseas related: 21%
(i) Type of advices	Prescribed medicine: 54%, Advice: 28%, Referred to special hospital: 17%,
(j) Patients	Follow up: 17%, New: 83%
(k) Major diseases consulted	Gastro-intestinal: 22%, Respiratory: 17%, Reproductive: 10%, skin: 10%

[1] E. Kai and A. Ahmed, *" Technical Challenges in Providing Health Consultancy Services for the Unreached Community"*, MJIIT Sym

Advantages and Technical Challenges

- **Social and Business Aspect**
  - Female patients can stay anonymous for female diseases. Usually the female patients are attended by the husband.
  - Access to basic healthcare by millions of unreached patients
  - Both CSR and Business advantages

- **Technical Challenges**
  - Bad quality of communications causes high call drop out rates and increases patient irritations
  - Doctors cannot access to past clinical records for repeated patients
  - Doctors can not make a good clinical decision, no diagnostic tools at the patient side to provide health data

Our response to the technical challenges

Portable Clinic

Solutions by Portable Clinic (a health check up box)

a. Diagnostic tools
   (one set for one community)

b. Better network connection
   Video connection

Challenges

a. No diagnostic tools

b. Bad quality of communications

c. No Patient ID management mechanism

d. Difficulties to access to past clinical records
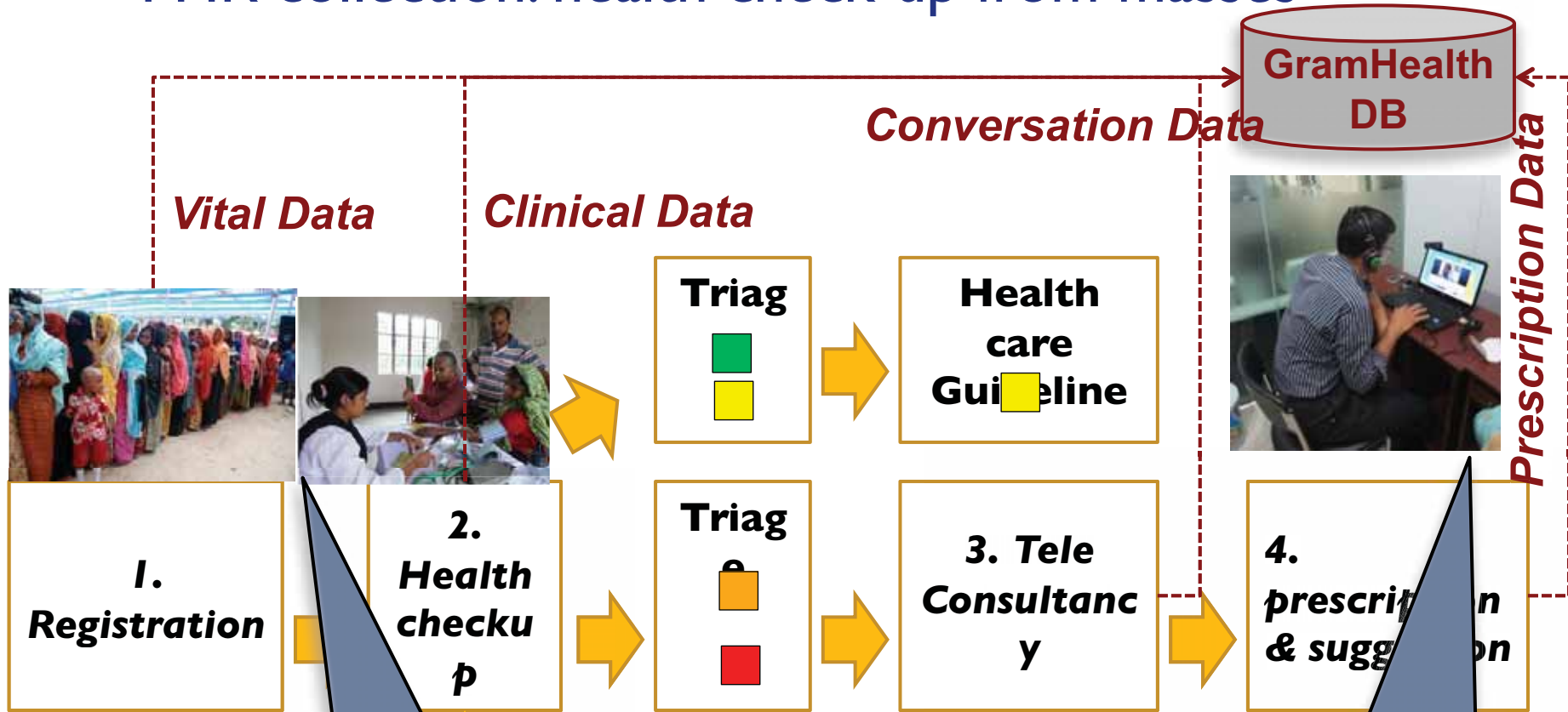
Solution by GramHealth (a Web based PHR)

c. Unique patient ID and Phone number

d. Universal access to PHR

GramHealth

PHR: Personal Health Record

PHR collection: health check-up from masses

GramHealth DB

Conversation Data

Vital Data　　*Clinical Data*

Prescription Data

1. Registration → **2. Health checkup** → **Triag** 🟩🟨 → **Health care Guideline**

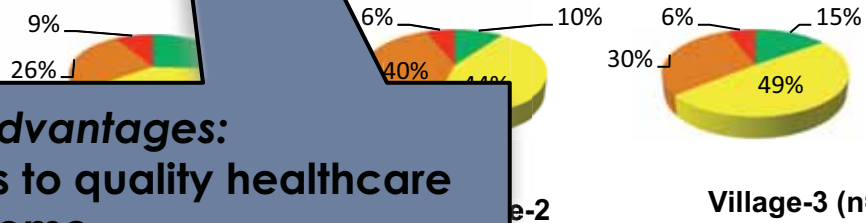**Triage** 🟧🟥 → **3. Tele Consultancy** → **4. prescription & suggestion**
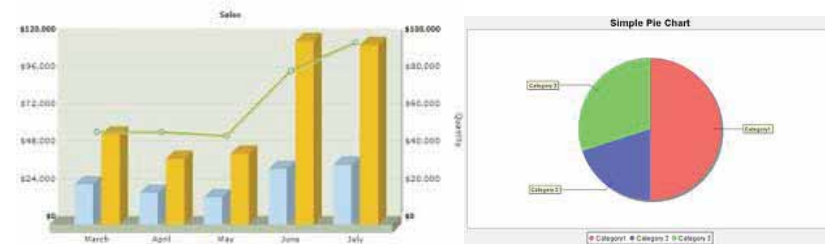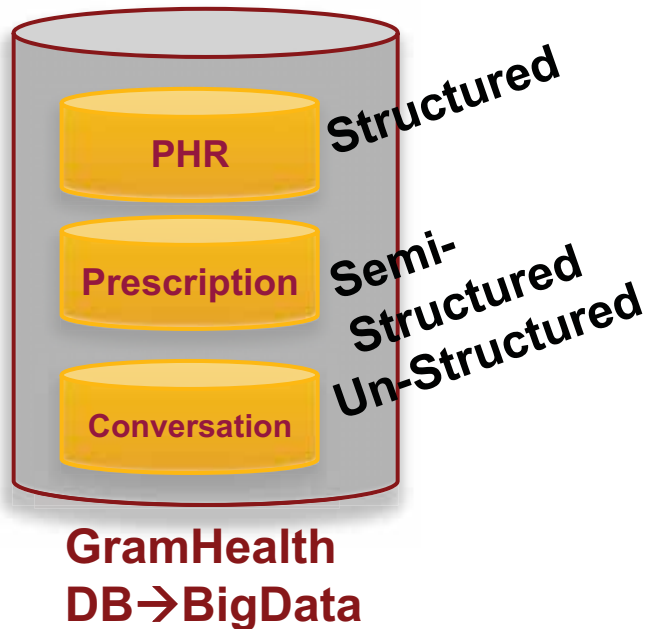
↑ **2 months later**

Patients Advantages:
1. Access to quality healthcare from home
2. Saves travel time and cost

Doctor Advantages:
1. Saves 60% doctor-time →Can see more patients
2. Immediate access to past health records →Better clinical decision

9%   26%   6%   40%   44%   10%   6%   30%   15%   49%

e-2 7)

Village-3 (n=15

GramHealth DB becomes BigData!!

Structured

PHR

Semi-Structured
Un-Structured

Prescription

Conversation

GramHealth DB→BigData

Analysis of BigData will produce Trending
-Disease pattern
-Geographical distribution
-Cohort characteristics

Invaluable resource for the Data mining researchers