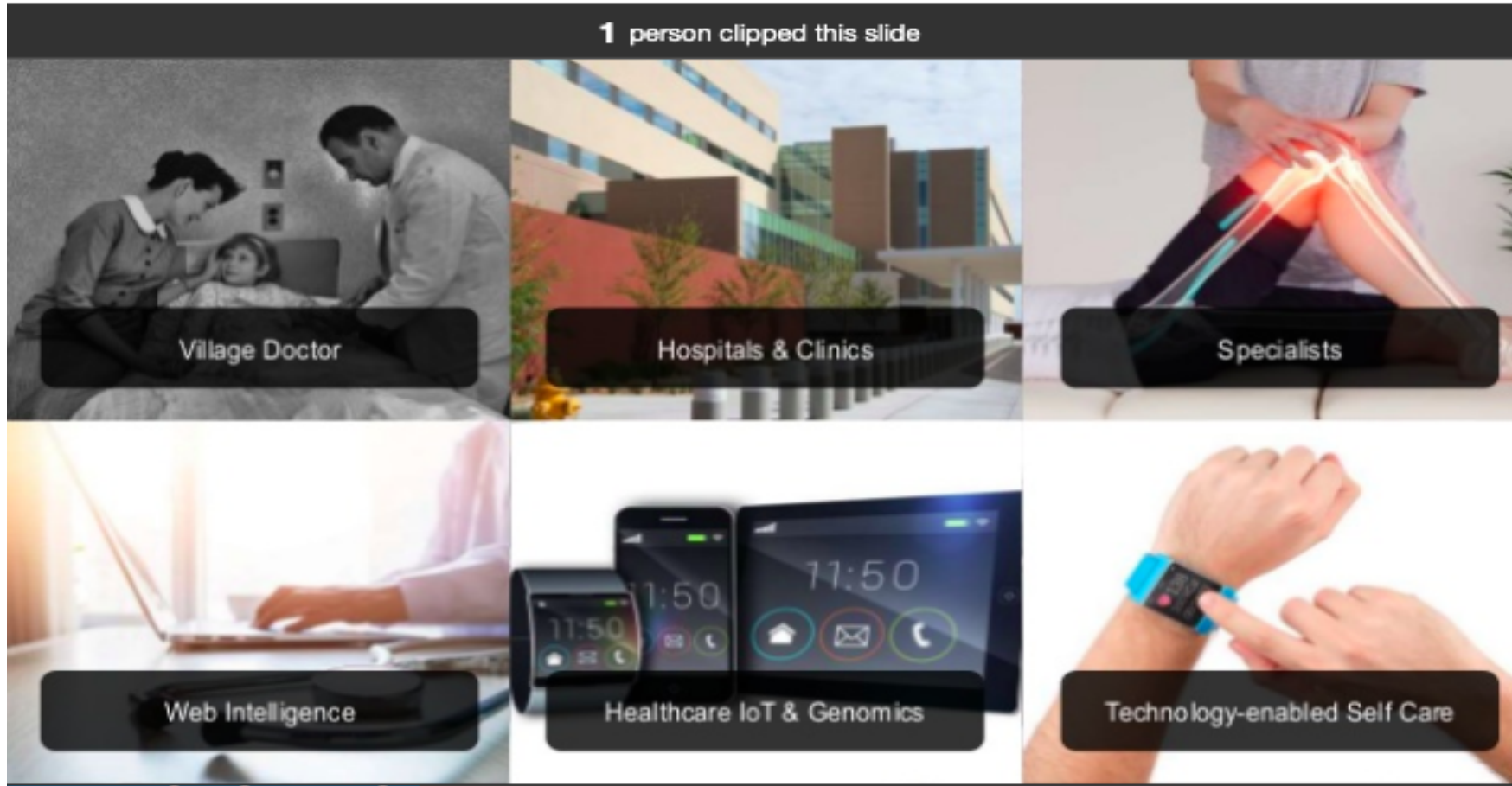


# Big Data in Cardiac Care

- Neha Rastogi (Founder- Agatsa)

- [www.agatsa.com](http://www.agatsa.com)

# How Healthcare has evolved over the years!



# What is Big Data?

- Large quantity of data, as a result of digitization, which when analyzed gives vast amounts of insights when taken different models of data
- Large volume, high velocity and high variety of information
- When applied in Healthcare Big data can predict epidemics, cure diseases, cut down costs and even augment physicians decision based on evidences of clinical data than just his knowledge and experience.

# Examples of Big Data in Healthcare

- Patient's vital data like Blood pressure, blood sugar, heart rate etc.
- Patient's history like past illness, past treatment etc.
- Patient's tests and diagnosis done
- Patient's genetic profile
- Demographic characteristics
- Risk score

# Applications of Big Data- Cardiac care

- Predictive Analysis
- Tele Health
- Precision Health
- Lifestyle management
- Remote care
- More doctor-patient engagement
- Medication management

# Needs of Cardiovascular disease management

- Cardiovascular disease management and prevention involves heart healthy physical activity, diet, medication adherence and self monitoring.
- While we have progressed in data analytics of fitness attributes such as physical activity, number of calories taken and heart rate etc
- A wide lacuna exists in measurement and monitoring of vitals like Blood pressure, ECG, Blood glucose etc.

# Uses of Big Data in Cardiac care

- Individualized high accuracy predictive analysis
- Providing decision support for diagnosis basis vast amount of data from various sources.
- Personalized interpretation
- Automatic detection of heart conditions like Atrial Fibrillation etc.

# Real time Alerting

Devices which collect Health data continuously or based on event such as Smartphone based ECG devices send data to cloud.

Analytics takes place over cloud through algorithms and real time alerts triggered in case of emergency.

Instant or fast healthcare can be provided in case of heart attacks



# Enabling Physicians

- Physicians must have a tool to quickly screen, diagnose and provide first aid to the cardiac patients as they are the first touch point in any kind of health issues.
- Big data analytics and medical device data helps augment their intelligence and decision making, hence quick and appropriate service with less scope of error.
- Improved care through use of aggregate patient data

# SanketLife- Applying Big data analytics in ECG

- SanketLife- ECG device captures ECG data through Bio-sensors and transfers to smartphone and cloud.
- Sanket cloud applies algorithms which find out the Minnesota code of the ECG wave (by pattern matching) and helps in decision making
- Huge amount of data based on age, gender, genetics, dempgraphy etc helps in analyzing and calculating the risk prediction of a cardiac event in an individual.



# Challenges

- Integrating all Data sources like Physicians, hospitals, pathology labs and devices
- Implementation of Digital EHRs and EMRs
- Implementation of connected devices to gather precise and accurate data
- Getting healthcare professionals use and implement Big data techniques in their day to day practice.

Thank you