Internet of Things (IoT) in Healthcare

IoT technology brings numerous applications in healthcare, from remote monitoring to smart sensors to medical device integration. It keeps the patients safe and healthy as well as improves the physician delivers care towards the patients.

Healthcare devices collect diverse data from a large set of real-world cases that increases the accuracy and the size of medical data.
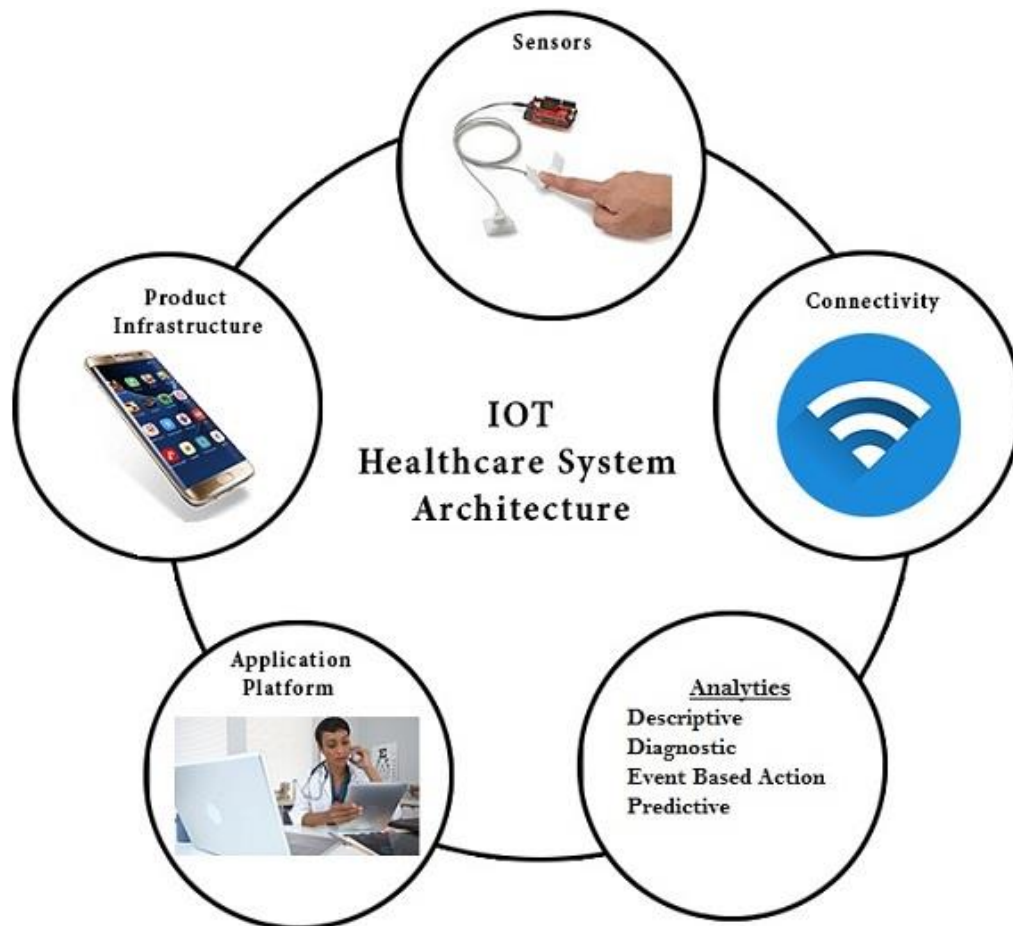
Factor affecting IoT Healthcare Application

There are various factors that affect the IoT healthcare application. Some of them are mention below:

- **Continuous Research:** It requires continuous research in every field (smart devices, fast communication channel, etc.) of healthcare to provide a fast and better facility for patients.
- **Smart Devices:** Need to use the smart device in the healthcare system. IoT opens the potential of current technology and leads us toward new and better medical device solutions.
- **Better Care:** Using IoT technology, healthcare professionals get the enormous data of the patient, analysis the data and facilitate better care to the patient.
- **Medical Information Distribution:** IoT technology makes a transparency of information and distributes the accurate and current information to patients. This leads the fewer accidents from miscommunication, better preventive care, and improved patient satisfaction.

Simple Healthcare System Architecture

The application of the Internet of Things (IoT) in healthcare transforms it into more smart, fast and more accurate. There is different IoT architecture in healthcare that brings start health care system.
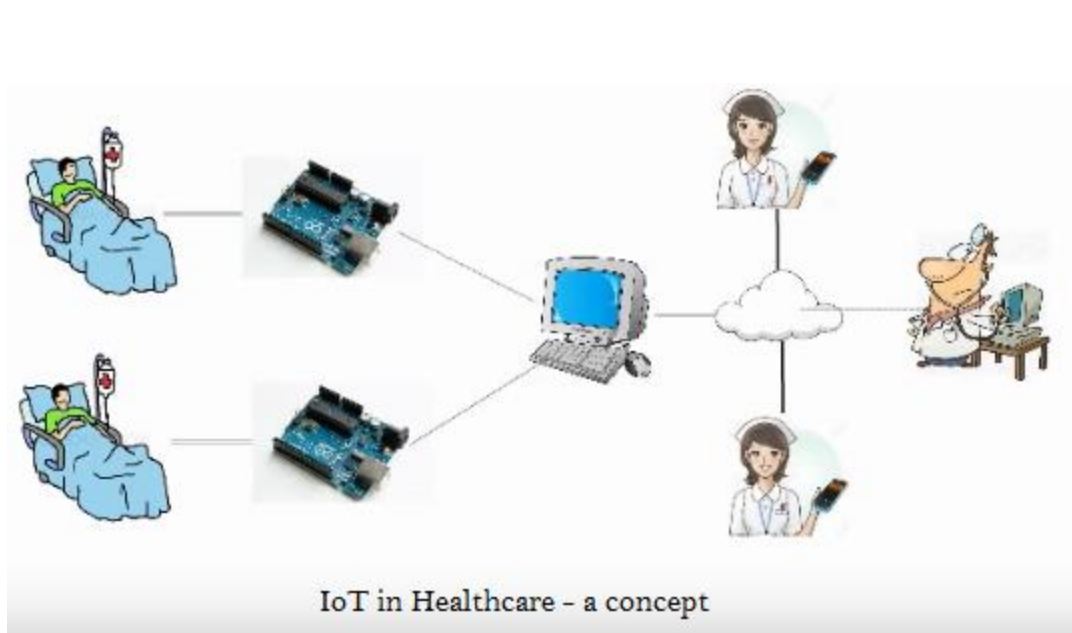
Product Infrastructure: IoT product infrastructure such as hardware/software component read the sensors signals and display them to a dedicated device.

Sensors: IoT in healthcare has different sensors devices such as pulse-oximeter, electrocardiogram, thermometer, fluid level sensor, sphygmomanometer (blood pressure) that read the current patient situation (data).

Connectivity: IoT system provides better connectivity (using Bluetooth, WiFi, etc.) of devices or sensors from microcontroller to server and vice-versa to read data.

Analytics: Healthcare system analyzes the data from sensors and correlates to get healthy parameters of the patient and on the basis of their analyze data they can upgrade the patient health.

Application Platform: IoT system access information to healthcare professionals on their monitor device for all patients with all details.

IoT in Healthcare - a concept

IoT challenges in Healthcare

- o Data security & privacy
- o Integration: multiple devices & protocols
- o Data overload & accuracy
- o Cost