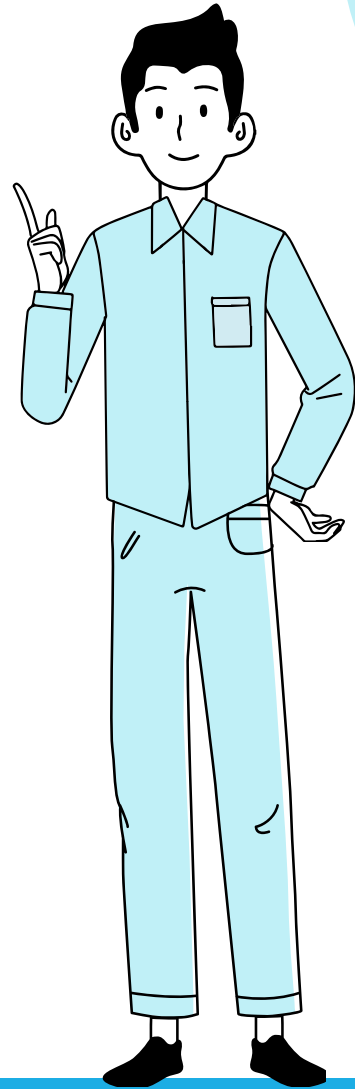


EXPLORING THE ROLE OF AI IN ADDRESSING HEALTHCARE CHALLENGES: A DOCTOR CENTRIC APPROACH

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Roll no: **0557 (PM-15)**
Submitted To: **Dr. Saurabh Kumar Banerjee**



INTRODUCTION



Have you ever imagined
machines predicting
diseases before they
appear?

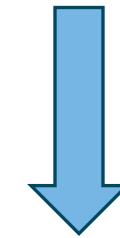
That's AI In Healthcare

AI in healthcare is not just
innovation — **it's a revolution.**

WHY AI IS IMPORTANT ?



4.5 billion people
lacking access to essential
healthcare services



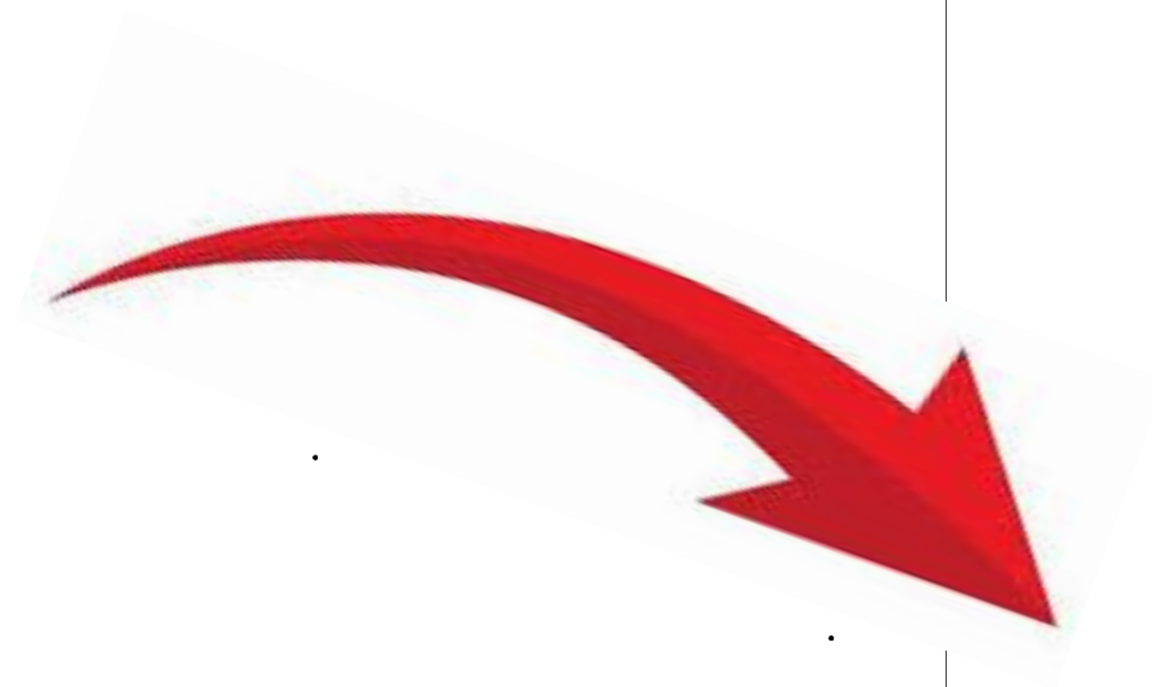
Artificial intelligence could
help bridge that gap.

WHY AI IS IMPORTANT?

More than **138 million patients are harmed every year by doctors' errors**, the World Health Organization (WHO) said.



Yet, healthcare is
"below average" in its
adoption of AI compared
to other industries.



AI Market Size 2024 to 2034

CAGR OF 19.20%

FUTURE OF AI



Disease Prediction

Utilizing AI for improved disease forecasting.



Diagnostics

Enhancing early detection of health issues.



Surgical Support

AI assistance in surgical procedures for better outcomes.



Remote Monitoring

Using AI wearables for patient health tracking.



Precision Medicine

Tailoring treatments to individual patient needs.



Administration

Streamlining healthcare management processes.



Health Coaches

AI-driven virtual support for patient wellness.

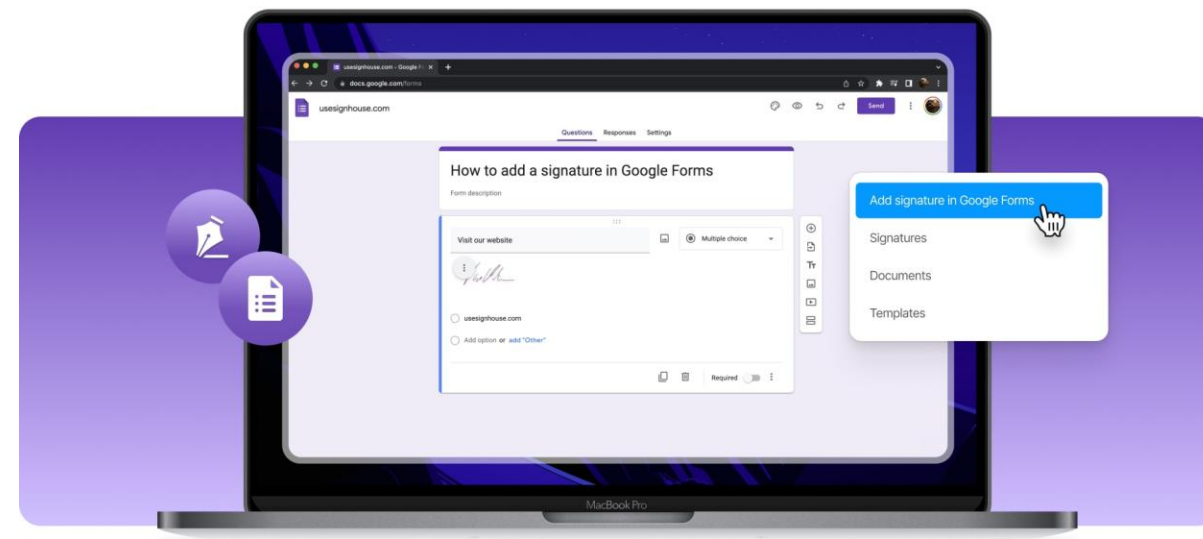


Drug Discovery

Accelerating the development of new medications.

SURVEY

Objective : To find out the challenges faced by doctors and explore better solutions with AI.



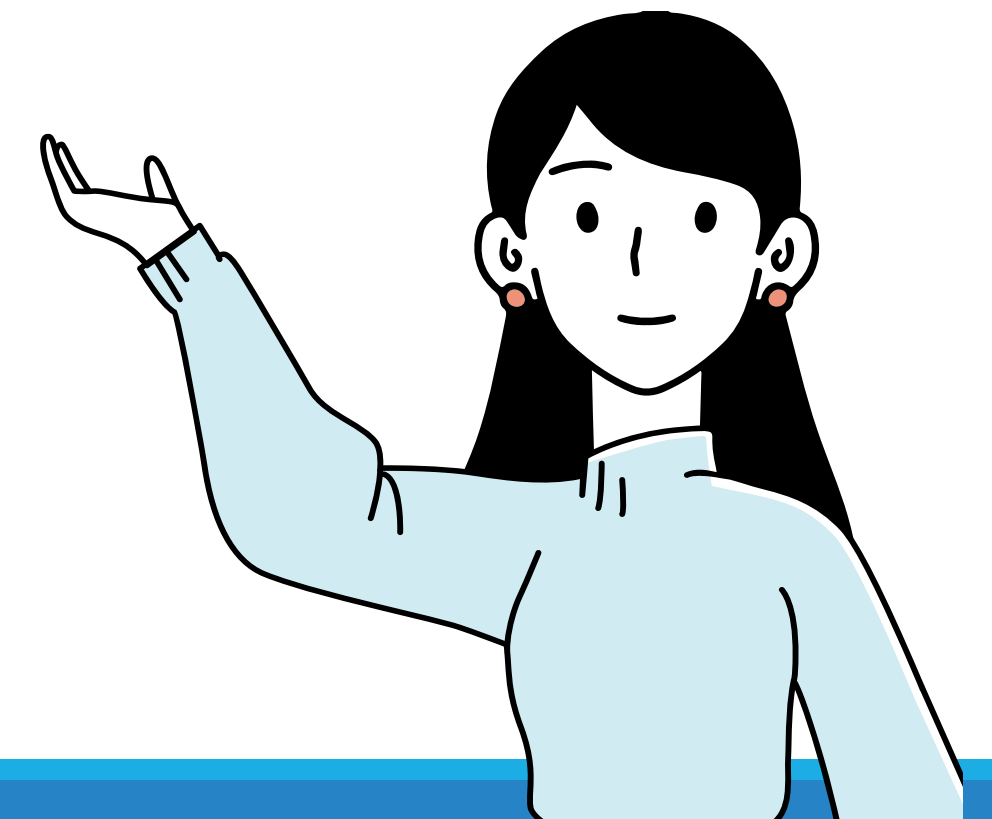
N=74

41

33

SURVEY (Telephonic)

DOCTORS	SPECIALITY	CITY
Sanket Charpe	DM Cardio	Nagpur
Ajinkya Mahajan	MS Ortho	Bhopal
Shailender Kumbkarni	MD Medicine	Ludhiana
Varun Mohod	DM Cardio	Nagpur
Robin Pinto	DM Cardio	Mumbai
Pratik Chhajed	DNB Medicine	Mumbai
Vrushali Bharin	MD Medicine	Nagpur
Varun Surg	DM Cardio	Nagpur



SURVEY (Interviewed)

Vrushali Bharin	MD Medicine	Nagpur
Pranay Bhawalkar	MD Physician	Nagpur
Ravi Warghmare	MD Medicine	Nagpur
Sandip Jain	MD Medicine	Nagpur
Hasan Banna	MD Diabe	Nagpur
Ravi Ahuja	MD Medicine	Nagpur
Satyaprakash Mangtani	MD Medicine	Nagpur
Pravin Nitnavare	MD Medicine	Nagpur
Shilpa Paranjapee	MD Medicine	Nagpur
Prashanti Mahatme	MD Physician	Nagpur
Sunil Gupta	MD Diabe	Nagpur
Jayashree Patwardhan	MD Physician	Nagpur
Sanjay Darda	MD Medicine	Nagpur

Prashant Gowardham	MD Medicine	Nagpur
Tushar Pande	MD Medicine	Nagpur
Gunjan Singhdalal	MD Medicine	Nagpur
Nilesh Belsare	MD Physician	Nagpur
Piyush Kherde	MD Diabe	Nagpur
Madhukar kherde	MBBS fcgp fiams	Nagpur
Mahendra Maske	MD Cardio	Nagpur
Poonam Lavhe	MD Physician	Nagpur
	MD	
Sharad Dhurve	Cardiodiabetic	Nagpur
Ashish Goswami	MBBS DNB	Nagpur
Ravi Ramteke	MD Medicine	Nagpur
Vivek Kuhite	MD Medicine	Nagpur
Sahiba Haseen	DNB Medicine	Nagpur

What challenges
do you Face ?



Medication
adherence &
Reminders

diagnosis

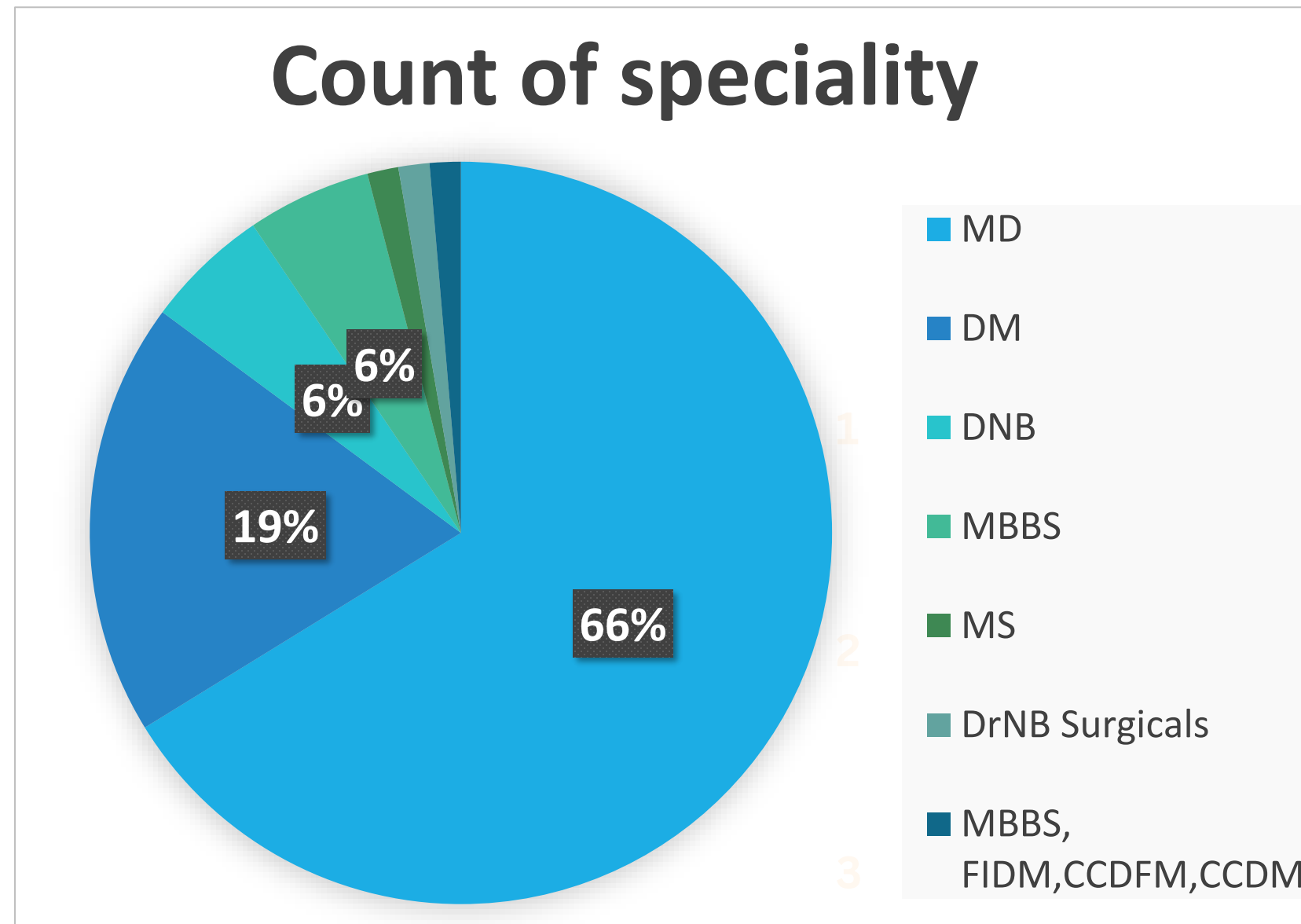
ECG, ECHO
Analysis

Record keeping
of patients

One medical
platform



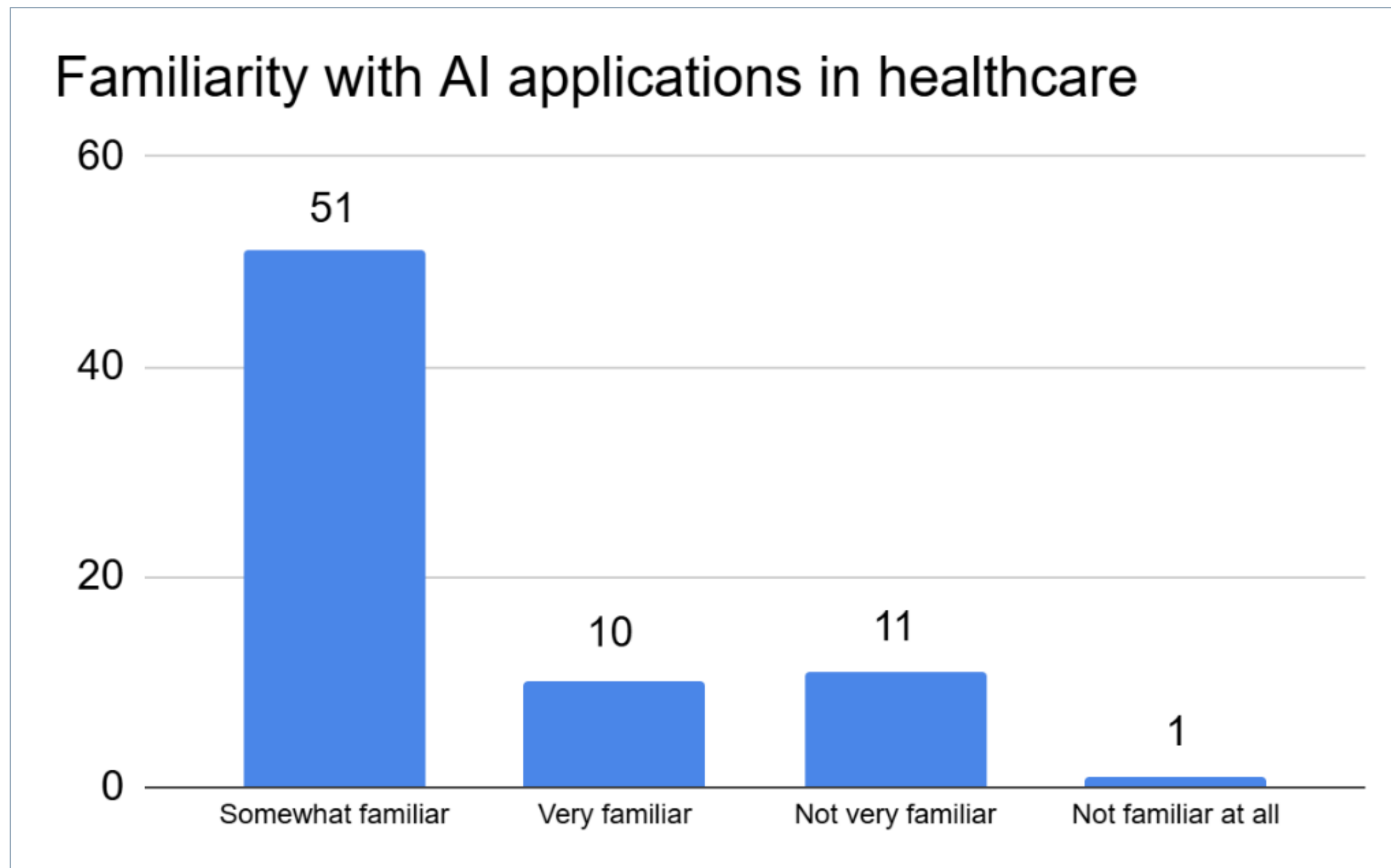
SURVEY (Digitally)



N= 74 doctors

**Wherein,
66% MD
19% DM**

2. How familiar are you with AI applications in healthcare?



3. Have you used any AI-based tools in your medical practice?

Usage of AI-based tools in medical practice

It means that they are **still unaware** about the other AI tools

tools used like



GPT

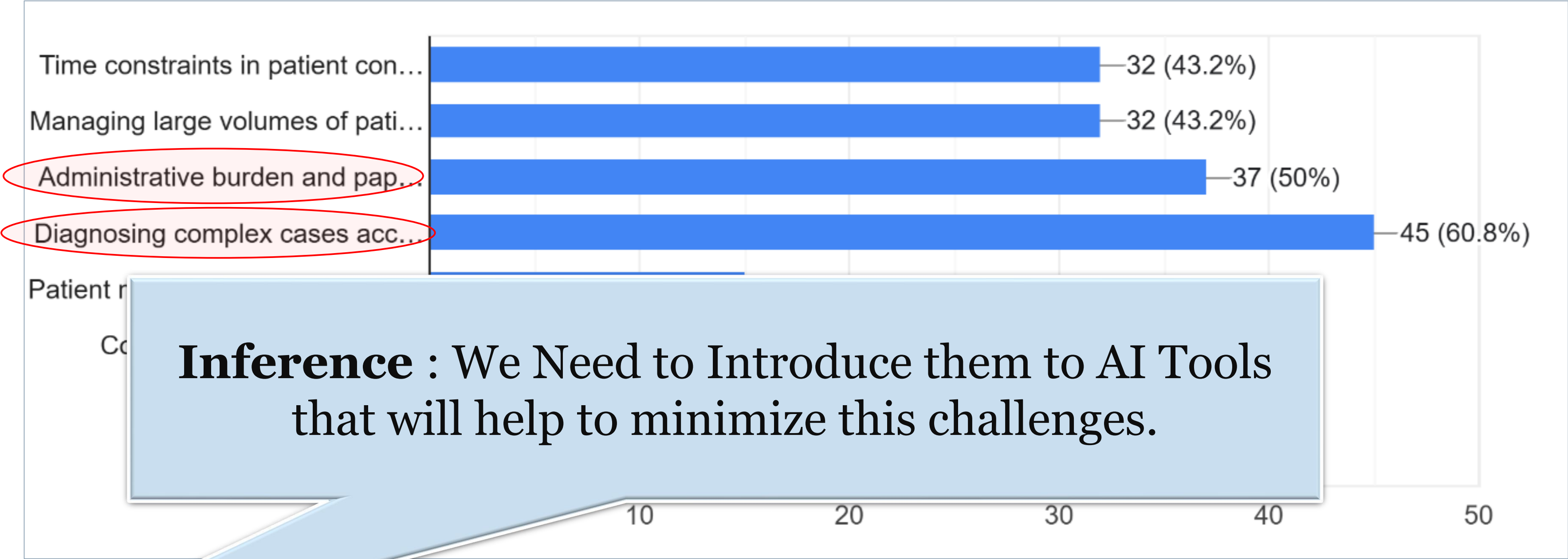


Grok

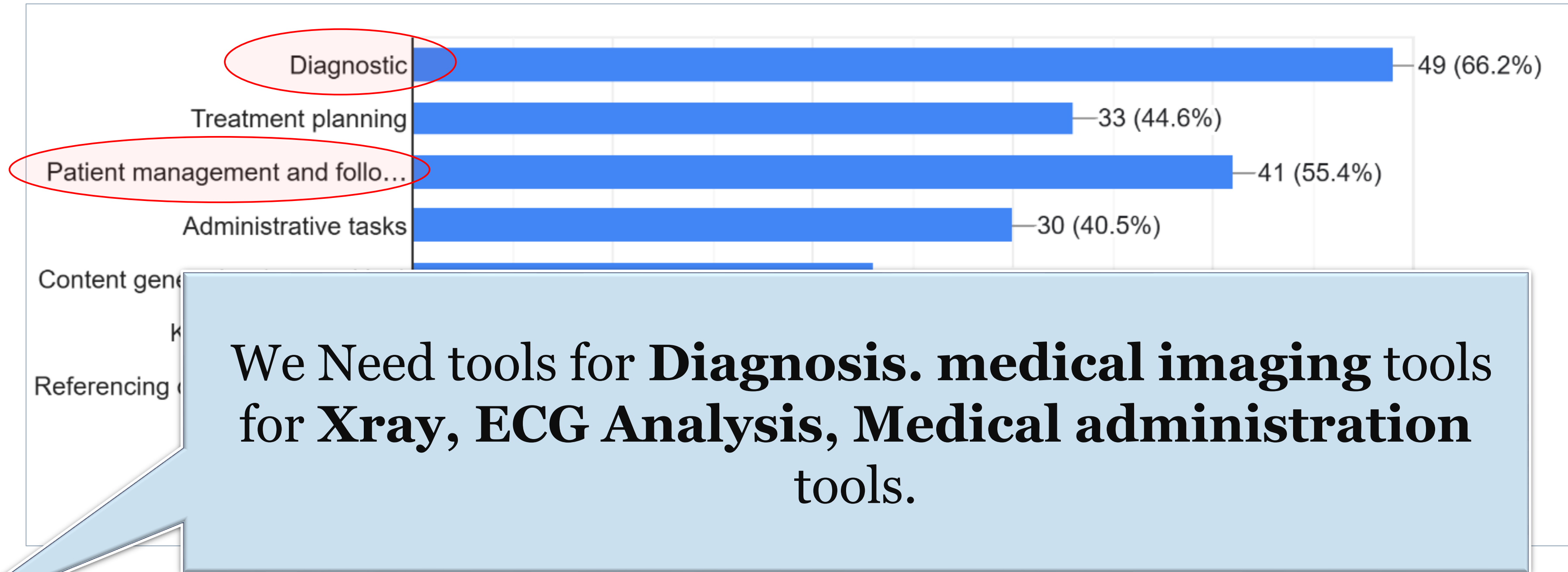


perplexity

4. What are the biggest challenges you face in your daily medical practice?



5. For what purpose you need AI based applications?



6. What type of AI training or support would you find most beneficial?

Type of AI training or support Doctors find most beneficial

So Majority of doctors prefer **workshops and hands on training** on the tools.
They want to learn about the tools

support tools

● Online courses and webinars

51



Recommendations from Doctors

1



**For Differential
Diagnosis**

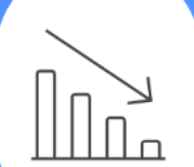


X-ray, ECG, ECHO



Complication Analysis

2



**Reduce
Overinvestigation**

3



Treatment on demand

AI TOOLS

Health Management



Disease Prediction



Medical Imaging



AI TOOLS

Medical Administration

- ❖ Deepscribe
- ❖ Deepmind
- ❖ Augmedix
- ❖ Nabla

Medical content creation

Literature search tools:



Visual content generator:



AI TOOLS

Visual content generator:



For PPT Generation



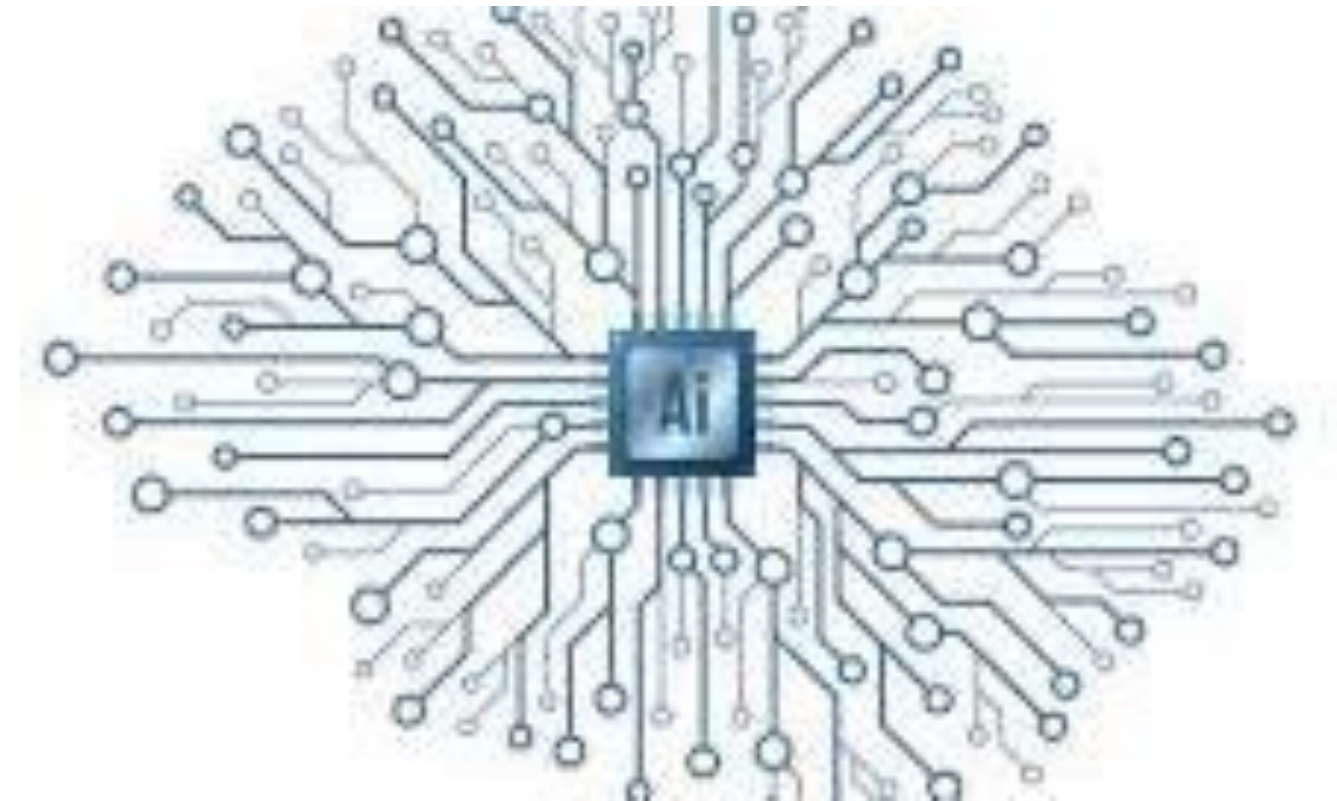
For Visual things and animation



AI TOOLS for diabetes management

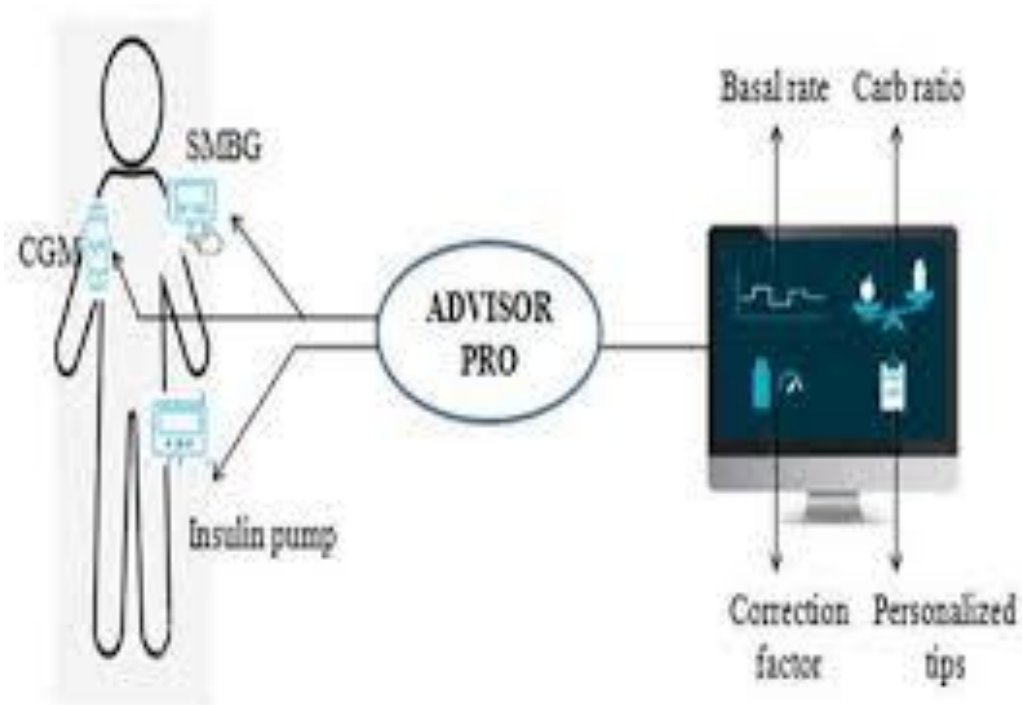
Early diagnosis and screening

Models used are,
SVM (Support vector machines)
RF (Random forest)
Logistic regression
DNN(Deep neural network)



AI TOOLS for diabetes management

Personalized treatments



DreaMed Advisor Pro



CamAPS FX

Suggest how much
insulin to take based on
Food

AI TOOLS for diabetes management

Smart devices



Dexcom

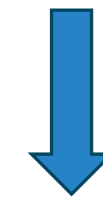


MiniMed



Freestyle Libre

Monitor sugar



Warn patients before
sugar level go too high
or too low.

AI TOOLS for diabetes management

Medication Adherance



SAED (Smartphones assisted Electronic devices)

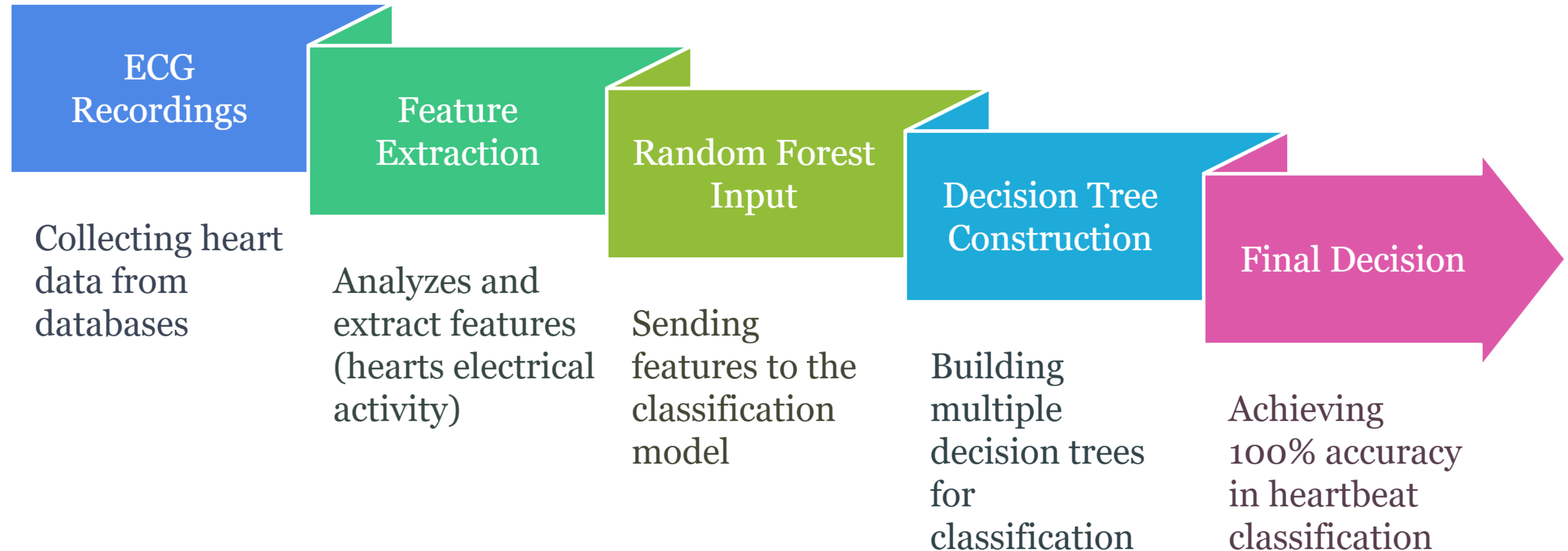


Track sugar and help with
Medication reminders



Log meals, sugar level
and insulin doses

Random Forest for Detecting Heart Failure



Reference :

Congestive heart failure detection using random forest classifier

Because AI is not the Future.

Its present

References:

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