## **Girl Code Hackathon 2025.**

## **Medical Coding and ….**

**What is Medical Coding?**

* Medical Coding refers to the approach of interpret medical diagnoses, procedures, services and equipment into standardised codes in healthcare systems.
* Medical Coding includes assigning codes to diagnoses and procedures using classification systems such as making use of the following codes:

1. ICD – 10 (International Classification of Diseases – 10th Revision.)

ICD-10 is used for diagnoses such as COVID-19 which is equivalent to U07.1

1. CPT (Current Procedural Terminology)

CPT is used for procedures or services such as blood tests = 80050

1. HCPCS (Healthcare Common Procedure Coding System)

HCPCS is a code used for drugs prescribed along with equipment.

**What is the significance for Medical Coding?**

* It is significant for Billing and Insurance claims, Healthcare record keeping and medical research and statistics.

**What can Medical Coding be used for?**

* It can be used for **Billing and Reimbursement** purposes where medical codes are used to classify diagnoses and procedures for billing insurance companies and government programs. **Data Analysis** , where coded data is used for statistical analysis, research and quality improvement initiatives and it can be used for healthcare management where medical codes assist to track patient outcomes, monitor diseases and trends and evaluate treatment effectiveness. **Insurance Claims**, accurate coding ensures proper payment for healthcare services and it may be used for **Research** purposes where medical codes may assist with facilitating research on diseases, treatments and outcomes .

**Where will Medical Coding be beneficial and implemented**?

* Rural Areas.

Rural areas lack accurate health statistics, this is where medical coding steps in, it will allow clinics and hospitals record cases such as TB, HIV, Malnutrition, etc by making use of standardised codes. Rural Areas will have improved healthcare and quality thus assisting rural clinics identify common diseases mentioned above. It will provide faster and accurate treatment . There will be organised patient records, which will allow rural clinics to keep clean, structured records and having an organised record will make it easier for them to look up for the patients history therefore they wont be lost or unreadable paper files. Clinics that use correct coding will be properly reimbursed by the government or medical aid programs, ensuring that the healthcare workers and nurses will be able to get paid for the services they provided. Local health departments may use the coded data to detect outbreaks such as measles, cholera, etc. Monitoring health problems will allocate resources like necessary vaccines and medications to the right areas.

**What are the challenges with medical coding in Rural Areas?**

* Lacked of trained personnel, which requires knowledge of ICD-10, CPT and HCPCS.
* Majority of the healthcare workers and nurses are not computer literate.
* Rural Clinics rely on nurses who may not be trained in coding.
* There is limited digital infrastructure where clinics still make use of paper based systems, there is no access to reliable computers, internet connectivity or electricity.
* Theres is cost implementation problems, where training staff, installing systems, maintaining internet and updating code databases may be costly.

**What are the solutions to the problems ?**

* There will be training provided in local languages.
* Use mobile based/ offline friendly tools.
* Designing simplified coding systems.
* Partnering with local health departments or NGOs.

**Which type of IDE(s) will be used?**

The IDE which will be used is the open-source visual studio code. The reason is that its an adaptive IDE that handles the tech stack for the project well.

**Which type of Framework will be used ?**

The framework which will be used will be Django, and Django rest framework.