



# Non-IID Medical Data




 **Different patient demographics**  
Age, gender, ethnicity vary by location




 **Varying disease prevalence**  
Regional differences in disease patterns



 **Hospital-specific protocols**  
Different treatment guidelines and standards



 **Equipment differences**  
Imaging devices, sensors vary in quality



 **Regional health patterns**  
Climate, lifestyle, socioeconomic factors



**Impact: Model bias • Slower convergence • Reduced accuracy**