**Model  
The AI model will be evaluated for accuracy using the following dimensions:**

1. **Incidence pattern prediction accuracy – How well the model’s forecasts of mental-health incidence align with historical records and verified health datasets.**
2. **Resource allocation accuracy – How effectively the system predicts demand for healthcare resources, such as counseling services or medication, in specific periods or regions.  
   Performance metrics such as Mean Absolute Error (MAE), Root Mean Square Error (RMSE), and Mean Absolute Percentage Error (MAPE) will be used to quantify forecast precision. In addition, stakeholder feedback from healthcare providers will act as a post-deployment accuracy measure, ensuring continuous improvement of the system’s recommendations.**

**Time Series Analysis on Data  
The AI will incorporate time-series analysis to study patterns of mental-health incidence over time.**

* **Trend monitoring: Detecting long-term increases or decreases in cases to inform strategic planning.**
* **Seasonal variation analysis: Identifying cyclical patterns, such as higher stress-related cases during exam periods or year-end holidays.**
* **Intervention impact assessment: Measuring the effects of external factors, such as awareness campaigns or policy changes, on incidence levels.  
  By applying time-series forecasting methods (e.g., SARIMAX), the system can proactively anticipate future mental-health trends, enabling healthcare providers to allocate resources in advance and offer timely interventions tailored to seasonal or situational needs.**