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Advancing Preventive Pharmacology: Integrating Precision Medicine for Public Health Impact

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In an era of rapidly evolving healthcare challenges, the integration of preventive pharmacology and precision medicine has emerged as a transformative approach to enhancing public health outcomes globally and in India. This keynote presentation explores how personalized medicine, pharmacogenomics, and targeted therapeutics can drive disease prevention and early intervention across diverse populations.

The session highlights innovations such as AI-driven diagnostics, drug discovery, and real-world data analytics, reshaping preventive healthcare strategies worldwide. With India's rising burden of Non-Communicable Diseases (NCDs), the role of genetic profiling and cost-effective precision medicine solutions is becoming increasingly significant. The presentation will discuss India's progress in pharmacogenomics research, government healthcare policies (e.g., Ayushman Bharat), and successful public health initiatives like polio eradication and tuberculosis control programs.

Furthermore, the talk will address challenges such as ethical considerations, accessibility, and policy frameworks, emphasizing the need for global and local collaborations. By bridging the gap between pharmacology and public health, this presentation aims to provide insights into developing sustainable, patient-centric, and technology-driven healthcare models, with India positioned as a leader in affordable precision medicine.

Keywords: Preventive Pharmacology, Precision Medicine, Public Health Innovation, Pharmacogenomics, Healthcare Policy, India's Healthcare Strategy and AI in Healthcare