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Precision Nutrition and Sustainable Diets: Advancing Global Health Through Evidence-Based Food Systems

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Nutrition plays a fundamental role in preventing chronic diseases and promoting long-term health. As the prevalence of obesity, diabetes, cardiovascular diseases, and other diet-related disorders continues to rise globally, precision nutrition has emerged as a promising approach for delivering personalized dietary recommendations based on genetic, metabolic, and lifestyle factors. This presentation explores recent advances in nutritional epidemiology, precision nutrition, and sustainable food systems aimed at improving population health and reducing disease burden.

The session examines the role of whole-food dietary patterns, plant-based nutrition, functional foods, and personalized dietary interventions in preventing non-communicable diseases. Advances in nutrigenomics, metabolomics, gut microbiome research, and digital nutrition technologies are improving our understanding of individual dietary responses and supporting evidence-based nutritional recommendations.

Future perspectives include artificial intelligence-driven nutrition planning, precision dietary interventions, and innovative food technologies designed to promote healthier populations while ensuring sustainable food production.

Biography

Walter C. Willett is Professor of Epidemiology and Nutrition at the Harvard T.H. Chan School of Public Health, United States. His research focuses on nutritional epidemiology, chronic disease prevention, sustainable diets, and public health nutrition. He has authored hundreds of scientific publications and is internationally recognized for advancing evidence-based nutrition science.