

# Predictive, Preventive and personalized Medicine & Molecular Diagnostics

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## Polypharmacy: A conundrum with a personalized laboratory medicine solution

Roland Valdes Jr

University of Louisville, USA

Polypharmacy, the simultaneous consumption of multiple medications, is not presently considered a health condition such as diabetes, high blood pressure or other chronic health syndromes. The use of multiple medications is growing at an alarming rate with reports documenting within a range of 12 and 22 prescriptions being used on average by individuals >50 years of age. The healthcare consequences range from drug-drug interactions, adverse drug events, prescribing cascades, chronic dependence and hospitalizations, all of which have significant health and economic consequences. Recent attention on precision medicine and personalizing therapeutics, along with advanced health informatics technology, provides the focus needed to manage this condition and avoid its complications. First, however, it is important to recognize polypharmacy as a healthcare condition or syndrome and how clinical laboratory diagnostics can play a role in addressing this national problem. Our discussion centers on the use of laboratory medicine diagnostics in preventing and managing pharmacotherapy with the use of combined pharmacogenetic testing and informatics tools designed to guide selection and dosing of medications. We urge establishing “polypharmacy” as a recognized healthcare syndrome that, if properly managed based on present technologies, can optimize clinical pharmacotherapy, provide a more precise personalized therapeutics and reduce economic burdens.

### Biography

Roland Valdes Jr is a Tenured Professor of Pathology and Laboratory Medicine at the University of Louisville's School of Medicine where he has held the appointments of Distinguished University Scholar and Senior Vice-Chairman. He completed his PhD in Molecular Biophysics and completed Post-doctoral Training in Clinical Chemistry and Toxicology at the University of Virginia. He is nationally and internationally recognized as a Leader in advancing the profession of laboratory medicine; has served on Federal Regulatory Committees; as President of many National Professional Organizations; and, has received several distinguished scientist and professional recognition awards. He has authored more than 260 publications, holds several patents and is a pioneer in establishing the application of personalized and precision medicine via laboratory diagnostics.

rvaldes@louisville.edu

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