



# **VDSP: So Far and Plans for the Future**

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*for the*  
**Vitamin D Standardization Program (VDSP)**



# A Brief Chronology

- 2004: Mary Francis Picciano (1946-2010) and NIST collaboration (Karen Phinney, lead): RMP and SRM 972 & 2972
- 2005: Collaborations Graham Carter (DEQAS) & Linda Thienpont at Ghent University.
- 2007: Vitamin D and Health in the 21<sup>st</sup> Century
- 2009: Release of SRMs 972 and 2972
- 2010: 1<sup>st</sup> VDSP meeting, Bethesda, MD (15 Nov)



# A Brief Chronology

- 2011: JCTLM approval of NIST & Ghent RMPs  
VDSP Interlaboratory & commutability (Oct)
- 2012: CDC Standardization-Certification Program  
DEQAS becomes Accuracy-Based EQA
- 2013: CAP nominates representative to VDSP
- 2013: VDSP Meeting, Nov 14 - sponsorship by  
AACC, IFCC and PATH



# VDSP Reference Measurement System Components

- NIST & Ghent RMPs
- NIST Standard Reference Materials (SRM)
- CDC Vitamin D Standardization-Certification Program
- Accuracy-Based Quality Assurance Programs
- Study designs for standardizing completed studies



# Plans for the Future #1

- Publish:
  - NIST and Ghent Comparison
  - Interlaboratory Comparison Study Results
  - Commutability Results
  - Baseline data from DEQAS on accuracy and precision among assays
  - Standardized results from national health and nutrition surveys



# Plans for the Future #2

- Continue analytical methods development
- Search for ways to improve serum samples used in calibration
- Promote standardization of completed studies
- Work with medical and professional societies to promote standardization in both clinical laboratories and in funded research



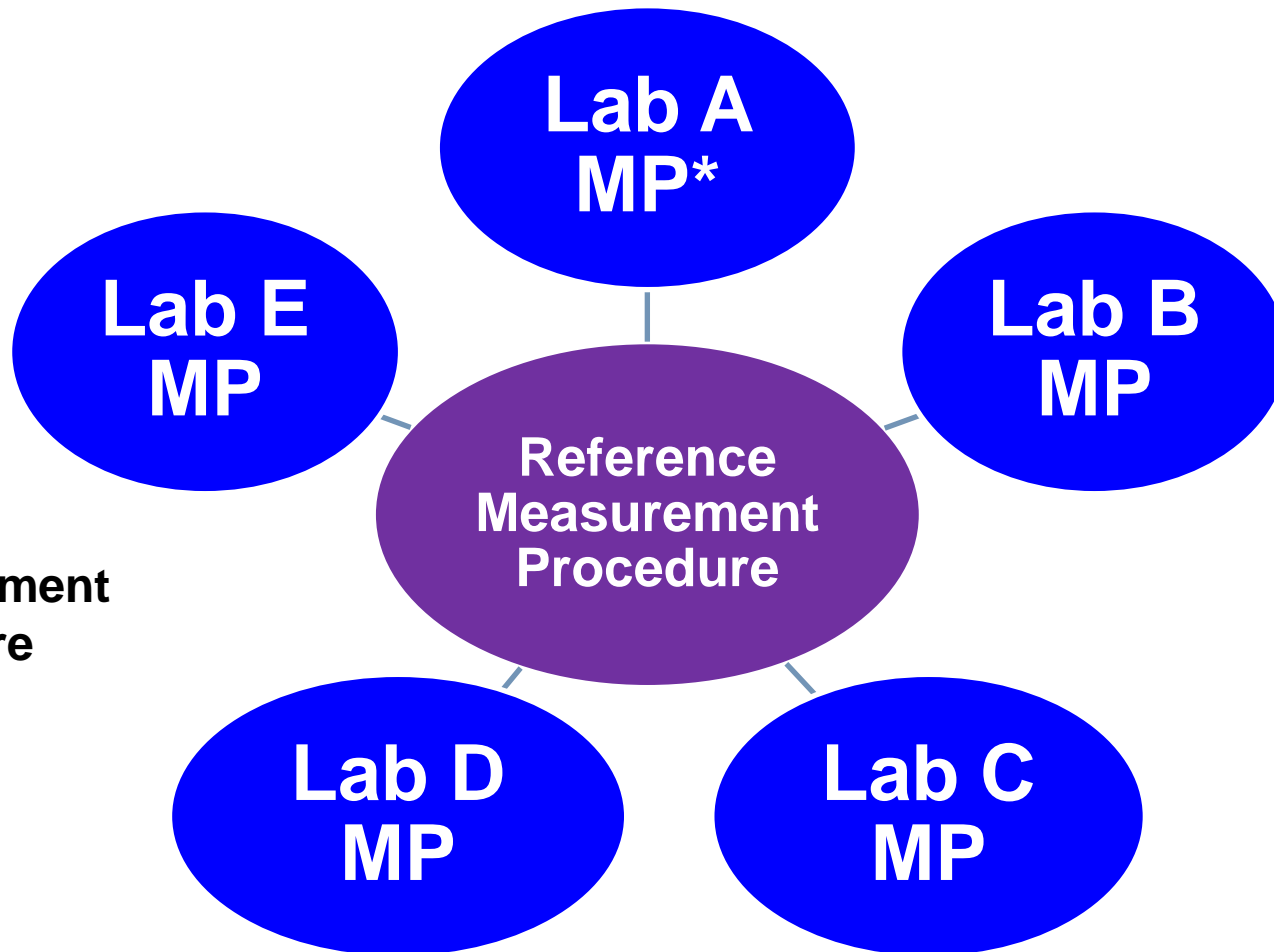
# Plans for the Future #3

Work with individual:

- Assay manufacturers to help them improve accuracy and precision
- Laboratories through PT/EQA programs to help improve their accuracy and precision



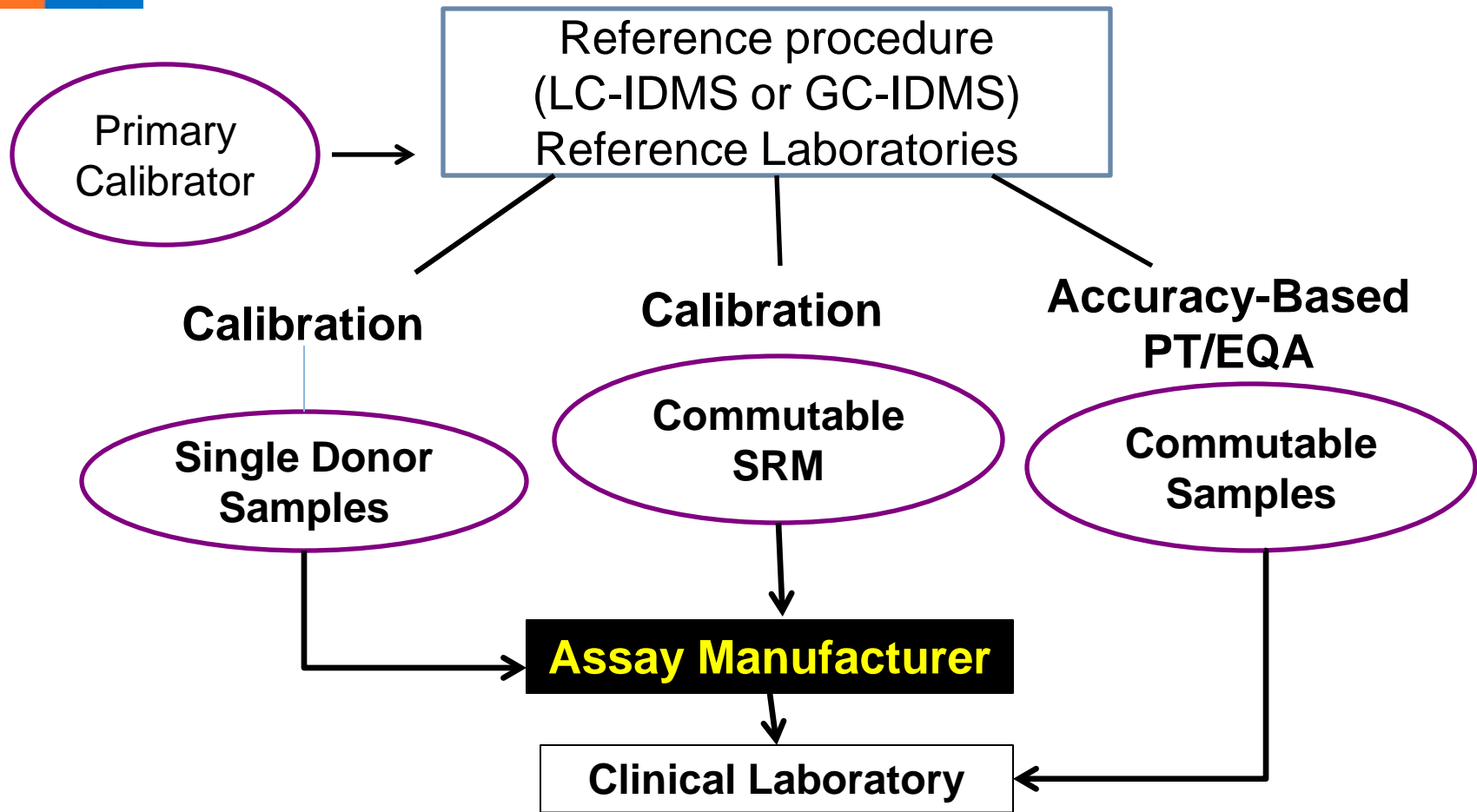
# Standardization Does Not Require a Single Analytic Approach



\* Measurement Procedure



# Calibration Traceability Scheme\*



\* Adapted from: Myers G. Steroids 2008;73:1293-1296



# Steps You Can Take to Achieve Standardization

- NIST SRMs: 972a and 2972
- CDC's Vitamin D Standardization-Certification Program -
  - Immunoassay manufacturers
  - Commercial and large clinical laboratories
- Accuracy-Based Quality Assurance Programs:
  - CAP
  - DEQAS
  - NIST-NIH VitDQAP
- Send us your suggestions for improving VDSP



# Suggested Assay Performance Limits Based on Biological Variation\*

Measurements	CV (%)	Bias (%)
Reference Labs	$\leq 5\%$	$\leq 1.7\%$
“Routine” Labs	$\leq 10\%$	$\leq 5\%$

\*Stöckl D et al. Clin Chim Acta 2009;408:8-13



# Ask yourself?

- What's your assay's %CV? Is it  $\leq 10\%$
- What's your assay's Bias? Is it  $\leq 5\%$



**Thank you!**



**Thank you -  
NIST!**



**Thank you  
sponsors -  
AACCC,IFCC,PATH!**



**Thank you -  
Moderators,  
Speakers &  
Discussants!**





**Thank you -  
VDSP Members!**



# VDSP Contributors

- **ODS: Overall Coordination**

- Paul Coates
- Joseph Betz
- Claudia Faigen
- Joyce Merkel
- Mary Frances Picciano\*
- Christopher Sempos\*\*
- Paul Thomas
- Anne Thurn
- Elizabeth Yetley

- **International Organizations:**

- **AACC** - Gary Myers
- **IFCC** - Ian Young
- **CAP** – Andrew Hoofnagle
- **DEQAS**
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## Reference Laboratories

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- Karen Phinney
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- Johanna Camara
- Mary Bedner
- Katrice Lippa
- Carolyn Burdette

- **Belgium: Ghent University**

- Linda Thienpont
- Linde De Grande
- Katleen Van Uytfanghe

- **CDC Standardization-Certification Program**

- Hubert Vesper
- Julianne Botelho



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  - Lorin Bachmann



**Thank you –  
Meeting Organizers!**



# Meeting Organizers

- Paul Coates, Ph.D.
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- Claudia Faigen
- Michael Labuda
- Megan Lyons
- Joyce Merkel, M.S., R.D.
- Kimberly Potter
- Cindy Rooney
- Paul Thomas, R.D.



**Thank you -  
Meeting Attendees!**