OIR Perspectives on Point-of-Care Testing

OIR POC Testing Harmonization Group

November 29, 2017

POC Harmonization Working Group

- Representatives from throughout OIR
  - Division of Immunology and Hematology
  - Division of Microbiology
  - Division of Chemistry and Toxicology
  - Division of Molecular Genetics and Pathology
  - Associate Director of Clinical Studies
- Goal is to harmonize POC review practices throughout the Office of In Vitro Diagnostics and Radiological Health

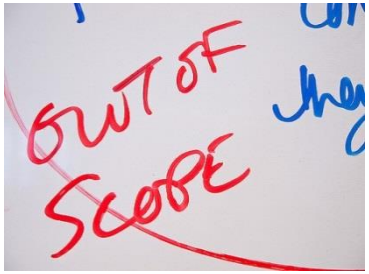
Possible Definition of POC Testing

Point-of-care in vitro diagnostic testing:

- Refers to testing that is performed near a patient
- Is decentralized testing, outside of centralized laboratory testing facilities
- Is not intended to refer to sample collection procedures only

In Scope for Discussion

- FDA Risk Class: Includes all FDA Risk Classes (I, II and III) in vitro diagnostics
- CLIA complexity: Point-of-care testing for CLIA non-waived settings (i.e. CLIA moderate and high complexity settings)
- Point-of-care testing utilizing any human specimen type (i.e. blood, body fluid, or tissue)
- Point-of-care testing that is performed under the direction of a laboratory director
- Point-of-care testing that requires a prescription



For Discussion

- Point-of-care testing that is CLIA-waived by application or regulation
- Point-of-care testing that is addressed in assay specific guidances (i.e. Blood Glucose Monitoring Test Systems for Prescription Point-of-Care Use)
- Point-of-care testing that is direct-to-consumer (DTC), over-the-counter (OTC), or for prescription home use

Examples of FDA Cleared POC In Vitro Diagnostics

- Abbott i-STAT Alinity system with Hematocrit test (k163342) and Glucose test (k163271)
- Roche Cobas 101 system with HbA1c test (k163633)
- Instrument Laboratory GEM Premier 5000 with electrolytes (k160225), blood gas (k160412), glucose, lactate, tBili (k160402), hematocrits, tHb, etc. (k160415)
- Sysmex XW-100 Automated Hematology Analyzer (K143577)

Example Intended Use With POC

- The Sysmex XW-100™ is a quantitative automated hematology analyzer intended for *in vitro* diagnostic point-of-care use to classify and enumerate the following parameters for venous whole blood anticoagulated with K_2/K_3 EDTA: WBC, RBC, HGB, HCT, MCV, MCH, MCHC, PLT, LYM%, Other WBC%, NEUT%, LYM#, Other WBC#, NEUT#, RDW-SD, RDW-CV, and MPV. It is not for use in diagnosing or monitoring oncology patients, children under the age of 2, or for chronically or critically ill patients.

Audience Knowledge Test: General POC Claim Questions

- My company is planning on developing POC in vitro diagnostics in the next two years.
  1. Yes
  2. No

Audience Knowledge Test: General POC Claim Questions

- Could an IVD have FDA cleared laboratory *AND* POC claims?
  1. Yes
  2. No

Audience Knowledge Test: General POC Claim Questions

- Does a 510(k) POC submission require a predicate with a POC claim?
  1. Yes
  2. No

Audience Knowledge Test: General POC Claim Questions

- Can a device with a POC claim be used in a laboratory?
    1. Yes
    2. No

COMMONLY ASKED QUESTIONS

What are the mechanics of POC claims?

- POC claims are given for assays or test systems
- FDA does not provide clearance for an instrument alone, without an associated assay.
  - To claim POC use of an instrument, performance of that instrument should be evaluated with an assay at POC sites
- FDA will conduct a labeling review for a new device to determine whether POC claims can be appropriately applied to the device labeling

What study designs support a POC claim?

- The clinical study and reproducibility study should be conducted at POC settings with POC operators
- We recommend at least **3 sites** with at least **2 operators at each site** participate
- For a general POC claim, sponsors should select sites that are diverse and representative (e.g., emergency room, outpatient clinic, etc.)
- Selected POC sites should provide healthcare to the patients from the intended use population
- FDA strongly recommends you perform them at POC sites in the U.S. POC sites outside of the U.S. may be acceptable in some circumstances
  - Demographic differences between U.S. and foreign population do not affect test results
  - POC site operations and POC operators at foreign sites reflect the typical POC site operations and POC operators in the U.S.
  - We would recommend that you come in with a list of potential study sites to obtain our feedback before initiating any study outside of the U.S.

What types of testing sites and operators are considered POC?

- POC Operators
  - Testing performed by healthcare personnel (laboratory and non-laboratory)
  - Personnel are subject to CLIA regulations with regard to personnel qualifications, training and Laboratory Director oversight
  - Examples
    - Nurses
    - Medical assistants
    - Doctors
    - Medical technologists
- POC Sites (active clinical sites)
  - Examples
    - ER
    - Bedside testing in hospital wards
    - Urgent care clinics
    - Physician office labs
    - Surgical wards

Summary

- Definition of Point-of-Care testing is critical to discussing testing requirements
- A 510(k) clearance with a POC claim in the Intended Use represents permission to market the device to all CLIA moderate or high complexity settings where the testing is performed near patient by prescription
- Clearance based on data obtained at POC sites does not mean you are able to distribute your device to CLIA waived sites

POC Harmonization Group Members

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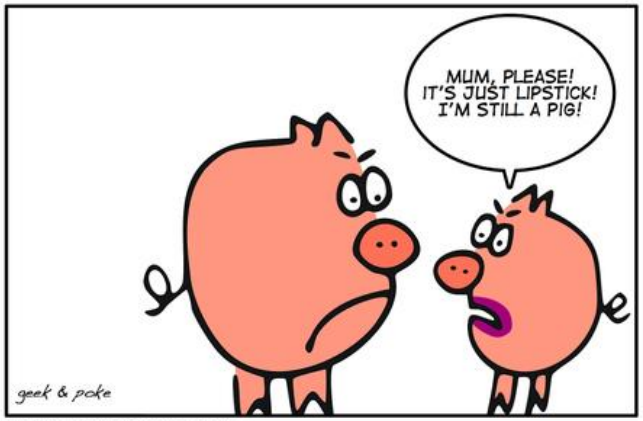
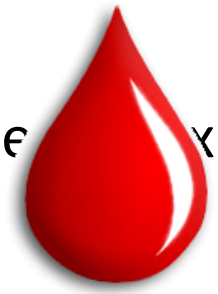


FROM A DIFFERENT ANGLE

BACKUPS

Sample Matrix Requirements, an exemplar

- Difficulties encountered with fingerstick sample
  - Limited sample stability makes interference testing difficult/impossible
  - Limited sample stability does not allow for contrived sample development
- Remedy?
  - Where possible consider adding a stable sample matrix to your IU, for example plasma
  - Plasma will enable some analytical studies (inference, reagent stability, etc) that are not possible with fingerstick samples
  - Plasma will enable ability to contrive samples



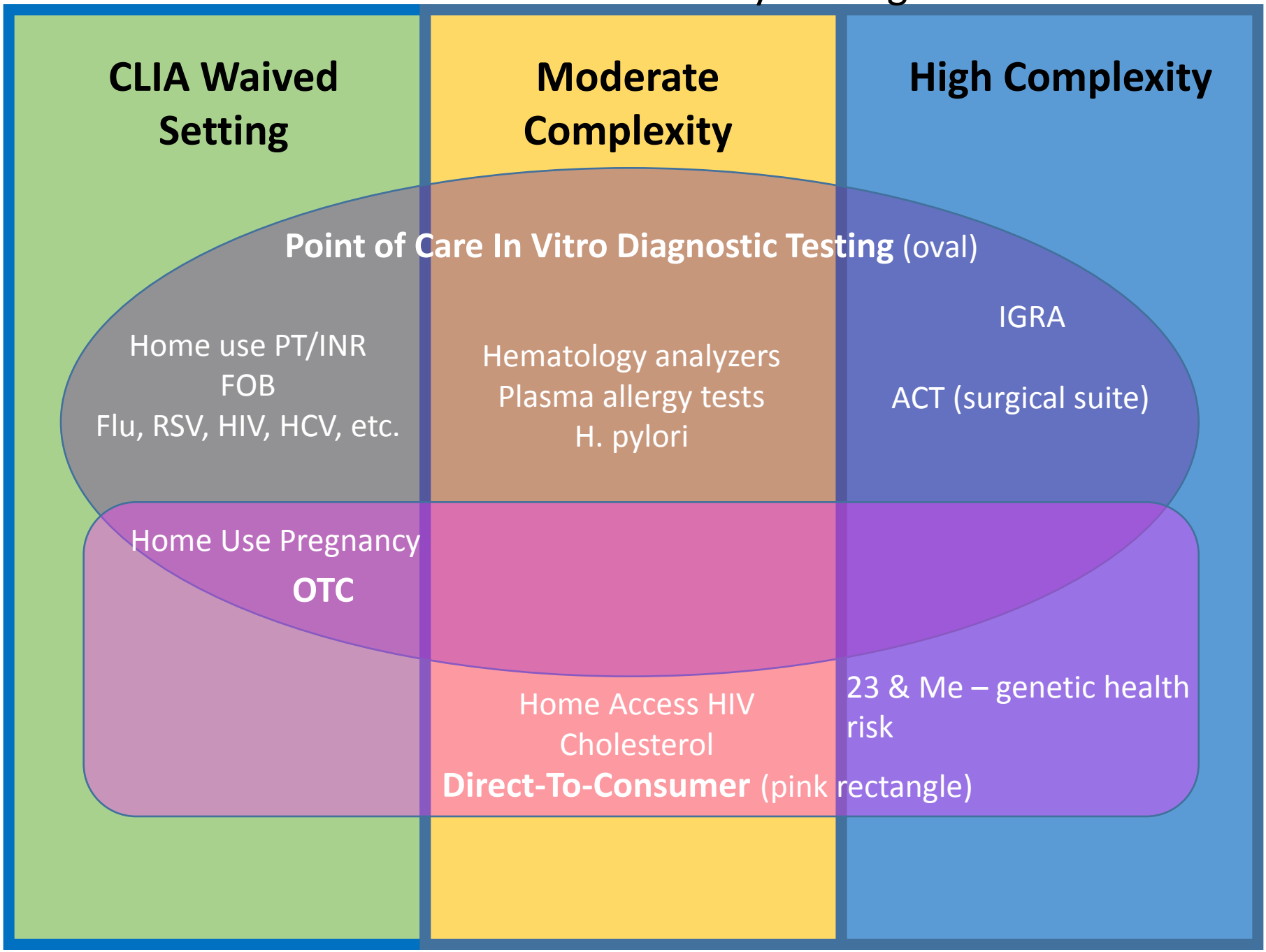
What is the FDA stand point on the usage of POC terminology?

- FDA considers “point-of-care” testing (POCT) as diagnostic testing performed near the patient, i.e., **where all steps from sample collection to the availability of results are performed near the patient, and where transportation of the sample to another functional area (e.g., a central laboratory or other specialized area) is not required.**

Operator/Site Requirements

- For POC devices that are used for multiple patients what are the disinfection requirements?
  - Handheld vs. tabletop
  - How do perform repeatability/reproducibility for fingerstick sample collection devices?

US Clinical Laboratory Testing



Dx Testing Locations

	POC (Type 1)	POC (Type 2)	POC (Type 3)	CENTRAL LAB
Healthcare Setting	Doctor's Office	Small Lab (group of MDs)	Medical Institution	
			ER, OR, Bed-side	Hospital Lab
Relative to Patient	(Near Patient)	(Near Patient)	(Near Patient)	(Away from Patient)
Type of Testing (CLIA Complexity)	**Waived**	**Non-waived** (Moderate Complexity)	**Non-waived** (Usually Moderate Complexity)	**Non-waived** High and Moderate Complexity
Oversight	Lab Director	Lab Director	Lab Director and POC Coordinator	
CLIA Certificate	CoW	Certificate of Compliance	Certificate of Compliance	
Operators (Testing Staff)	Nurses, Doctors, PAs, Office Staff	Professional Laboratory Staff (lower education requirements)	Trained Nurses Professional Laboratory Staff	Professional Laboratory Staff

Scenario 1: Doctor's Office

POCT	Requirements:
(Near Patient)	Apply for CLIA certificate Pay fees Follow manufacturer's instructions May only perform waived tests Must have Lab Director No educational or experiential requirements for LD
Waived	
(Doctor's Office)	
Lab Director	
CLIA Certificate	
CoW	
CLIA REGS WAIVED	No personnel educational requirements No mandatory inspections No proficiency testing No QC requirements
Nurses, Doctors, PAs, Office Staff	

Scenario 2: Physicians Office Laboratory (POL)

POCT	Requirements:
(Near Patient)	Apply for CLIA certificate Pay fees Must have Lab Director Must follow manufacturer's instructions
Non-waived	Subject to all CLIA requirements including: periodic inspections, proficiency testing, competency testing of all technical staff; • Must fulfill minimal educational requirements for LD and for staff. • Trained technical staff • Written Quality System • SOPs for QC and all procedures
Small Lab (group of MDs)	
Lab Director	
CLIA Certificate	
Moderate Complexity	
CLIA REGS APPLY	
Professional Laboratory Staff (lower education requirements)	

Scenario 3: POCT in a Medical Institution (ER, ICU)

POCT	CENTRAL LAB
	Lab Director: responsible for all testing, including POCT
(Near Patient)	(Away from Patient)
POC Coordinator-Reports to LD Responsible for day-to-day quality of POC testing; responsible for training of personnel, proficiency testing, competency testing.	
Waived or Non-waived	Non-waived (High Complexity) Under the Central Lab's CLIA Certificate
CLIA REGS APPLY All laboratory testing on the premises (Central and POC) is subject to all CLIA requirements, including bi-annual inspections, proficiency testing and staff competency testing	
Trained Nurses Professional Laboratory Staff	Professional Laboratory Staff