Interoperability of Self Measured Blood Pressure Monitoring (SMBP)

AHA NHCI Meeting

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Disclaimer

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Agenda

• Assessment of National SMBP Health IT Landscape
• SMBP Recommendations
• SMBP Standards and Interoperability Work
Optimal SMBP

Clinician guidance on:
- Selecting a device
- Proper cuff sizing
- Preparation and positioning
- Clinical protocol with frequency and duration
- Method for returning patient-generated values

Adapted from:
Behavioral Risk Factor Surveillance System SMBP Analysis – 2019

61% of people with self-reported Hypertension reported checking blood pressure outside of the office

80% of those people who checked blood pressure outside of the office shared the readings with a healthcare professional

7% of shared readings were through internet/email

National Assessment of SMBP Health IT Landscape

1. Document informatics landscape for SMBP
2. Interview SMBP users and standards groups
3. Identify recommendations to achieve more widespread implementation of SMBP

phii.org/SMBP-Health-IT-Landscape
Perceived SMBP Landscape

Patient

- Home Blood Pressure Monitor
  Wireless home BP monitor

- BP Mobile App
  Consumer-facing apps associated with a BP device manufacturer

- Other Personal Health Devices
  E.g., Activity trackers, weight scales, etc.

- Other Mobile Health Apps
  Consumer-facing apps that capture and store PGHD

Clinician/Care Team

- BP Measurement Data

- Electronic Health Record
  Used by health care providers to support clinical practice/practice management

- Additional Patient-Generated Health Data (PGHD)
Current SMBP Landscape

- **Consumer Mobile Health Aggregator**
  - Mobile health data aggregators, e.g., Apple Health, Google Fit

- **Patient Portal**
  - Portals for patients, tethered to EHR systems

- **Electronic Health Record**
  - Used by healthcare to support clinical practice/practice management

- **BP Mobile App**
  - Consumer-facing apps associated with a BP device manufacturer

- **BP Clinical Portal**
  - Portals available for care teams to log in and review patient BP data

- **Custom Applications**
  - Developed by health care systems to translate/consume data

- **Data Integration “Hub” Service**
  - Service provider that accesses and integrates data from various sources, e.g., Redox, Validic, Human API

- **SMART on FHIR Apps**
  - e.g., Mobilizing a Million Hearts on FHIR, AMA IHMI App

- **Home Blood Pressure Monitor**
  - Wireless home BP monitor

- **Other Personal Health Devices**
  - e.g., Activity trackers, weight scales

- **Other Mobile Health Apps**
  - Consumer-facing apps that capture and store PGHD
SMBP Recommendations

1. Federal-level Geek Squad/Genius Bar
2. Support policies that make patients the owner of PGHD entered by them.
3. Develop user-friendly patient applications to make clinical workflows more efficient
4. Include blood pressure with other chronic disease initiatives

SMBP in Practice
SMBP Recommendations

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SMBP in Practice

Regulatory and policy

1. Support development of a privacy and security framework
2. Modify and make widely available business associate agreements
3. Ensure sufficient coverage for validated devices.
4. Develop standards of care to assist healthcare providers in clinical decisions based on SMBP readings
5. Develop protocols and guidance on how and when SMBP data will be reviewed and used
SMBP Recommendations

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**Interoperability**
1. Develop an implementation framework
2. Develop implementation guidance focused on FHIR write capability and expand requirements for EHR certification to include write access
3. Incentivize device, mobile health and EHR vendors to adopt PGHD-related standards and specifications
4. Consider HL7 FHIR Accelerator approach
SMBP Standards

Continua Design Guidelines


HL7 Personal Health Device FHIR IG
IHE Personal Health Device Observation Upload
HL7 Vital Signs FHIR IG
SMART Markers
Open mHealth

HL7 Application Data Exchange Assessment Framework and Functional Requirements for Mobile Health

ISO/IEEE Part 10407: Device Specialization – Blood pressure monitor

HL7 Consumer Mobile Health Application Functional Framework

HL7 Unique Mobile Health Application Identifier

Open mHealth

FHIR / Core FHIR IG
USCDI
SMART App Launch Implementation Guide
PHII has been serving as the standards air-traffic controller.
Current Interoperability Work

**HL7 Work Groups**
- Devices
- Mobile Health
- Patient Empowerment
- Public Health
- CardX (part of CodeX FHIR Accelerator)

**Standards Work**
- United States Core Data for Interoperability v3 public comment
- Patient contributed data white paper

**Federal Partner Meetings**
- ONC
- HRSA
- AHRQ
- NIH
- CDC
- CMS

Device manufacturer and mobile health vendor meetings
Future work

- Actively participate in standards work groups
- Continue to facilitate connections between partners, mobile health developers and device manufacturers
- Pursue opportunities to share SMBP Health IT landscape findings
Questions?
Thank you!

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