USCDI ONDEC Submission Form Prep Sheet

This resource provides all of the USCDI ONDEC submission form questions and allows stakeholders to gather necessary information in advance of submission. You may choose to copy/paste your information from this document directly into the USCDI ONDEC submission form.

Please visit www.healthIT.gov/ONDEC to submit information through the USDCI ONDEC system.

Submitter Details

Name of Submitter*:

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Email Address of Submitter*:

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Secondary Email Address:

Organization of Submitter:

American Medical Association

Please note: your name and organization will be visible and associated with your submission.
Email addresses will only be visible to ONC and used for communication regarding your submission.

*** denotes required field**

Data Element

Data Class Name: (or select an existing USCDI Data Class)**:***

Vital Signs

Data Element Name:*

Average Blood Pressure

Data Element Description:*

Average Blood Pressure represents the average of two or more blood pressure readings in a specified time period or according to a specified algorithm or protocol. (Of note, average blood pressure is not the same as a mean arterial pressure.) The average blood pressure has a systolic and a diastolic component.

Are there similar or related data elements in USCDI?* (select one)

☐ Yes ☒ No ☐ Unknown

If yes, why should this data element be considered separately?

You may optionally submit up to five additional data elements within this data class, using the same information below:

Data Element Name - 1:*

Average Blood Pressure

Data Element Description:*

Average Blood Pressure represents the average of two or more blood pressure readings in a specified time period or according to a specified algorithm or protocol. (Of note, average blood pressure is not the same as a mean arterial pressure.) The average blood pressure has a systolic and a diastolic component.

In some scenarios (e.g., self-measured blood pressure monitoring), Average Blood Pressure may be used to diagnose hypertension or to evaluate blood pressure control in hypertensive patients. For this reason, it should be possible to persist average blood pressure readings in addition to single blood pressure readings.

* **denotes required field**

Are there similar or related data elements in USCDI?* (select one)

X Yes ☐ No ☐ Unknown

If yes, why should this data element be considered separately?

USCDI has Diastolic Blood Pressure and Systolic Blood Pressure, but it does not have average (computed) blood pressures for each.

Data Element Name - 2:*

Average Systolic Blood Pressure

Data Element Description:*

A blood pressure average is the average of two or more blood pressure readings in a specified time period or according to a specified algorithm or protocol. This data element represents the systolic component of an average blood pressure.

Are there similar or related data elements in USCDI?* (select one)

X Yes ☐ No ☐ Unknown

If yes, why should this data element be considered separately?

USCDI has Systolic Blood Pressure, but it does not have Average Systolic Blood Pressure.

Data Element Name - 3:*

Average Diastolic Blood Pressure

Data Element Description:*

A blood pressure average is the average of two or more blood pressure readings in a specified time period or according to a specified algorithm or protocol. This data element represents the diastolic component of an average blood pressure.

*** denotes required field**

Are there similar or related data elements in USCDI?* (select one)

X Yes ☐ No ☐ Unknown

If yes, why should this data element be considered separately?

USCDI has Diastolic Blood Pressure, but it does not have Average Diastolic Blood Pressure.

Data Element Name - 4:*

Data Element Description:*

Are there similar or related data elements in USCDI?* (select one)

☐ Yes X No ☐ Unknown

If yes, why should this data element be considered separately?

Data Element Name - 5:*

Data Element Description:*

*** denotes required field**

Are there similar or related data elements in USCDI?* (select one)

☐ Yes ☒ No ☐ Unknown

If yes, why should this data element be considered separately?

Use Case

Briefly describe the main use cases to support adoption of the data element into the USCDI:*

Over 120 million adults in the United States have high blood pressure. Average blood pressure readings can guide the diagnosis and treatment of hypertension. According to the European Society of Hypertension (published in the Journal of Hypertension, July 2021, PMID: 33710173), "The adverse cardiovascular consequences of hypertension, including events and mortality, largely depend on increased average blood pressure values. Thus, decision-making in hypertension is based on average values of several blood pressure readings obtained in and out of the office."

The 2017 ACC/AHA/AAPA/ABC/ACPM/AGS/APhA/ASH/ASPC/NMA/PCNA Guideline for the Prevention, Detection, Evaluation, and Management of High Blood Pressure in Adults and the AHA 2019 Scientific Statement on the Measurement of Blood Pressure in Humans provided guidance recommending that to properly estimate an individual's blood pressure:

- Office-obtained blood pressure measurement should include the average of 2 or more BPs obtained on two or more occasions
- For self-measured blood pressure (SMBP) monitoring, a minimum of 12 readings collected over at least 3 days should be averaged to more accurately assess a person's BP status.

Estimate the number of stakeholders who would capture, access, use or exchange this data element or data class:*

Over 120 million adults in the United States have high blood pressure. Average BP measurements can be used by thousands of physicians to better diagnose and manage hypertension.

Link to use case project page:

*** denotes required field**

https://www.ahajournals.org/doi/epub/10.1161/HYP.0000000000000087

https://www.jacc.org/doi/pdf/10.1016/j.jacc.2017.11.006

Please add if there are additional use cases for this data element that could affect significant numbers of other stakeholders.

Please describe the additional use case:*

NA

Estimate the number of stakeholders who would capture, access, use or exchange this data element or data class:*

NA

Link URL:

Attachment describing this use case:

Does this data element support the following aims in healthcare?
(check all that apply):*

X Improving patient experience of care (quality and/or satisfaction)

X Improving the health of populations

X Reducing the cost of care

X Improving provider experience of care

☐ None of the above

*** denotes required field**

*** denotes required field**

Maturity

Does a vocabulary, terminology, content, or structural standard exist for this data element? (e.g., SNOMED CT, LOINC, RxNorm) * (select one)

X Yes ☐ No ☐ Unknown

If yes, please cite the applicable standard*:

- SNOMED CT has:
  723232008 |Average blood pressure (observable entity)|
  314453003 |Average diastolic blood pressure (observable entity)|
  314440001 |Average systolic blood pressure (observable entity)|

After the original submission of this form to USCDI in October 2020, LOINC (version 2.69) added a new panel to report the average systolic and diastolic blood pressure measurements taken over a period of time. Therefore,

- LOINC has:
  96607-7 Blood pressure panel unspecified time mean
  96608-5 Systolic blood pressure unspecified time mean
  96609-3 Diastolic blood pressure unspecified time mean

If yes, link URL:

Are there additional technical specifications such as an implementation guide (IG) or profile using this data element? (e.g., HL7® FHIR® US Core Implementation Guide v3.1.0 based on FHIR R4)

X Yes ☐ No ☐ Unknown

If yes, please cite the relevant technical specification(s)*:

The data element is included in the HL7 FHIR® Implementation Guide: Vital Signs, Release 1- US Realm (1st Standard for Trial Use Ballot) which went through the ballot cycle in September 2020.
After this submission was accepted by USCDI in October 2020 as Level 2, the Vital Signs Implementation Guide has completed the ballot process and anticipates reaching STU1 in 2022.

* **denotes required field**

Which of the following best describes the use of this data element?* (select one)

- ☐ Not currently captured or accessed with an organization
- ☐ In limited use in test environments only
- **X** In limited use in production environments
- ☐ Extensively used in production environments
- ☐ This data element has been used at scale between multiple different production environments to support the majority of anticipated stakeholders

Please cite supporting artifacts:*

Cerner, Epic and Higi use Average Blood Pressures (systolic and diastolic). Meditech as conducted studies on incorporating Average Blood Pressure in patients' electronic medical records.

Submission of this data element is also rooted in the information cited in:

2017 ACC/AHA/AAPA/ABC/ACPM/AGS/APhA/ASH/ASPC/NMA/PCNA Guideline for the Prevention, Detection, Evaluation, and Management of High Blood Pressure in Adults: Executive Summary: A Report of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines

For example, the cited document states, "*BP is categorized into 4 levels on the basis of average BP measured in a healthcare setting (office pressures): normal, elevated, and stage 1 or 2 hypertension.*"

Link URL

https://pubmed.ncbi.nlm.nih.gov/29133354/

Whelton PK, Carey RM, Aronow WS, Casey DE Jr, Collins KJ, Dennison Himmelfarb C, DePalma SM, Gidding S, Jamerson KA, Jones DW, MacLaughlin EJ, Muntner P, Ovbiagele B, Smith SC Jr, Spencer CC, Stafford RS, Taler SJ, Thomas RJ, Williams KA Sr, Williamson JD, Wright JT Jr. 2017 ACC/AHA/AAPA/ABC/ACPM/AGS/APhA/ASH/ASPC/NMA/PCNA Guideline for the Prevention, Detection, Evaluation, and Management of High Blood Pressure in Adults: Executive Summary: A Report of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines. Hypertension. 2018 Jun;71(6):1269-1324. doi: 10.1161/HYP.0000000000000066. Epub 2017 Nov 13. Erratum in: Hypertension. 2018 Jun;71(6):e136-e139. Erratum in: Hypertension. 2018 Sep;72(3):e33. PMID: 29133354.

Attachment:

* **denotes required field**

Has this data element been electronically exchanged with external organizations or individuals (including patients)?* (select one)

X Yes ☐ No

If yes, with how many outside entities has this been exchanged?*

☐ 1

X 2-3

☐ 4

☐ 5 or more. This data element has been tested at scale between multiple different production environments to support the majority of anticipated stakeholders.

Please cite supporting artifacts:*

To our knowledge, there are production implementations that exchange Average Blood Pressure information using FHIR. Specifically, we are aware that at least Higi and Cerner exchange this data through a SMART Application.

Supporting Link

Attachment:

*** denotes required field**

Challenges

Describe any restrictions on the standardization of this data element (e.g., proprietary code).*

None

Describe any restrictions on the use of this data element (e.g., licensing, user fees).*

None

Describe any privacy and security concerns with the use and exchange of this data element.*

None

Please provide an estimate of overall burden to implement. Overall estimate of burden to implement, including those not affected by the primary use case(s) (i.e., impact to broader healthcare community for specialty-specific data element submission.)*

Unknown

Please provide information on other challenges to implementation

* **denotes required field**