# Outcome comparability in real world settings: Defining a core data set for standard medical history assessment

**Haneke, H.\*, Nickel, S.\*, Kirchberger, V.**
*contributed equally
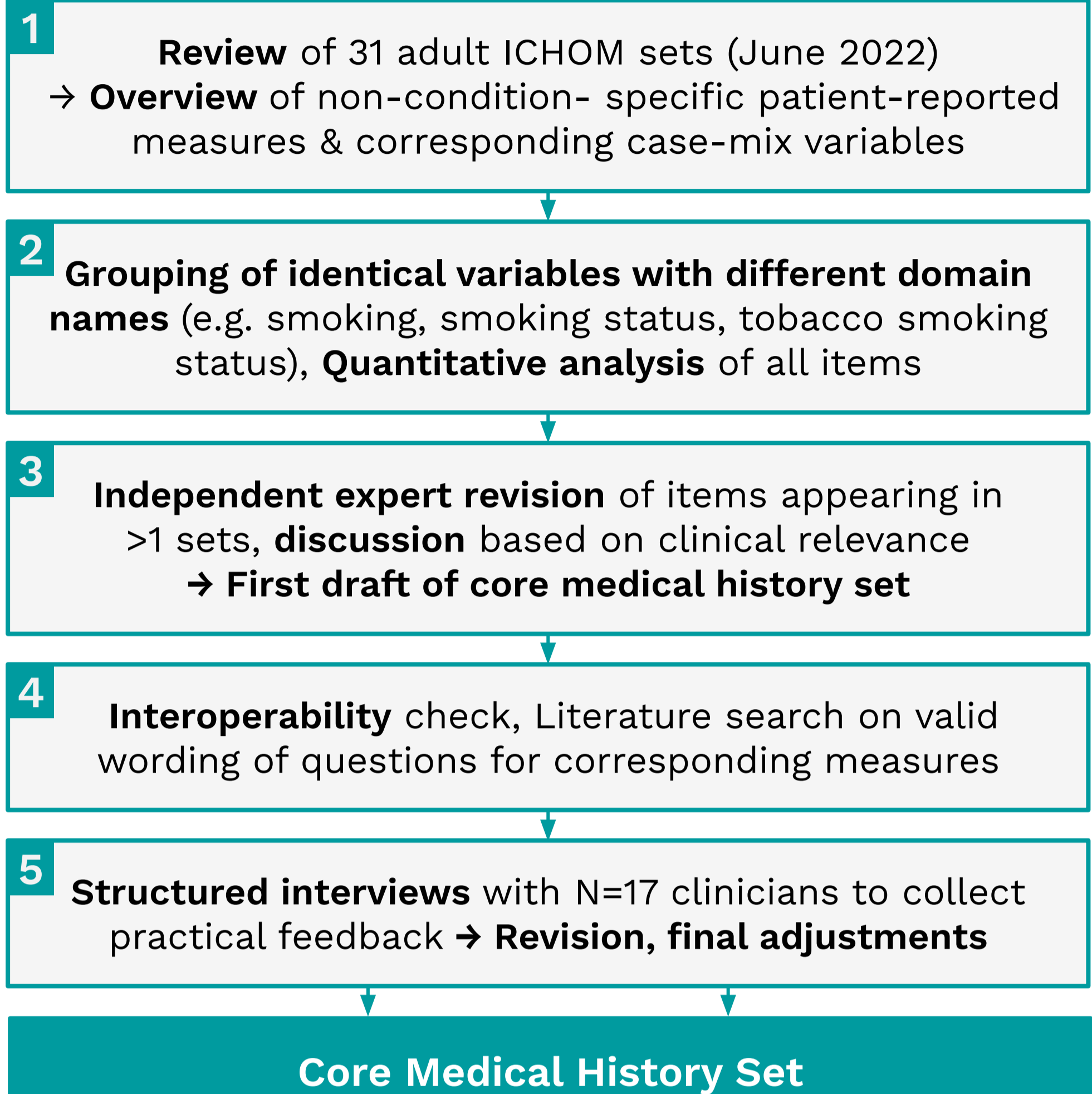HRTBT Medical Solutions GmbH, Berlin, Germany

## Introduction

**Reshaping care pathways** and healthcare systems around patients' needs **requires a standardized database** on patient-centered outcomes. Standard sets as proposed by ICHOM serve as a basis for developing datasets that allow for comparisons across different patient populations thus drawing meaningful conclusions for enhancing quality of care.

However, **standardization of outcomes and statistical analyses require a common medical history set** based on case-mix variables capturing demographic details, information on health status, lifestyle and social factors. These **case-mix variables are a fixed component of every ICHOM set,** nevertheless they vary in terms of domain name and corresponding question across sets.

As the largest provider of software for patient-centered outcomes in German speaking countries, Heartbeat Medical has accumulated profound expertise in implementing ICHOM sets. To support the interoperable collection of standardized high quality data allowing for adequate benchmarking, we propose **a core medical history set based on the most commonly used case-mix variables** in adult ICHOM sets.

## Method

**1** **Review** of 31 adult ICHOM sets (June 2022)
→ **Overview** of non-condition- specific patient-reported measures & corresponding case-mix variables

**2** **Grouping of identical variables with different domain names** (e.g. smoking, smoking status, tobacco smoking status), **Quantitative analysis** of all items

**3** **Independent expert revision** of items appearing in >1 sets, **discussion** based on clinical relevance → **First draft of core medical history set**

**4** **Interoperability** check, Literature search on valid wording of questions for corresponding measures

**5** **Structured interviews** with N=17 clinicians to collect practical feedback → **Revision, final adjustments**

### Core Medical History Set

## Results

- ❖ Overall **312 different case-mix variables** were identified in **31 adult sets** (76 patient-reported, 236 clinical)
- ❖ The variables proposed in **≥10% of the sets** that built the base for a first draft of a standard medical history set are presented in Table 1, column 1+2.
- ❖ **Importance ratings from clinicians** for all variables are presented in Table 1, column 3. Further comments are not displayed.
- ❖ The final revision by an expert commission resulted in **9 items to be included in the final set** (Table 1 column 4)
- ❖ Decisions on **wording as adequate or to be adapted** (adapt.) are presented in Table 1, column 4 (Based on the clinicians' interviews, results from an interoperability check as well as the literature search).

**Adjustments:**
- ❖ Biological Race (14 sets) was **classified as optional** depending upon the cultural context
- ❖ Year of birth and biological sex were added to the patient-reported variables being formerly classified as clinician-reported
- ❖ **Relationship status was deleted** after feedback from the clinicians
- ❖ The wording of the specific questions for four items will be adapted

**Final medical history set:**
- ❖ **9 items**: 5/9 will be adopted, the **wording of the remaining 4 items will be adapted**
- ❖ Next steps: **Discussion of adding further items** named by the clinicians and discussed in the expert group as well as **presenting the set to patients**

| Item / Measure | % (absolute nr) of presence in ICHOM sets | % of experts that rated item as important | Final set |
|---|---|---|---|
| Year of Birth | 100 (31) | 100 | ✔ |
| Biological Sex | 93.5 (29) | 100 | ✔ |
| Educational Level | 80.6 (25) | 91.2 | ✔ |
| Comorbidities (SACQ) | 77.4 (24) | 100 | ✔ |
| Height/Weight for BMI | 61.3 (19) | 100 | ✔ |
| Smoking Status | 54.8 (17) | 94.1 | ✔ adapt. |
| Ethnicity | 48.4 (15) | / | ✗ |
| Living Arrangements | 35.5 (11) | 94.1 | ✔ adapt. |
| Alcohol Intake | 22.6 (7) | 97.1 | ✔ adapt. |
| Work Status | 19.4 (6) | 100 | ✔ adapt. |
| Relationship Status | 16.1 (5) | 70.6 | ✗ |

## Conclusions

Here, we present a **minimum core data set** for the **standardized patient-reported assessment** of general **medical history set across different patient populations**. While individual questions for specific conditions will remain necessary, a **consensus regarding a core set may support the development of new sets.**

Using this proposed standard as a foundation could facilitate **benchmarking** and **cross-cultural implementation** by enabling standardized translations as well as interoperability. Further, it might incentivise clinics and IT companies to simplify the implementation of ICHOM sets in clinical practice.

We recommend **further validation** of the proposed core set including **collecting feedback also from patients.**

Haneke, H., haneke@heartbeat-med.de
Nickel, S., nickel@heartbeat-med.de

**ICHOM 2022**
Boston | USA