**Additional file 1** Assessment of the 2002 Pohnpei STEPS dataset: Criterion, definition, and application to the secondary analysis

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| **Assessment criterion a** | **Definition** | **Application to the secondary analysis** |
| **Overall design** | Availability of: 1) Metadata b | Public website STEPS metadata (www.who.int/chp/steps/en/) includes: 1) Design and protocol(s); 2) user manuals; 3) codebook; 4) instruments; 5) other resources (i.e., training modules, country-level summary reports, and templates) |
| 2) Microdata c | * Public access to 2002 FSM (Pohnpei) STEPS summary report.
* Data use agreement and IRB approval need for microdata release
* Data file readable using ASCII format.
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| **Methodology** | Review of: 1) Sample design  | * Multistage probabilistic cluster sample design using 2000 FSM Pohnpei Census enumeration districts; Representative household sample (one individual per household) of adults (25–64y)
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| 2) Representation | * Sample size calculations to detect prevalence rates of approximately 20% (CI±2%) and differences between age/sex groups with CI±10% for noncommunicable disease risk factors suggested a total sample of 1650 participants. A total of 2100 participants were targeted for the survey and physical measures with approximately 30% selected for biochemical tests.
* Primary dataset N=1638 (78% response rate); technical variables available to allow for age/sex standardization; sample design detail not available to adjust for probability of selection
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| **Instrument**  | Review of:1. Variable definitions
 | Variable definitions (i.e., conceptual and operational) were relevant to research hypothesis. One proxy variable defined (i.e., health access) using health screening questions available in data set. |
| 1. Contextual issues within STEPS survey
 | Contextual issues that may impact responses (leading to nonresponse or missing data) include: 1) cultural relevance and comprehension of questions, 2) timing of data collection 3) self-reported responses, and 4) participant burden. However, these issues may be limited as the survey was conducted: 1) by trained staff, 2) face-to-face in the participant’s home or local clinic, 3) in English or local language, and 4) day & evening. |
| **Data file** | Review of 1. Data file structure and mapped instrument
 | Microdata file mirrors data collection phases. Initial descriptive tabulation of data found inconsistencies in mapped instrument and data coding/entry. For example, education categories did not consistently match with reported years of education, thus re-categorization of education was necessary.  |
| 1. Missing data
 | Generally, selected variables had <10% missing data. However, an “unknown” income category was created to account for excessive missing values (N = 405, 24.7%). |

Abbreviations: FSM Federated States of Micronesia; IRB Institutional Review Board; y years; CI confidence interval; N sample size

a Evaluation criteria sources [22-24]

b Metadata is defined as structured information that describes, locates, and helps retrieve data resources

c Microdata is defined as original survey sample (i.e., raw data)