# MEDICAL RECORD RETRIEVAL PROTOCOL FOR PHYSICIANS/MEDICAL SECRETARIES

This document provides an overview of the protocol for collecting children's medical records from their primary care providers.  Protocol materials include the selection of participants and providers and the medical office call guidelines/script.  This script will be used to contact the child's primary medical service provider in all 264 Wave 2 communities.

During the home visit, the field interviewer will request the parent/caregiver's authorization to access the child's medical record using the medical record release authorization form (located in **SSA Attachment 6**). Parents will provide the study with contact information for their child's primary care provider(s).  Medical records for each child participant will be abstracted to develop longitudinal BMI trajectories for up to the previous 10 years.  Any indication of nutritional, physical activity, or sedentary activity counseling will also be abstracted from medical records. The presence of other chronic conditions and prescribed medications for those conditions (e.g. asthma, diabetes) will also be abstracted.

At the conclusion of each community assessment, Battelle will follow the process described below to select the participant and provider for which medical record retrieval will be attempted (for participants where consent to access medical records was given). The EMSI team will then contact the medical provider to to submit the request for the child's medical chart, and, where necessary, to arrange for reimbursement of any administrative fees the providers may charge for copying or providing these records.  The estimated time required by the PCP's office to review the request for the medical record comply with the chart request is 10 minutes, which covers reading the request, locating the medical chart, and providing the appropriate sections to EMSI.

**SELECTION OF PARTICIPANTS AND PROVIDERS FOR
MEDICAL RECORD ABSTRACTION FOR THE
HEALTH COMMUNITIES STUDY**


## Introduction

The NHLBI Healthy Communities Study (HCS) will use medical record review to establish a longitudinal trajectory of BMI assessments over time.  During the household interview, parents are asked to sign a consent form for medical record review as well as list contact information for the child's pediatric care providers.  For each provider listed, parents are asked the ages at which the child saw the provider and the estimated total number of height/weight measurements taken by the provider.

Following the completion of all child/parent data collection activities within a community, the HCS data analysis team reviews the information collected from each study participant to make a determination of which study participants, and which provider (for those that have multiple providers) to submit to EMSI for medical record review.

Upon review of data collection during the in-person child/parent assessments conducted as part of the Wave 1 of HCS, the following two-step algorithm was developed for selection of participants and providers.  First, a single provider for each participant is chosen from the given list of providers for each participant.  Second, participants (and their corresponding providers from step one) for medical record review are selected.

## Step 1: Select a single provider for each participant

The objective of the first step in this two-part algorithm is to choose one provider for each participant among the list of providers given by the parents.  Data from Wave 1 of HCS revealed that most participants only had one provider listed, and thus this provider is chosen for these participants.  For participants that had multiple providers listed, the parents' estimated number of visits that the child made to each provider (and over what period of time) in which height/weight was measured is examined to determine which provider is most likely to give the best information for the purpose of this analysis.

To help determine the provider that should be selected for a given participant that is most likely to give the best medical record information for the purpose of this analysis, the expected number of height/weight measurements taken by each provider *while the participant has lived in the community* is calculated and compared among the providers. When calculating the expected number of height/weight measurements for each provider, three scenarios are possible.

*Scenario 1: Child saw a given provider while exclusively living **within** the community.* In this scenario, the ages at which the child visited the provider overlap completely with the ages when the child has lived in the community.  In this case, the expected number of height/weight measurements is just the parents' reported number of visits that the child made to the provider in which height/weight was measured.

*Scenario 2: Child saw a given provider while living exclusively **outside** the community*. In this scenario, the ages at which the child visited the provider do not overlap at all with the ages when the child has lived in the community. In this case, the expected number of height/weight measurements is 0.

*Scenario 3: Child saw a given provider while living both inside and outside the community*. In this scenario, the child moved into the community but continued to visit the same provider that he/she visited while living in the previous community. Since the parent lists a single number of height/weight measurements for the provider (without regard to the time spent in the community), we calculate an expected number of height/weight measurements based on the proportion of the ages at which the child saw the provider that overlap with the ages when the child lived in the community. This expected value is calculated in the following manner:

- First, the expected number of height/weight measurements taken *each year* is calculated for the given provider. This expected value is calculated as the reported number of measurements taken by the provider divided by the number of ages the participant saw the provider. For example, if a participant had 10 visits to provider A during ages 5-8, then the expected number of height/weight measurements taken each year for this participant by provider A is 10/4=2.5.
- The expected number of height/weight measurements taken by the provider *while the participant has lived in the community* is then calculated by multiplying the expected number of height/weight measurements taken *each year* by the number of years the participant saw the provider while living in the community. For example, if a participant had 10 visits to provider A during ages 5-8 but moved into the community at age 6, then the expected number of height/weight measurements taken each year for this participant for provider A while living in the community is 2.5*3=7.5. Thus, it is expected that the child saw provider A 7.5 times while living in the community and 2.5 times while living outside the community.

Note that if the estimated number of height/weight measurements for a provider is missing, it is treated as 0 (i.e., assume the provider did not take any height/weight measurements).

The list of providers for a given participant is then compared using the following approach:

- If the participant has a provider with at least one expected measurement while living in the community, then the chosen provider is the provider with the highest number of expected measurements while living in the community. If there is a tie, then the most recent of the tied providers is chosen.
- If there were no providers with expected measurements while the participant was living in the community, then the provider with the highest number of measurements taken outside the community is chosen. If there is a tie, then the most recent of the tied providers is chosen.
- If the participant has a provider for which an approximate number of measurements is given but the ages at which they saw the provider is missing, this provider will only be chosen if there is no other provider without any missing ages.
- If there are multiple providers listed for a participant all of which have an approximate number of measurements but with missing ages, the chosen provider will be the one with the greatest number of measurements. If necessary, ties are broken randomly.
- A provider with an approximate number of measurements but with missing ages will be chosen over a provider with a missing number of measurements but known ages.

Our assumption is that the field data collectors will be trained to review the medical record release form prior to leaving the household, and that every attempt will be made to avoid missing information on this form. Thus – the last three bullets above should be rare events.

## **Step 2: Select participants (and corresponding provider) for medical record review**

After a single provider is chosen for each participant, then the second step in this two-part algorithm is implemented. The objective of the second step is to select the participants (and their corresponding providers from step one) for medical record review. A score is computed for each participant/provider combination, where a higher score for a participant/provider corresponds to a higher likelihood of being selected for medical record review.

The score for each participant/provider combination is based on the expected number of measurements taken while living inside and outside the community, the race/ethnicity of the child, whether the child was selected for the enhanced protocol, and income.

Let $I$ denote the expected number of measurements taken while living inside the community and $O$ denote the expected number of measurements taken while living outside the community. $I$ and $O$ were calculated in step one of this two-step algorithm. Let $R$ be an indicator variable denoting whether the child is African-American and/or Hispanic/Latino (1=Yes; 0=No). If race/ethnicity is missing, then the participant is assumed to be neither African-American nor Hispanic/Latino. Let $E$ be an indicator variable denoting whether or not the child was selected for the enhanced protocol (1=enhanced; 0=standard). Let $P$ be an indicator variable denoting the poverty status of the participant (1=poverty; 0=not poverty). A participant is considered to live in poverty if the annual household income is less than \$35,000, which is based on the income cut-offs specified in the household interview questionnaire. If this information is missing, then the participant is assumed to not be living in poverty. The Score is then calculated using the following formula:

$$Score = I + 0.4O + 2R + 3E + 1.5P$$

These coefficients were chosen so that participants who are minority, low-income, and/or participating in the enhanced protocol have a greater chance of being selected for the medical record review than participants without these characteristics, *even if a potentially higher number of medical records can be obtained from the latter group*. Note that the score consists of two sets of components: those specific to the child and those specific to the child's provider. Thus, the score can be extended to each child/provider combination to rank providers across different children (as discussed below).

The following examples demonstrate how the score equation is implemented.

*Example 1:* Grace is eight years old and has lived in the community since birth. She is in the second grade. The first step of the algorithm determined that her provider of interest was the one where she had an estimated 12 height/weight measurements. She is an enhanced participant, but is not a minority and is not living in poverty. Grace's (and her corresponding provider) score is then

$$Score = 12 + 0.4(0) + 2(0) + 3(1) + 1.5(0) = 15$$

*Example 2:* Sadie is also eight years old but has only lived in the community for the past three years. She is also in the second grade. The first step of the algorithm determined that her provider of interest was the one where she had an estimated 4 height/weight measurements while living in the community and 8 measurements from the same provider before she moved into the community. She is an enhanced participant, a minority, and living in poverty. Sadie's (and her corresponding provider) score is then

$$Score = 4 + 0.4(8) + 2(1) + 3(1) + 1.5(1) = 13.7$$

*Example 3:* Mallory is seven years old and has lived in the community since birth. She is also in the second grade. The first step of the algorithm determined that her provider of interest was the one where she had an estimated 12 height/weight measurements. She is not an enhanced participant or a minority, but she is living in poverty. Mallory's (and her corresponding provider) score is then

$$Score = 12 + 0.4(0) + 2(0) + 3(0) + 1.5(1) = 13.5$$

*Example 4*: Anna is eight years old but has only lived in the community for the past year. She is also in the second grade. She has not seen a provider since moving to the community, and so the first step of the algorithm determined that her provider of interest was the one where she had an estimated 12 height/weight measurements before she moved into the community. She is not an enhanced participant, a minority, or living in poverty. Anna's (and her corresponding provider) score is then

$$Score = 0 + 0.4(12) + 2(0) + 3(0) + 1.5(0) = 4.8$$

*Example 5*: Ashley is nine years old and has lived in the community since birth. She is in the third grade. The first step of the algorithm determined that her provider of interest was the one where she had an estimated 6 height/weight measurements. She is an enhanced participant, a minority, and living in poverty. Ashley's (and her corresponding provider) score is then

$$Score = 6 + 0.4(0) + 2(1) + 3(1) + 1.5(1) = 12.5$$

*Example 6*: Claire is ten years old but has only lived in the community for the past two years. She is in the third grade. The first step of the algorithm determined that her provider of interest was the one where she had an estimated 2 height/weight measurements while living in the community and 4 measurements from the same provider before she moved into the community. She is an enhanced participant, but is not a minority or living in poverty. Claire's (and her corresponding provider) score is then

$$Score = 2 + 0.4(4) + 2(0) + 3(1) + 1.5(0) = 6.6$$

Within each grade/gender category, the three participant/provider combinations with the highest scores are selected. The current goal is to select 54 participant/provider combinations for medical record review (corresponding to three males and three females in each of nine grades). If there are less than three participants of a certain gender within a grade, the un-chosen participant with the highest score from the grade one below or one above of the same gender will be selected as a replacement, if possible. If the targeted number of participants for medical record review from the community still has

not been reached, then the remaining participants are selected from the pool of remaining participant/provider combinations that have not yet been selected while trying to maintain gender and grade balance.

If the number of participants in a community giving consent for medical record review is fewer than 54, then some children will have multiple providers chosen for them.  These providers are chosen based on the score from among all of the providers not yet chosen, not just those previously selected for each child.  Ties between multiple scores are randomly broken whenever necessary.  The same process is repeated for each of the communities in the study.

To illustrate this, suppose the six examples listed above represent all the second and third grade female participants for whom we have consent for medical record review.  Thus, four second grade females and two third grade females are eligible for medical record review (see table below).

| Participant | Age (years) | Grade | Score |
|---|---|---|---|
| Grace | 8 | Second | 15 |
| Sadie | 8 | Second | 13.7 |
| Mallory | 7 | Second | 13.5 |
| Anna | 8 | Second | 4.8 |
| Ashley | 9 | Third | 12.5 |
| Claire | 10 | Third | 6.6 |

The participants with the top three scores in the second grade female category are Grace, Sadie, and Mallory (15, 13.7, and 13.5, respectively).  Grace, Sadie, and Mallory (and their corresponding provider selected from the first step of the algorithm) are selected for the medical record review.  Given that Ashley and Claire are the only participants in the third grade female category, they have the highest scores and are therefore selected for the medical record review.  It is desired to select one more third grade female participant and corresponding provider, but there are no other third grade females to choose from.  Following the protocol outlined above, a participant/provider from one grade below is considered.  In this case, the second grade female group has one participant that has not already been chosen for the medical record review (i.e., Anna).  Thus, Anna is selected to fill the final spot in the third grade female category to participate in the medical record review.

# MEDICAL OFFICE CALL GUIDELINES/SCRIPT

## INTRODUCTION
- "Good (MORNING/AFTERNOON/EVENING), may I speak with the person who handles release of medical records?"
    - ONLY IF M/R not available: "You might be able to help me…."

## RECORDS AND SPECIAL ATTENTION
- "The parent/legal guardian of one of your patient's has authorized the release of their child's medical records as part of their participation in the Healthy Communities Study, which is sponsored by the National Institutes of Health. The parent/legal guardian has indicated that we should be able to locate records at your office going back to xxxx year. Do you have a chart for (PATIENT NAME)?"
    - *If NO records found:*
        - *"Could you search by the patient's (social security number/DOB)?"*
        - "Does Dr. (_____) practice in your office?"
        - "Does the Dr. practice anywhere else?" IF YES, "Could you tell me the phone number of his other practice?"
        - Check special attention to see if there is any other information listed that may be helpful in locating records.
        - "Could records be in storage?"

- "Do you have (DR. NAME) on staff?"

- ***IF*** THERE IS A SPECIAL ATTENTION: "Can you check the chart to see if it includes __(S/A)__?"

## SENDING REQUEST
- If Request WAS Auto Faxed: "We faxed over a request for medical records on (PATIENT NAME). Have you received the faxed request?"
    - If request was **NOT** received, verify fax number and refax.
- If Request WAS NOT Auto Faxed: "I need to fax a request to you for copies of records. May I verify your fax number?"
    - If faxes not allowed: "Who should I attention this request to?"
- "While I have you on the phone, can you please verify your address for me?"

## IF FACILITY ADVISES THAT THEY REQUIRE THEIR OWN AUTHORIZATION
- "The authorization we have available to send to you has already been signed by your patient's parent/legal guardian, has your facility name, your patients name and the DOB. Your patient's parent/legal guardian signed this authorization when they participated in our study and they are aware records are being sent to us."
    - ***IF carrier's auth is NOT HIPAA compliant:*** Skip to acceptance statement.
    - ***IF the carrier's authorization is HIPAA compliant:*** "The authorization also contains all the core elements that are required to be HIPAA compliant."
    - **Acceptance Statement:** Will you be able to accept this authorization since your patient did sign this one?"

## COPY SERVICE AND PROCESS TIME
- **"Do you use a copy service?"**

    - ***If yes:***
        - "What copy service do you use?"
        - "When does the copy service copy records?"

- o "When will my chart be ready for copy?"

- ▪ ***If no:***
  - o "When will you be able to fax the records for your patient back to our toll free fax number?"
  - o If records can't be faxed: "When will you be mailing records?"

## FEES

- ❑ Negotiate Payment amount
  - ▪ **Telepro:** "These records are needed to complete the data collection on your patient for this study . Will $10 cover your copying costs?"
  - ▪ **IF FACILITY ADVISES OF DIFFERENT AMOUNT**:
    - o "We only need records from (DATES OF SERVICE NEEDED). Can you tell me how many pages are in the chart for this time period?"
    - o If *OVER* the Fee Limit: I'm only authorized to pay up to $10.Will you be able to accept this amount*?"*
      - • *If yes:* Continue to "Payment Method".
      - • *If no:* "I will have to obtain approval before submitting. If this payment is approved, who should the check be made payable to?"
  - ▪ **IF FACILITY ADVISES THEY WILL NEED TO SEND A BILL***:* "Please call me as soon as you're able to do a page count and determine the fee since I do have a limit as to how much I can pay.*"*

- ❑ Payment Method
  - ▪ **"Can I pay by credit card?"**
    - o ***If yes:***
      - • ***Prepayment is needed:*** "Let me give you our credit card number."
      - • ***Fee is Undetermined:*** "Please call me as soon as the fee is determined so that I can give you our credit card information"
    - o ***If NO:***
      - • *"*Who should the check be made payable to?"

## CLOSING REMARKS
"Thank you for your help today (clerk's name). Have a nice day!"

## GUIDELINES AND SCRIPT FOR MESSAGES
"This message is for the person that handles release of medical records. This is (YOUR NAME) with (the Healthy Communities Study). I'm calling regarding a request for medical records for your patient (PATIENT NAME). Please return my call at (800#) between the hours of 8:00am to 5:00pm CST. When calling please refer to case # (CASE#) "
**********Make sure you do not leave the social security number, date of birth, amount of policy or specific record information even if recording requests the information be left*********