CLUSTER SELECTION FOR IN-DEPTH PROCESS MAPPING

1. PURPOSE

In order to better understand the way in which MDA is delivered in each cluster, process mapping will take place in all clusters following each round of MDA. In most clusters, this will require the completion of short routine worksheets, called "workflow tracking" worksheets. In six clusters, however, implementation science teams will undertake in-depth process mapping. This document describes the process by which DeWorm3 implementation science teams will select the six clusters in which to conduct in-depth process mapping activities.

2. INTENDED USERS

Implementation science teams and selected process mapping leads.

3. RESPONSIBILITIES

All DeWorm3 implementation science teams should understand and follow this SOP during process mapping activities. It is the responsibility of the site's Principal Investigator (PI) to ensure that all study staff and implementation science teams comply with this SOP.

4. DEFINITIONS

4.1. **Process mapping:** Process mapping is a systems analysis approach to identifying the flow of inputs required to achieve an optimal output, such as high treatment coverage. Process mapping generates a systems-wide view of complex, interdependent components that can contribute to effective MDA programs with high coverage. Process mapping helps build a shared understanding of how work is carried out and promotes common organizational values and goals.

4.2. **Implementation units:** The administrative boundaries used by Ministries of Health or Education to identify geographic areas for conducting MDA for STH. This should be the level at which government treatment coverage data are historically aggregated and available.

5. REQUIRED MATERIALS

5.1. Treatment coverage reports from the last round of school-age-targeted MDA for STH, prior to the launch of DeWorm3. These data should be at the lowest implementation unit possible.

6. PROCEDURE

6.1. Six clusters (four intervention clusters and two control clusters) will be selected to participate in in-depth process mapping for the three years of DeWorm3 intervention delivery.

6.2. At study baseline, the site implementation science teams should work with the Ministry of Health (MOH) and/or the Ministry of Education (MOE) to identify the most recent round of school-age-targeted STH treatment coverage data in the implementation units geographically congruent with the DeWorm3 site. These implementation units are referred to as historical units, as they are the units that were previously used in program planning prior to DeWorm3.

    a. Treatment coverage would ideally be validated; however, if validated treatment coverage estimates are not available, then routine reported coverage is sufficient. The implementation science point person should record which coverage estimates are reported and which are validated.

    b. STH treatment coverage data that were collected two or more years ago cannot be considered.

Sites in which DeWorm3 clusters are not aligned geographically with historical units

6.3. Historical units should be divided into two lists: (1) those that achieved high treatment coverage during the most recent round of school-age-targeted MDA for STH and (2) those that achieved low treatment coverage during the most recent round of school-age-targeted MDA for STH.

a. Historical units that achieved at least 80% treatment coverage should be classified as "high treatment coverage" historical units.

b. Historical units that achieved 60% or lower treatment coverage should be classified as "low treatment coverage" historical units.

c. Historical units that achieved between 61-79% coverage should not be included in either list.

d. Historical units for which treatment coverage data were not available should be classified as 'no data,' and should not be included in either list.

e. It is possible that school-age-targeted STH treatment coverage estimates are not validated and thus may be artificially high. If this is the case and there are no clusters with less than 60% treatment coverage, then the site should stratify implementation units according to the upper 10th percentile and the lower 10th percentile of reported treatment coverage estimates to derive "high" and "low" historical coverage lists, respectively.

6.4. Each historical unit should be assigned an integer value, thus creating a sampling list. The list should be as long as the number of historical units (for example: if there are 15 historical units, then the sampling list should contain numbers 1 through 15).

a. These numbers should be assigned <u>separately</u> for each of the two lists: high treatment coverage units and low treatment coverage units.

6.5. The integer values for high treatment coverage units should be written on squares of paper and placed in an opaque box. A third-party individual should shake the box and randomly draw three squares of paper out of the box. Additional squares of paper may need to be drawn if no intervention clusters are drawn, or likewise if no control clusters are drawn.

a. The same process should be completed for low treatment coverage units.

6.6. MOH or MOE implementation units may not perfectly align with DeWorm3 clusters. Therefore, <u>the four DeWorm3 intervention clusters and two control clusters that best overlap geographically with the randomly chosen implementation units should be selected for the in-depth process mapping activity</u>.

a. If there are no <u>intervention</u> clusters that overlap well with a randomly selected implementation unit, then another implementation unit from the respective sampling list should be randomly drawn, until congruency is reached. The goal is to identify two <u>intervention</u> clusters in which STH treatment coverage was previously high, and two <u>intervention</u> clusters in which STH treatment coverage was previously low.

b. If there are no <u>control</u> clusters that overlap well with a randomly selected implementation unit, then another implementation unit from the respective list should be randomly drawn, until congruency is reached. The goal is to identify one <u>control</u> cluster in which STH treatment coverage was previously high, and one <u>control</u> cluster in which STH treatment coverage was previously low.

c. Implementation science team leaders should record how many random selections were necessary in order to attain congruency between MOH implementation units and DeWorm3 clusters in the desired ratio, and provide it by email in a status update to the core DeWorm3 team.

Sites in which DeWorm3 clusters align perfectly with historical implementation units

6.7. Clusters should be divided into two lists: (1) those that achieved high treatment coverage during the last round of school-age-targeted MDA for STH and (2) those that

achieved low treatment coverage during the last round of school-age-targeted MDA.

    f. Clusters that achieved at least 80% treatment coverage should be classified as "high treatment coverage" clusters.

    g. Clusters that achieved 60% or lower treatment coverage should be classified as "low treatment coverage" clusters.

    h. Clusters that achieved between 61-79% coverage should not be included in either list.

    i. Clusters for which treatment coverage data were not available should be classified as "no data', and should not be included in either list.

    j. It is possible that school-age-targeted STH treatment coverage estimates are not validated and thus may be artificially high. If this is the case and there are no clusters with less than 60% treatment coverage, then the site should stratify implementation units according to the upper 10th percentile and the lower 10th percentile of reported treatment coverage estimates to derive "high" and "low" historical coverage lists, respectively.

6.8. Each cluster should be assigned an integer value, thus creating a sampling list. The list should be as long as the number of clusters (for example: if there are 15 clusters that were high treatment coverage, then the sampling list should contain numbers 1 through 15).

    a. These numbers should be assigned <u>separately</u> for each of the two lists: high treatment coverage units and low treatment coverage units.

6.9. The integer values for high treatment coverage clusters should be written on squares of paper and placed in an opaque box. A third-party individual should shake the box and randomly draw three squares of paper out of the box. Additional squares of paper may need to be drawn if no intervention clusters are drawn, or likewise if no control clusters are drawn.

    a. The same process should be completed for low treatment coverage clusters.

General

6.10. In-depth process mapping will be conducted in each of these six clusters annually for three years. See DeWorm3_SOP 810. *Conducting in-depth process mapping* for more details.

6.11. If STH treatment coverage data from the campaign prior is not available, or there is poor congruence with randomly selected implementation units and DeWorm3 study clusters, the implementation science lead should contact the DeWorm3 core implementation science team via Arianna Means (aerubin@u.washington.edu).