**Concept Note:**

**The Rationale and Recommendation for C4D Indicators in National Surveys**

***DRAFT***

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# **INTRODUCTION**

Over the past twenty years there has been an increasing focus on strengthening the evidence base of communication for development (C4D) interventions. This has been reflected in greater emphasis on research, monitoring and evaluation components of C4D programming. Over the past six years evidence and measurement to inform design, implementationand evaluation of C4D programmes at the country level has become one of the priorities of the C4D Section at UNICEF HQ. To that end, since 2010 the C4D Section has embarked on a series of initiatives aimed achieving this objective.

Throughout the past three years the C4D Section has held discussions with the Statistical and Monitoring Systems Section at UNICEF HQ with a view to mine the wealth of data provided by the Multiple Indicators Cluster Survey (MICS)on social, behavioural and communication dimensions of the survey across different sectors – Health, HIV and AIDS, Water, sanitation and hygiene, Nutrition, Education, Child protection, and Social inclusion. Given this background, this concept note aims to discuss how country offices and practitioners can utilize the available MICS data, in line with the Demographic and Health Survey (DHS) data to evaluate C4D interventions and related programmes and inform the design of improved programmes that prioritize equality and inclusion based on empirical evidence. Specifically, this concept note aims to: (1) discuss the utility of the national survey data through the lens of the C4D framework; (2) demonstrate a method to categorize the survey indicators according to programme sectors, the C4D framework, and the Social Ecological Model; (3) outline potential statistical analyses to assess the baseline situation, test the relations between C4D efforts and behavioural and social changes, and inform other qualitative research inquiries; and (4) suggest new indicators that can be added into the survey questionnaires to inform more comprehensive evaluation of C4D programmes in the field.

The document consists of six sections, in the following sequence:

1. The framework of Communication for Development (C4D)
2. Brief overview of the Multiple Indicators Cluster Surveys (MICS) and the Demographic and Health Survey (DHS)
3. Method of mapping the survey indicators through the C4D framework
4. Results of mapping the survey indicators
5. Summary of MICS4 and DHS6, and statistical analysis plans
6. Recommendation of new C4D indicators in the national surveys

**1. The Framework of Communication for Development (C4D)**

C4D is defined as a “systematic, planned and evidence based strategic process to promote positive and measurable behaviour and social change that is intrinsically linked to programme elements; uses consultation and participation of children, families, communities and networks, and privileges local contexts; and relies on a mix of communication tools, channels and approaches.”[[1]](#footnote-2) C4D is, essentially, a process of sharing ideas, information and knowledge using a range of communication tools and approaches that contribute to empowering individuals and communities to take informed actions to improve their lives.

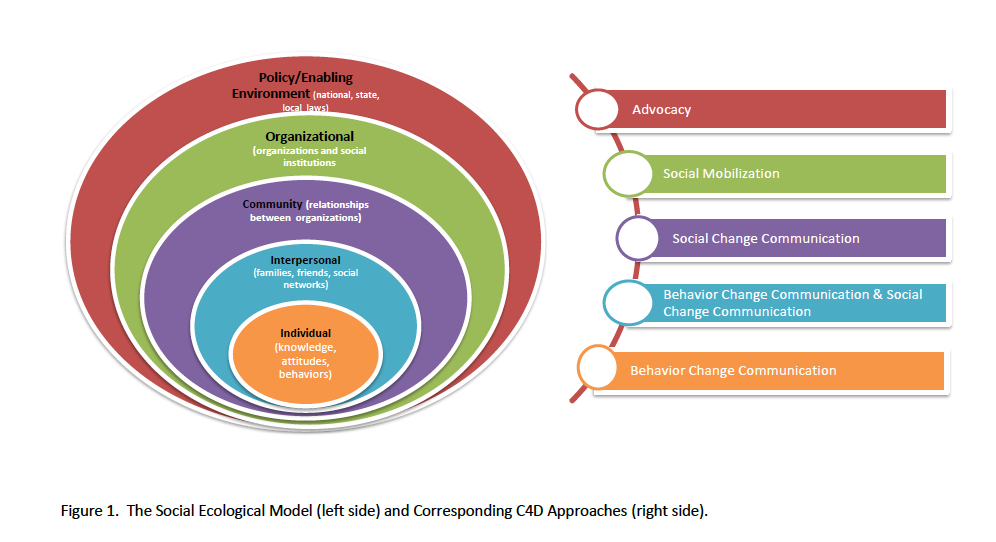
UNICEF C4D’s design, implementation and monitoring and evaluation framework uses the *Social Ecological Model[[2]](#footnote-3)*to identify opportunities and entry points for interventions that promote individual behavioural and broader social changes, and linkbehavioural and social change strategies with efforts to strengthen environmental and community support and participation.

The underlying assumption of the Social Ecological Modelis that individual behaviour and collective action are shaped by the social structures and environment (including regulation and policy as well as physical environments) in which people as individuals and as a society find themselves, and are governed by social norms and cultural beliefs within formal and informal networks of interpersonal relations. Specifically, the model distinguishes five aspects of behavioural determinants: (1) individual- level determinants, including literacy, knowledge, cognitive antecedents (e.g., beliefs, attitudes, and perceived self-efficacy toward specific behaviours), behaviour routines, etc.; (2) interpersonal-level determinants, including social networks, social support groups, social norms, peer influence, etc.; (3) community-level determinants, including community norms, community capacity, community integration, etc.; (4) organizational-level determinants, including organizational capacity, organizational relationships, organizational structures, etc.; and (5) policy and environmental-level determinants, including national and local policies and legislations, environmental constructions, public safety, etc.

The principal perspective in a Social Ecological Model is that when multiple levels of influence (policy, legislation, organizational, community, interpersonal, individual) are addressed at the same time or in a synergistic manner, behaviour and social changes are more likely to be successful and sustained. Applying theSocial Ecological Model*,* UNICEF C4D uses a combination of four key approaches in promoting behaviour and social changes in terms of impact, scale, and sustainability. The approaches are: 1) Behaviour Change Communication (BCC); 2) Communication for Social Change (CFSC); 3) Social Mobilization; and 4) Advocacy. Together, these four strategic areas aim to shift attitudes around social norms at the individual, household, community, institutional, and societal levels in order to promote cultural behaviours and collective practices consistent with a complete human rights approach.

Behaviourand social change interventions at the various levels are interrelated and are assumed to reinforce one another. This model also emphasizes that intervention programmes should be behaviour-specific and takes into account the varying time horizons needed to address different determinants of behaviour and social change. Ecological model points to complex interactions of personal, community and social characteristics that are difficult to manipulate experimentally, thus requiring multi-level analytic approaches including both qualitative and quantitative methods. Figure 1 depicts theSocial Ecological Modeland corresponding C4D approaches. [[3]](#footnote-4)

**Figure 1. The Social Ecological Model and Corresponding C4D Approaches**



The four intervention approaches are expected to produce results at output, outcome, and impact levels by measuringconcepts at the different levels of influence. The C4D behaviourand social changes and their corresponding expected outcomes occur at the following analytical levels: [[4]](#footnote-5)

*Societal/Policy/Legislation*: This level of analysis captures areas of C4D interventions related to advocacy for change such as developing media campaigns that promote public awareness regarding certain issues and practices, and developing and enforcing state and local policies that can increase beneficial behaviours through communication and dialogue. Indicators at this level provide information on outcomes for an “enabling environment”(including lobbying, negotiation and persuasion of key decision makers during the policy advocacy and reform process) of C4D interventions. Relevant theories on this level include theories of community organizing and development and the agenda setting theory.

*Organizational/Institutional*: This level of analysis consists of C4D interventions to change the policies, practices, and physical environment of an organization (e.g., workplace, health care setting, school/child care, faith organization, or another type of community organization) to support behaviourand social change. Indicators at this level provide information on organizational capacity building outcomes of C4D interventions, including improvement in interpersonal communication skills of service providers (i.e., community health workers, teachers, counselors, religious leaders) in providing persuasive information and promoting new social norms around beneficial behaviours and practices.Relevant theories on this level include theories of community organizing and development and theories of organizational change.

*Community empowerment/Collective capacity*: Community is defined as an agent of change by coordinating the efforts of all members of a community (i.e., organizations, community leaders, and citizens) to bring about the desired results in beneficial behaviours and practices. Indicators at this level refer to outcomes (i.e., changes in policy and programmes reflecting communities’ demands, changes incommunity norms, number and types of civil society associations and function, etc.) and processes[[5]](#footnote-6) (i.e., community empowerment, social mobilization, participatory communication, etc.) in community change. Relevant theories on this level include theories of community organizing and community building, the theory of diffusion of innovations, and social marketing.

*Interpersonal*: Recognizing that groups provide social identity and support, interpersonal interventions target groups, such as family members or peers to effectively communicate and persuade members of their informal networks to change their behaviour, attitude, and perceptions in line with norms and practices that can improve their quality of life. Indicators at this level provide information on the behaviour and social change outcomes of C4D interventions within the informal networks of social interaction. Relevant theories on this level include the social cognitive theory, the theory of diffusion of innovations, and theories of social network and social support.

*Individual:* Individual-level analysis focuses on individual changes in behavioural antecedents and behavioural outcomes. C4D interventions at this level often assume individuals behave rationally based on informed judgments. Indicators at this level provide information on literacy, knowledge, behavioural beliefs, skills, perceived self-efficacy, and so on. Relevant theories on this level include the health belief model, the theory of reasoned action, the theory of planned behavior, the integrated behavior model, and the transtheoretical model.

Indicators identified in these analyses can be assessed using both qualitative and quantitative methods. For specific health behaviours or practices, different indicators from different influence levels can be identified and mapped from the MICS and DHS survey data. Table 1 depicts a conceptual framework for selecting a limited set of behaviour and social change dimensions and their relevant theories and concepts [[6]](#footnote-7) for C4D’s priority programming in sectors of Health, HIV and AIDS, Water, sanitation and hygiene, Nutrition, Education, Child protection, and Social inclusion.

**Table 1. Social Ecological Model, Behaviour and Social Change Theories, and C4D-related Concepts and Outcomes**

|  |  |  |  |
| --- | --- | --- | --- |
| **Intervention Approaches** | **Levels of Influences and focus**6 | **Relevant Theories[[7]](#footnote-8)** | **C4D-expected Outcomes[[8]](#footnote-9)** |
| Advocacy | Policy and Environment  Focus on:   * Policy agenda * Media agenda * Public agenda | * Theories of Community Organizing and Development * Agenda Setting Theory | 1. Agenda shifts in mindset of policy makers through advocacy efforts on the part of media and civil societies for leading to reforms in policies, laws, and regulations that contribute to access and utilization of services, and adoption of safe and protective individual behaviours and collective practices.  2. Agenda shifts in media through communication on the part of government and advocacy efforts on the part of civil societies.  3. Agenda shifts in the public through promotion of transparency and amplifying right holders’ voice through monitoring and communication mechanisms.  4. Acceptance of new social norms and de-legitimization of harmful social norms in behaviour and practices through transparent enforcement of policies through communication and advocacy efforts.  5. Elimination of barriers to behavioural and social change through mobilizing public support for particular issues at national scale. |
| Social Mobilization | Organizational/Institutional  Focus on:   * Accessibility of services * Quality of services * Provision of supplies * Organizational change   and accountability | * Theories of Organizational Change * Theories of Community Organizing and Development | 1. Increased accessibility of basic and essential services (i.e., health, education, legal protection, etc.) to all layers of the population as well as special services for specific groups of population (i.e., people with disabilities, adolescent girls and boys, etc.).  2. Improved quality of services including organization’s service infrastructures and client-provider interaction.  3. Provision of supplies to support changes in behaviours and adoption of safe practices (i.e., insecticide nets, ORS, school books, etc.).  4. Improved accountability of organizations including transparent information-sharing, participatory decision-making involving representatives from all layers of the population, effective mechanisms for feedback and complaints, improved staff competencies and attitudes, and consistent monitoring and evaluation. [[9]](#footnote-10) |
| Communication for Social Change (CFSC) | Community  Focus on:   * Community capacity * Social capital * Social norms * Participation and equity * Program adoption/ maintenance/sustainability * Community accountability | * Community Organizing and Community Building * Diffusion of Innovations * Social Marketing | 1. Strengthened community capacity to advocate for change by organizing and mobilizing community members through participatory assessments and dialogue and strong leadership.  2. Reinforced social cohesion by building alliances and partnerships, facilitating information sharing and dialogue, and equitable involvement of groups such as women, people with disabilities, adolescents/youth, and different ethnic/religious groups.  3. Acceptance of new social norms and de-legitimization of incorrect and discriminatory assumptions and harmful norms.  4. Expanded and sustained community outreach program that promotes life-saving and protective behaviours.  5. Improved accountability of community programmes including transparent information-sharing, participatory decision-making involving representatives from all layers of the community members, effective mechanisms for feedback and complaints, improved community workers’ competencies and attitudes, and consistent monitoring and evaluation. |
| Behaviour Change Communication (BCC) & Communication for Social Change  (CFSC) | Interpersonal  Focus on:   * Observational learning * Environmental facilitation * Social modeling * Peer education * Social support * Social capital * Social norms | * Social Cognitive Theory (SCT) * Social Networks and Social Support * Diffusion of Innovations | 1. Enhanced interpersonal interactions and support within informal networks of relations (i.e., family, friends, peers, neighbors) that can exert positive normative pressures to assist adopting a behaviour by providing new meanings to specific courses of action.  2. Expanded peer education within school, after-school program, neighborhood, or virtual online community that can teach new knowledge, positive norms, skills, and exchange feedback to assist adopting a behaviour.  3. Strengthened informal (i.e., family, friends, peers, neighbors) and formal (i.e., colleagues, leaders, consultants) social networks that can provide informational, instrumental, emotional, and appraisal support to assist adopting a behavior. |
| Behaviour Change Communication (BCC) | Individual  Focus on:   * Awareness * Knowledge * Perceived susceptibility * Perceived severity * Benefits/Costs * Cues to action * Attitude * Subjective norms * Perceived control and Self-efficacy * Behavioural intention * Skills * Behaviour habits | * Health Belief Model (HBM) * Theory of Reasoned Action (TRA) /Theory of Planned Behavior (TPB) /The Integrated Behavior Model (IBM) * The Transtheoretical Model (TTM) | 1. Enhanced awareness, knowledge, perceived susceptibility, perceived severity,attitudes, and skills needed to change harmful behaviours or to adopt beneficial behaviours.  2. Enhanced intention to change based on perceptions of self-efficacy, and costs and benefits (both tangible, and with respect to social norms and beliefs) of adopting a particular behaviour.  3. Changed perceived norms to support adopting beneficial behaviours and to suspend harmful behaviours.  4. Actual adoption of an intended behaviour. |

This conceptual framework outlines all the potential aspects for programme design, implementation, and monitoring and evaluation according to the UNICEF C4D approach. To mine the national survey data through the lens of the C4D framework, this table can be used as a background reference.

**II. Brief Overview of the Two National Surveys**

**Multiple Indicators Cluster Surveys (MICS)[[10]](#footnote-11)**

MICS is an international household survey programme developed by UNICEF. MICS data are collected during face-to-face interviews in nationally representative samples of households, generating one of the world’s largest sources of statistical information on children and women.Since the mid-1990s, MICS has enabled more than 100 countries to produce statistically sound and internationally comparable estimates of a range of indicators in the areas of health, education, child protection and HIV/AIDS.MICS provides data at the national level, which can also be disaggregated by various geographical, social and demographic characteristics.

Since the 1990s, MICS has evolved into a reliable data collection instrument thatprovides the evidence-based information countries need to implement policies andfine-tune programmes to benefit their populations. In addition to becoming theprimary data source on children for many countries around the world, MICS datahave also been instrumental in the development of new policies and strategies,identifying vulnerable groups, and influencing the public opinion on children’s andwomen’s issues.

MICS data provide a large resource pool for extracting analytical indicators from different social ecological influence levels based the C4D framework for evaluation, offering one of the largest singlesources for final MDG reporting, MoRES, and for monitoring commitments made toward *A Promise Renewed*.

Three model questionnaires have been designed for MICS: (1) the Household Questionnaire, (2) the Questionnaire for Individual Women and (3) the Questionnaire for Care-givers of Children Under Five. These questionnaires include the Core Modules, shown below in Capital Letters in Table 2. Countries are also provided with a number of additional and optional modules. MICS4 is the most updated available dataset from the UNICEF MICS website.

**Table 2. MICS Model Questionnaire**

|  |  |  |
| --- | --- | --- |
| Household Questionnaire | Questionnaire for Individual Women | Questionnaire for Care-givers of Children Under Five |
| **Household Information Panel**  Extended **Household Listing**  **Education**  **Water and Sanitation**  *Additional***Household Characteristics** + *Security of Tenure and Durability of Housing*  Insecticide-treated Nets with *Source and Cost of Supplies for Insecticide-treated Mosquito Nets*  Children Orphaned and Made Vulnerable by HIV/AIDS  **Child Labour**  *Child Discipline*  *Disability*  Maternal Mortality  **Salt Iodization** | **Women’s Information Panel**  **Child Mortality**  **Tetanus Toxoid**  **Maternal and Newborn Health** with Intermittent Preventive Treatment for Pregnant Women  **Marriage/Union** + Polygyny  *Security of Tenure*  **Contraception***and Unmet Need*  Female Genital Mutilation/Cutting  *Attitudes Toward Domestic Violence*  Sexual Behaviour  HIV/AIDS | Under-Five Child Information Panel  **Birth Registration and Early Learning**  *Child Development*  **Vitamin A**  **Breastfeeding**  **Care of Illness** + *Source and Cost of Supplies for ORS and Antibiotics*  Malaria + *Source and Cost of Supplies for Antimalarials*  **Immunization**  Anthropometry |

**Demographic and Health Survey (DHS)[[11]](#footnote-12)**

Demographic and Health Surveys (DHS) are nationally-representative household surveys that provide data for a wide range of monitoring and impact evaluation indicators in the areas of population, health, and nutrition. Since 1984, the Monitoring and Evaluation to Assess and Use Results Demographic and Health Surveys (MEASURE DHS) project has provided technical assistance to more than 260 surveys in over 90 countries, advancing global understanding of health and population trends in developing countries.The MEASURE DHS project is funded by the U.S. Agency for International Development (USAID) and implemented by ICF International. There are two main types of DHS surveys:

* Standard DHS surveys have large sample sizes (usually between 5,000 and 30,000 households) and typically are conducted about every 5 years, to allow comparisons over time.
* Interim DHS surveys focus on the collection of information on key performance monitoring indicators but may not include data for all impact evaluation measures (such as mortality rates). These surveys are conducted between rounds of DHS surveys and have shorter questionnaires than DHS surveys. Although nationally representative, these surveys generally have smaller samples than standard DHS surveys.

DHS surveys are designed to collect data on marriage, fertility, family planning, reproductive health, child health, HIV/AIDS, etc. Due to the subject matter of the survey, women of reproductive age (15–49) are the focus. Three model questionnaires have been developed for DHS: (1) the Household Questionnaire, (2) the Women’s Questionnaire, and (3) the Men’s questionnaire. These questionnaires include the following modules, shown below in Table 3. Countries are also provided with a number of additional and optional modules. DHS6 is the most updated available dataset from the MEASURE DHS website.

**Table 3. DHS Model Questionnaire**

|  |  |  |
| --- | --- | --- |
| Household Questionnaire | Questionnaire for Individual Women | Questionnaire for Individual Men |
| Household Information Panel  Extended Household Information  Education  Water and Sanitation  Household Characteristics  Insecticide-treated Nets with Sourceand Cost of Supplies for Insecticide-treated Mosquito Nets  Salt Iodization  Weight, Height, and Hemoglobin Measurement for Children Age 0-5  Weight, Height, and Hemoglobin Measurement and HIV Testing for Women Age 15-49  Weight, Height, and Hemoglobin Measurement and HIV Testing for Men Age 15-49 | Women’s Information Panel  Reproduction  Child Mortality  Contraception  Pregnancy and Postnatal Care  Tetanus Toxoid  Child Immunization, Health, and  Nutrition  Marriage and Sexual Activity  Fertility Preferences  Employment, Gender Roles, and Empowerment  Attitudes Toward Domestic Violence  HIV/AIDS  Other Health Issues | Men’s Information Panel  Reproduction  Child Mortality  Contraception  Marriage and Sexual Activity  Fertility Preferences  Employment and Gender Roles  Attitudes Toward Domestic Violence  HIV/AIDS  Other Health Issues |

Another widely utilized survey is the Knowledge, Attitude, and Practice (KAP) survey[[12]](#footnote-13). The KAP survey tradition was first born in the field of family planning and population studies in the 1950s. KAP surveys are designed to gather information about a variety of socialissues, including questions about what respondents know about the issue, what they think about people with the specific issue or about the social system responding to the issue, and what they actually do with regard to seeking information or taking action towards the issue. KAP surveys continue to be widely used to gain information on specific information and care-seeking practices and are primarily used for evaluating public health, education, and social policyprograms; however, over the years some researchers have criticized KAP surveys for taking for granted that the data provided offers accurate information about knowledge, attitudes, and practices that can be used for programme planning purposes. [[13]](#footnote-14)[[14]](#footnote-15)[[15]](#footnote-16) Without a quality guideline for conducting rigorous KAP surveys in resource-limited settings, many KAP surveys have been conducted poorly and may provide inaccurate implications. A good KAP survey may provide preliminary insights when following a good guideline, such as “A guide to develop knowledge, attitude and practice survey” provided by the World Health Organization. [[16]](#footnote-17)

Given the narrow focus and varied quality of individual KAP surveys, different from MICS and DHS, there are no standard KAP surveys conducted across countries systematically. Thus in this concept note we use MICS and DHS for mapping the C4D indicators, and use KAP as a background and reference survey method for suggesting new C4D indicators.

**III. Method of Mapping Survey Indicators through the C4D Framework**

To answer the question of how to utilize the MICS and DHS data to inform the design, monitoring, and evaluation of C4D programmes, the first step is to map all available survey indicators through the C4D framework. The method of mapping survey indicators takes two processes of classification.

**Topic Areas**

The first process is to review C4D indicators in lens of behavioural and social change focuses, for example, in topic areas of HIV/AIDS, child protection, nutrition, and so on. The purpose of this classification is to illustrate the number of indicators assigned to each topic area. Table 4 shows the topic areas covered in MICS4 and DHS6 questionnaires. The full list of topic areas with classified indicators can be found in Appendix 1 (MICS4) and Appendix 2 (DHS6).

**Table 4. Topics Covered in MICS4 and DHS6 Questionnaires**

|  |  |  |  |
| --- | --- | --- | --- |
| MICS4 Questionnaire | Example Indicator | DHS6 Questionnaire | Example Indicator |
| - Mortality  - Nutrition  - Child health  - Water and sanitation  - Reproductive health  - Child development  - Literacy and education  - Child protection  - HIV/AIDS, sexual behaviour, and orphans  - Access to mass media and use of information/communication technology  - Subjective well-being  - Tobacco and alcohol use | \*Under-five mortality rate  \*Children ever breastfed  \*Polio immunization coverage  \*Availability of soap  \*Contraceptive prevalence rate  \*Support for learning  \*School readiness  \*Violent discipline  \*Sex with non-regular partners  \*Exposure to mass media  \*Life satisfaction  \*Smoking before age 15 | - Mortality  - Maternal and child health  - Water and sanitation  - Nuptiality  - Reproductive health  - Contraception  - HIV/AIDS/STDs and sexual  behaviour  - Employment and gender roles  - Use of tobacco  - Media access and media use | \* Early childhood mortality rates  \* Antenatal care  \* Place for handwashing  \* Current marital states  \* Children ever born and living  \* Ever use of contraceptive methods  \* HIV/AIDS prevention knowledge  \* Gender power in decision-making  \* Smoke tobacco  \* Exposure to mass media |

**The Social Ecological Model**

The second process is to classify indicators into the five influence levels of the Social Ecological Model discussed in the previous section. For outcome indicators that are results of all levels of influence, we labeled them “societal.” For instance, the indicator of infant mortality ratereflects influences from all social ecological levels, thus it was classified as “societal.” The full list of influence levels with classified indicators can be found in Appendix 1 and 2. The purpose of this classification is to illustrate which influence levels of C4D programs can be captured and analyzed through MICS and DHS.

Through systematic classification of survey indicators, the next section provides the results that illustrate to what extent the current survey data can facilitate evaluations of C4D intervention programmes in different countries, and what crucial indicators need to be added into future survey questionnaires.

**IV. Results of the Mapping**

**MICS4 Results**

All indicators (N=130) from the MICS4 dataset were coded. The first process of classification showed that topic areas of child health, HIV/AIDS and sexual behaviour, and nutrition have the most number of indicators, whereas areas of subjective well-being, access to media, and tobacco and alcohol use have the least number of indicators. Figure 2 depicts the number of C4D indicators classified in each topic area.

With regard to the second process, the categorization of social ecological influence levels, there were 85 indicators coded. Indicators on the societal level were not coded. In total, there are 71 individual-level indicators, 7 community-level indicators, 3 organizational/institutional-level indicators, and 7 environmental/policy-level indicators. Specifically, 4 indicators fall into more than one category. The 7 environmental/policy-level indicators all refer to household environments, such as *place for handwashing* and *availability of soap* at home. There is no interpersonal-level or policy-level indicator identified in the MICS4 dataset.

Among the 71 individual-level indicators, 12 indicators address behavioural antecedents that can be changed by C4D programmes:

- 5 indicators are on **knowledge**, including comprehensive knowledge about HIV prevention, HIV prevention among young people, mother-to-child transmission of HIV, where to be tested for HIV, and knowledge about female genital mutilation/cutting (FGM/C).

* 5 indicators are on **attitude**, includingapproval for FGM/C, attitude towards domestic violence, accepting attitude towards people living with HIV, and belief in physical punishment.
* 2 indicatorsare on behavioural **intention**: the *unmet need*, which indicates the number of women aged 15-49 years who are currently married or in union who are fecund and want to space their births or limit the number of children they have and who are not currently using contraception;

the *desire for last birth,* which indicates the number of women with a live birth in the 2 years preceding date of interview who wanted to have that baby, who wanted to have baby in the future, and who wanted to wait.

Table 5a summarizes the C4D indicators according to the Social Ecological Model.

**Table 5a. C4D Indicator Categorization from MICS4 according to the Social Ecological Model**

|  |  |  |  |
| --- | --- | --- | --- |
| Individual | 71 | Knowledge | 5 |
|  | Attitude | 5 |
| Intention | 2 |
| Interpersonal | **0** | | |
| Community | 7 | | |
| Organizational/Institutional | 3 | | |
| Environmental/ Policy | 7/0 | | |

**DHS6 Results**

Indicators (N=90) from the DHS6 dataset were coded. The first process of classification showed that topic areas of maternal and child health, contraception, and HIV/AIDS/STDs and sexual behaviour have the most number of indicators, whereas areas of employment and gender roles, use of tobacco, and media access and media use have the least number of indicators. Figure 3 depicts the number of C4D indicators classified in each topic area.

With regard to the second process, the categorization of social ecological influence levels, there were 71 indicators coded. Indicators on the societal level were not coded. In total, there are 60 individual-level indicators, 2 interpersonal-level indicators, 4 community-level indicators, and 7 environmental/policy-level indicators. Specifically, 2 indicators fall into more than one category. The 7 environmental/policy-level indicators all refer to household environments, such as *place for handwashing* and *media equipment at home*. There is no indicator on organizational/institutional level.

Among the 60 individual-level indicators, 27 indicators address behavioural antecedents that can be changed by C4D programmes:

- 10 indicators are on **knowledge**, including knowledge of contraceptive methods, fertile period, HIV/AIDS prevention, where to access family planning, where to get condoms, and where to get HIV test, etc.;

* 7 indicators are on **attitude**, includingattitude towards contraception use and family planning, accepting attitudetowards people living with HIV, and attitude towards domestic violence, etc.;
* 4 indicator areon behavioural**intention**, among which 3 indicators are about fertility needs and 1 indicator is about contraception use in the future;
* 3 indicators are on **information source**, including information source of contraception, exposure to family planning messages, and HIV prevention information received from health workers.
* 2 indicators are on **interpersonal communication**, including discussion of family planning with husband and discussion of family planning with health workers.
* 1 indicator is on **behavioural control**, referring to external factors that influence people’s control of their own behaviours. In the survey, it refers to a set of questions asking women’s access to health care.

Table 5b summarizes the C4D indicators according to the Social Ecological Model.

**Table 5b. C4D Indicator Categorization from DHS6 according to the Social Ecological Model**

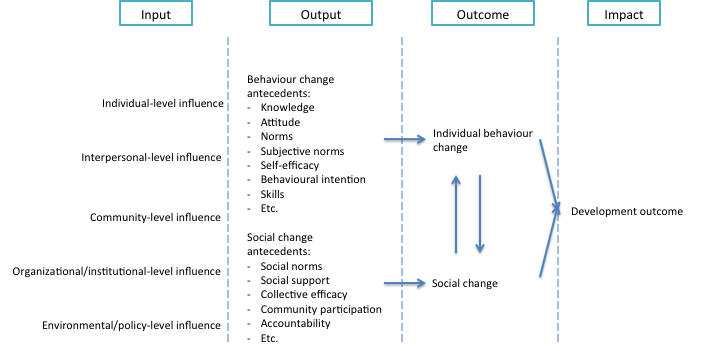
|  |  |  |  |
| --- | --- | --- | --- |
| Individual | 60 | Knowledge | 10 |
|  | Attitude | 7 |
| Intention | 4 |
| Information source | 3 |
| Interpersonal communication | 2 |
| Behavioural control | 1 |
| Interpersonal | 2 | | |
| Community | 4 | | |
| Organizational/Institutional | 0 | | |
| Environmental/ Policy | 7/0 | | |

**V. Summary of MICS4 and DHS6 and Statistical Analysis Plans**

Both MICS4 and DHS6 dataset focus on development outcomes, individual behaviours and their living conditions in the household. All indicators provide crucial information for directly assessing C4D outcomes and impacts; however, examined through the C4D framework, they do not provide enough information for evaluating the effectiveness of C4D intervention programmes, in other words, the relationships among C4D efforts on different influence levels, behaviour and social change antecedents, and behaviour and social changes. C4D programmes indifferent countries utilize a range of communication tools and approaches to share information and engage with people in local communities, thus it is essential to develop a succinct and precise set of indicators that can capture the nature of communication exposure to different levels of influence (e.g., media and campaign exposure to health-related information and policy in the past week, participation in community activities, interpersonal communication involving health information in the past week, actively seeking health information from various sources, etc.) and behaviour and social change antecedents, such as measurements developed based on those C4D-related concepts listed in Table 1. Comparing the two surveys, DHS6 may provide better datasets to evaluate C4D programmes, because it measures more behaviour and social change antecedents, such as interpersonal communication, behavioural control, and information seeking.

Conceptually, the C4D analytical model for the survey data consists of four components: (1) the input, as the C4D intervention programmes focusing on one or more levels of influence according to the Social Ecological Model; (2) the output, as changes in behaviour and social antecedents (i.e., knowledge, attitude, norms, and skills); (3) the outcome, as individual and social changes; and (4) the impact, as the development outcome. Figure 4 depicts the C4D analytical model for the survey data.

**Figure 4. The C4D Analytical Model for the Survey Data**



This model hypothesizes C4D inventions on different influence levels can generate individual behaviour change and social change directly or indirectly through theory-based behaviour and social change antecedents. Individual behaviour change and social change have a reciprocal relationship, and they together change the development outcome.

Accordingly, the following analysis plans may be applied:

1. Analyze the relations between sociodemographic variables and outputs/outcomes to illustrate which population sections are in most need of C4D intervention programmes.
2. Analyze the relations among C4D intervention indicators (i.e., indicators on different levels of influence), behaviour and social change antecedents, behavioural and social changes, and development outcomes.
3. Analyze the mediation effects of certain behavioural or social change indicators to examine the mechanisms through which C4D intervention programmes generate changes in development outcomes.
4. Analyze the moderation effects of sociodemographic variables to examine for which population sections C4D intervention programmes are most or least effective.

**VI. Recommendations**

Built on the current MICS4 and DHS6 dataset, future survey needs to increase the number of interpersonal-, community-, organizational/institutional-, and policy/environmental-level C4D indicators. Each social issue or health concern requires a unique section that includes all levels of C4D indicators in the national survey framework. This section aims to suggest a template of C4D indicators based on UNICEF’s refocus on equity, empowerment, and participatory communication, consistent with a complete human rights approach. [[17]](#footnote-18)

As discussed, the C4D framework addresses intervention approaches and social changes on both individual and societal levels. However, because the survey questionnaire is used for household surveys across different countries, indicators should be directed specifically at individuals, meaning survey questions should ask about individual’s thoughts, opinions, behaviours, and actions. In this sense, the five levels of influence should be reflected from an individual perspective, recommendations on indicators are listed as the following:

* *Policy/Environmental*: Add indicators that measure people’s perceptions about policy agenda, media agenda, and public agenda, along with perceived facilitating and constraining environmental factors.
* *Organizational/Institutional*: Addindicators that measure specific outcomes of institutional changes, including service accessibility, perceived quality, trust in the system, unmet needs, and future requirements.
* *Community*: Add indicators that measure the extent and mechanisms of community participation so that the effort (dialogue and action) is inclusive of all community members. Based on the model of Communication for Social Change (CFSC),[[18]](#footnote-19)indicators include leadership, degree and equity of participation, information equity, collective self-efficacy, sense of ownership, social cohesion, social norms, and so on.
* *Interpersonal*: Add indicators that measure an individual’s social network and social support, including characteristics of social network and types of social support.[[19]](#footnote-20) Types of social support include emotional, instrumental, informational, and appraisal support.
* *Individual*: Add indicators that measure psychological characteristics related to specific social and health concerns, including awareness, knowledge, perceived susceptibility, perceived severity, benefits and costs, attitude, perceived subjective norm, perceived control and self-efficacy, behavioural intention, skills, and so on.

The template for a full set of suggested indicators is outlined in Table 6. All the questions and response scales need to be revised according to each social or health concern (i.e., health, nutrition, child protection, HIV/AIDS, education, and water and sanitation) andneed to be pre-tested in different convenient samples. In summary, the template recommends 6 indicators on the policy/environmental level, 6 indicators on the organizational/institutional level, 11 indicators on the community level, 4 indicators on the interpersonal level, and 8 indicators on the individual level.

**Table 6. C4D Indicators Recommendation for National Surveys**

|  |  |  |
| --- | --- | --- |
| ***Policy/Environmental (6 indicators)*** | | |
|  | **C4D Indicators** | **Example Survey Questions** |
| Policy agenda | 1. The extent to which the population (disaggregated by wealth quintile, residence, age, sex, ethnic/religious/minority background, and disability status) are aware of the national legislation/policy on *[the specific issue](i.e., health, nutrition, child protection, HIV/AIDS, education, and water and sanitation)*. | * How much are you aware of the national legislation/policy on *[the specific issue]*?   Response scale:  [Not at all aware -- Aware]  Note: “the national legislation/policy” can be replaced by specific legislation/policy names in specific countries. |
| Media agenda | 1. The extent to which the population (disaggregated by wealth quintile, residence, age, sex, ethnic/religious/minority background, and disability status) perceive the media provides enough information about the national legislation/policy on *[the specific issue]*. | * Does the media provide enough information about the national legislation/policy on *[the specific issue]*?   [Not at all enough -- Enough] |
| Public agenda | 1. The extent to which the population (disaggregated by wealth quintile, residence, age, sex, ethnic/religious/minority background, and disability status) perceive the general public is aware of the national legislation/policy on *[the specific issue]*. | * Are most people around you (or the general public) aware of the national legislation/policy on *[the specific issue]*?   [Not at all aware -- Aware] |
| Policy assessment | 1. The extent to which the population (disaggregated by wealth quintile, residence, age, sex, ethnic/religious/minority background, and disability status) perceive the national legislation/policy on *[the specific issue]* is adequate. | * Do you think the national legislation/policy on *[the specific issue]* is adequate?   [Not at all adequate -- Adequate] |
| Perceived barriers | 1. The extent to which the population (disaggregated by wealth quintile, residence, age, sex, ethnic/religious/minority background, and disability status) perceive changing the national legislation/policy on *[the specific issue]* is difficult. | * How difficult is it to change the national legislation/policy on *[the specific issue]*?   [Not at all difficult -- Extremely difficult] |
| Intervention exposure | 6. Proportion of population (disaggregated by wealth quintile, residence, age, sex, ethnic/religious/minority background, and disability status) who can recall health promotion activities regarding *[the specific issue]* at national, district, and local levels in the past 3 months. | * Can you recall any health promotion activities regarding *[the specific issue]* at the national/the district/the local level in the past 3 months?   [Yes, No] |
| ***Organizational/Institutional (7 indicators)*** | | |
|  | **C4D Indicators** | **Example Survey Questions** |
| Knowledge of organizational/institutional service | 1. Proportion of population (disaggregated by wealth quintile, residence, age, sex, ethnic/religious/minority background, and disability status) who have knowledge of where to access *[the specific issue]* facilities or outreach within 30 min or 5 km from their home. | * Do you know where to access *[the specific issue]* facilities or outreach within 30 min or 5 km from your home?   [Yes, No] |
| Participation in community-based communication intervention by community workers | 1. Proportion of population (disaggregated by wealth quintile, residence, age, sex, ethnic/religious/minority background, and disability status) who were reached by communication interventions (interactive theatre sessions, community dialogues, etc.) on *[the specific issue]* by trained community workers in the past 3 months. | * Did you attend any communication intervention (interactive theatre sessions, community dialogues, etc.) on *[the specific issue]* by trained community workers in the past 3 months?   [Yes, No] |
| Trust in system | 1. The extent to which the population (disaggregated by residence, wealth quintile, age, sex, ethnic/religious/minority background, and disability status) perceive that they can trust local community services regarding *[the specific issue]*. | * Do you trust local community services regarding your concerns and needs on *[the specific issue]*?   [Definitely cannot -- Definitely can] |
| Experiential assessment of received services | 1. The extent to which the population (disaggregated by residence, wealth quintile, age, sex, ethnic/religious/minority background, and disability status) perceive that they can obtain quality advice and guidance *at all times* regarding their concerns and needs on *[the specific issue]*. | * Can you obtain quality advice and guidance *at all times* regarding your concerns and needs on *[the specific issue]*?   [Definitely cannot -- Definitely can] |
| Experiential assessment of received services | 1. The extent to which the population (disaggregated by residence, wealth quintile, age, sex, ethnic/religious/minority background, and disability status) perceive that they have received emotional support*at all times* regarding their concerns and needs on *[the specific issue]* from community workers. | * Can you obtain emotional support from community workers *at all times* regarding your concerns and needs on *[the specific issue]*?   [Definitely cannot -- Definitely can] |
| Overall satisfaction | 1. The extent to which the population (disaggregated by residence, wealth quintile, age, sex, ethnic/religious/minority background, and disability status) feel satisfied by received services *at all times* regarding *[the specific issue]*. | * Are you satisfied by received services *at all times* regarding *[the specific issue]*?   [Not at all satisfied -- Extremely satisfied] |
| Accountability | 1. Proportion of population (disaggregated by wealth quintile, residence, age, sex, ethnic/religious/minority background, and disability status) feel they can submit feedback and complaint to the service provider and get timely responses regarding *[the specific issue].* | * Can you submit feedback and complaint to your service provider and get timely responses regarding *[the specific issue]?*   [Definitely cannot -- Definitely can] |
| ***Community (12 indicators)*** | | |
|  | **C4D Indicators** | **Example Survey Questions** |
| Community leadership | 1. Proportion of population (disaggregated by residence, wealth quintile, age, sex, ethnic/religious/minority background, and disability status) who actively led community activities or conversations that promote *[the specific issue]* through formal/informal networks in the past 6 months. | - Did you lead community activities or conversations that promote *[the specific issue]* through formal/informal networks in the past 6 months?  [Yes, No] |
| Information equity | 1. Proportion of population (disaggregated by residence, wealth quintile, age, sex, ethnic/religious/minority background, and disability status) who received advice from a community mobilizer on *[the specific issue]* in the past 6 months. | - Did you receive advice from a community mobilizer on *[the specific issue]* in the past 6 months?  [Yes, No] |
| Information equity | 1. The extent to which the population (disaggregated by residence, wealth quintile, age, sex, ethnic/religious/minority background, and disability status) perceive community leaders regularly (i.e., every 6 or 12 months) inform them through media or community gatherings on *[the specific issue]*. | - Do you think community leaders regularly (i.e., every 6 or 12 months) inform the community through media or community gatherings on *[the specific issue]*?  [Not at all -- Very much] |
| Community participation | 1. Proportion of population (disaggregated by residence, wealth quintile, age, sex, ethnic/religious/minority background, and disability status) who participated in informal conversations (during community dialogues, at social or religious activities) during the past 7 days where they discussed issues/concerns related to *[the specific issue]*. | - Did you participate in informal conversations (during community dialogues, at social or religious activities) about issues/concerns related to *[the specific issue]* during the past 7 days?  [Yes, No] |
| Community participation | 1. The extent to which the population (disaggregated by residence, wealth quintile, age, sex, ethnic/religious/minority background, and disability status) were involved in developing communication messages/information on *[the specific issue]* in the community in the past 6 months. | - To what extent were you involved in developing communication messages/information about *[the specific issue]* in the past 6 months?  [Not at all involved -- Fully involved] |
| Community participation | 1. The extent to which the population (disaggregated by residence, wealth quintile, age, sex, ethnic/religious/minority background, and disability status) were involved in participatory communication events on *[the specific issue]*, which blend an interactive dialogic process with local community members and health care providers in the past 6 months. | - To what extent were you involved in participatory communication events on *[the specific issue]*, which blend an interactive dialogic process with local community members and health care providers in the past 6 months?  [Not at all involved -- Fully involved] |
| Decision making | 1. The extent to which the population (disaggregated by residence, wealth quintile, age, sex, ethnic/religious/minority background, and disability status) were involved in the decision-making processes pertaining to training of service providers on *[the specific issue]* in their community. | - To what extent were you involved in the decision-making processes pertaining to training of service providers on *[the specific issue]* in your community in the past 6 months?  [Not at all involved -- Fully involved] |
| Collective efficacy | 1. The extent to which the population (disaggregated by residence, wealth quintile, age, sex, ethnic/religious/minority background, and disability status) perceive they can participate and voice their opinions in developing communication messages/information about *[the specific issue]*. | - Can you participate and voice your opinions in developing communication messages/information about *[the specific issue]* in your community?  [Definitely cannot -- Definitely can] |
| Collective efficacy | 1. The extent to which the population (disaggregated by residence, wealth quintile, age, sex, ethnic/religious/minority background, and disability status) believe they can make a difference in improving *[the specific issue]* by engaging the community in dialogues through face-to-face communication. | - Can you make a difference in improving *[the specific issue]* by engaging the community in dialogues through face-to-face communication?  [Definitely cannot – Definitely can] |
| Intervention exposure | 1. Proportion of the population (disaggregated by residence, wealth quintile, age, sex, ethnic/religious/minority background, and disability status) who were exposed to educational campaigns on *[the specific issue]* in the community in the past 6 months. | - Can you recall any educational campaigns on *[the specific issue]* in your community in the past 6 months?  [Yes, No] |
| Social norm | 1. Proportion of the population (disaggregated by residence, wealth quintile, age, sex, ethnic/religious/minority background, and disability status) who expect most people in their community *[behave in certain ways]* regarding *[the specific issue].* | - Do you think most people in your community *[behave in certain ways]* regarding *[the specific issue]*?  [Yes, No] |
| Accountability | 1. Proportion of the population (disaggregated by wealth quintile, residence, age, sex, ethnic/religious/minority background, and disability status) who perceive they can submit feedback and complaint to community leaders or community agencies and get timely responses regarding *[the specific issue].* | - Can you submit feedback and complaint to your community leaders or community agencies and get timely responses regarding [the specific issue]?  [Definitely cannot -- Definitely can] |
| ***Interpersonal (4 indicators)*** | | |
|  | **C4D Indicators** | **Example Survey Questions** |
| Interpersonal influence | 1. Proportion of the population (disaggregated by residence, wealth quintile, age, sex, ethnic/religious/minority background, and disability status) who sought the assistance of a skilled health provider at least once in the past 3 months *because* of advice they received from family members, friends, or neighbors. | - Did you seek the assistance of a skilled health provider at least once in the past 3 months *because* of advice you received from family members, friends, or neighbors?  [Yes, No] |
| Interpersonal influence | 1. Proportion of the population (disaggregated by residence, wealth quintile, age, sex, ethnic/religious/minority background, and disability status) who were encouraged by family members, friends, or neighbors in the past 3 months to *[behave in certain ways]* regarding *[the specific issue]*? | - Did your family members, friends, or neighbors encourage you to *[behave in certain ways]* regarding *[the specific issue]* in the past 3 months?  [Yes, No] |
| Informational support | 1. Proportion of the population (disaggregated by residence, wealth quintile, age, sex, ethnic/religious/minority background, and disability status) who received information regarding *[the specific issue]* from family members, friends, or neighbors in the past 3 months. | - Did you receive informational support regarding *[the specific issue]* from family members, friends, or neighbors in the past 3 months?  [Yes, No] |
| Emotional support | 1. Proportion of the population (disaggregated by residence, wealth quintile, age, sex, ethnic/religious/minority background, and disability status) who received emotional support regarding *[the specific issue]* from family members, friends, or neighbors in the past 3 months. | - Did you receive emotional support regarding *[the specific issue]* from family members, friends, or neighbors in the past 3 months?  [Yes, No] |
| ***Individual (8 indicators)*** | | |
|  | **C4D Indicators** | **Example Survey Questions** |
| Behaviour intention | 1. The extent to which the population (disaggregated by residence, wealth quintile, age, sex, ethnic/religious/minority background, and disability status) intend to *[behave in certain ways]* regarding *[the specific issue]* in the next 3 months. | - Do you intend to *[behave in certain ways]* regarding *[the specific issue]* in the next 3 months?  [Definitely no -- Definitely yes] |
| Attitude | 1. The extent to which the population (disaggregated by residence, wealth quintile, age, sex, ethnic/religious/minority background, and disability status) have positive attitude toward *[behaving in certain ways]* regarding *[the specific issue].* | - Do you think *[behaving in certain ways]* regarding *[the specific issue]* is beneficial*?*  [Not at all -- Definitely beneficial] |
| Attitude | 1. The extent to which the population (disaggregated by residence, wealth quintile, age, sex, ethnic/religious/minority background, and disability status) feel good about *[behaving in certain ways]* regarding *[the specific issue].* | - Do you feel good about *[behaving in certain ways]* regarding *[the specific issue]?*  [Not at all -- Definitely good] |
| Injunctive social norm | 1. The extent to which the population (disaggregated by residence, wealth quintile, age, sex, ethnic/religious/minority background, and disability status) believe their significant others would encourage them *[behave in certain ways]* regarding *[the specific issue].* | - Do you think your significant others would encourage you *[behave in certain ways]* regarding *[the specific issue]* in the next 3 months?  [Definitely no -- Definitely yes] |
| Descriptive social norm | 1. The extent to which the population (disaggregated by residence, wealth quintile, age, sex, ethnic/religious/minority background, and disability status) believe most people around them *[behave in certain ways]* regarding *[the specific issue].* | - Do you think most people around you *[behave in certain ways]* regarding *[the specific issue]*?  [Definitely no -- Definitely yes] |
| Self-efficacy | 1. The extent to which the population (disaggregated by residence, wealth quintile, age, sex, ethnic/religious/minority background, and disability status) feel confident in *[behaving in certain ways]* regarding *[the specific issue].* | - Do you feel confident in *[behaving in certain ways]* regarding *[the specific issue]?*  [Not at all -- Definitely confident] |
| Susceptibility | 1. The extent to which the population (disaggregated by residence, wealth quintile, age, ethnic/religious/minority background, and disability status) feel they are at risk of *[certain problems]* regarding *[the specific issue]*. | - Do you feel you are at risk of *[certain problems]* regarding *[the specific issue]*?  [Not at all -- Very much] |
| Knowledge | 1. Proportion of the population (disaggregated by residence, wealth quintile, age, ethnic/religious/minority background, and disability status) who have knowledge of *[the specific issue]*. | - A set of knowledge questions for *[the specific issue]*.  [Incorrect, Correct] or [Yes, No] |

This template of suggested C4D indicators emphasizes on C4D theoretical constructs derived from a few behaviour and social change theories. As a potential add-on component to the current national survey questionnaire, this template provides a starting point for developing survey questions that are both theoretically meaningful and practically useful. Using indicators from the five levels of influence on behavior and social change, it is possible to build analytical models to calculate the relative contribution of C4D efforts from each level of influence. For instance, to evaluate a specific C4D intervention programmes, programme evaluators can think of designing the pre- and post-evaluation surveys utilizing the suggested template.

However, it is possible that some indicators may not apply to certain countries or regions. For example, in regions with fast development rate or constant immigration, the recognition of community and the sense of belonging may be graduallydissolving. Accordingly, questions on traditional community leadership or participation will not invite meaningful answers. Instead, more and more people are using the Internet to voice their opinions and lead social changes through online activism. Also, more and more people are receiving new information and messages of communication campaigns from their virtual social networks or from complete strangers. In this sense, indicators of information and communication technologies for development (ICT4D)[[20]](#footnote-21) can also be considered in future survey framework. Both MICS4 and DHS6 survey include indicators on access to mass media and use of information/communication technology (i.e., reading newspaper, listening to radio, watching TV, using the computer, and using the Internet[[21]](#footnote-22)), which can be used to explain disparities in behavior and development outcomes to some extent. Thus we recommend:

* Add more questions on online informational behaviours (i.e., information seeking, sharing, and creation) regarding specific health concerns and social issues.

Table 7 suggests a set of 10 indicators on media use and online informational behaviours.

**Table 7. ICT4D Indicators Recommendation for National Surveys**

|  |  |  |
| --- | --- | --- |
| ***Mass media and use of information/communication technology (6 indicators)*** | | |
|  | **C4D Indicators** | **Survey Questions** |
| Reading newspaper/magazine | 1. The frequency of which the population (disaggregated by wealth quintile, residence, age, sex, ethnic/religious/minority background, and disability status) read a newspaper or magazine. | * How often do you read a newspaper or magazine?   Response scale:  [Not at all, less than once a week, at least once a week, almost every day] |
| Listening to radio | 1. The frequency of which the population (disaggregated by wealth quintile, residence, age, sex, ethnic/religious/minority background, and disability status) listen to the radio. | * How often do you listen to the radio?   [Not at all, less than once a week, at least once a week, almost every day] |
| Watching TV | 1. The frequency of which the population (disaggregated by wealth quintile, residence, age, sex, ethnic/religious/minority background, and disability status) watch TV. | * How often do you watch TV?   [Not at all, less than once a week, at least once a week, almost every day] |
| Using the computer | 1. The frequency of which the population (disaggregated by wealth quintile, residence, age, sex, ethnic/religious/minority background, and disability status) use computer. | * Have you ever used a computer?   [Yes, No]   * In the last 12 months, have you used a computer from any location?   [Yes, No]   * During the last one month, how often did you use a computer?   [Not at all, less than once a week, at least once a week, almost every day] |
| Using the Internet | 1. The frequency of which the population (disaggregated by wealth quintile, residence, age, sex, ethnic/religious/minority background, and disability status) use the Internet. | * Have you ever used the Internet?   [Yes, No]   * In the last 12 months, have you used the Internet?   [Yes, No]   * During the last one month, how often did you use the Internet?   [Not at all, less than once a week, at least once a week, almost every day] |
| Using the mobile phone | 1. The frequency of which the population (disaggregated by wealth quintile, residence, age, sex, ethnic/religious/minority background, and disability status) use the mobile phone. | * Have you ever used a mobile phone?   [Yes, No]  - Is your mobile phone a smartphone that enables Internet connection and online services?  [Yes, No]   * In the last 12 months, have you used a mobile phone/smartphone?   [Yes, No]   * During the last one month, how often did you use a mobile phone/smartphone?   [Not at all, less than once a week, at least once a week, almost every day] |
| ***Online informational behaviours (5 indicators)*** | | |
|  | **C4D Indicators** | **Survey Questions** |
| Information seeking | 1. Proportion of population (disaggregated by wealth quintile, residence, age, sex, ethnic/religious/minority background, and disability status) who have searched information about *[the specific issue]* on the Internet. | * Have you ever searched information about *[the specific issue]* on the Internet?   [Yes, No] |
| Information sharing | 1. Proportion of population (disaggregated by wealth quintile, residence, age, sex, ethnic/religious/minority background, and disability status) who have shared information about *[the specific issue]* on the Internet. | * Have you ever shared information about *[the specific issue]* on the Internet?   [Yes, No] |
| Information creation | 1. Proportion of population (disaggregated by wealth quintile, residence, age, sex, ethnic/religious/minority background, and disability status) who have ever posted their concerns or questions on the Internet regarding *[the specific issue]*. | * Have you ever posted your own concerns or questions about *[the specific issue]* on the Internet?   [Yes, No] |
| Online community participation | 1. Proportion of population (disaggregated by wealth quintile, residence, age, sex, ethnic/religious/minority background, and disability status) who are members of online discussion forums regarding *[the specific issue]*. | * Are you member of an online discussion forum regarding *[the specific issue]*?   [Yes, No] |
| Online influence | 1. Proportion of population (disaggregated by wealth quintile, residence, age, sex, ethnic/religious/minority background, and disability status) who have ever followed the advice that they find on the Internet regarding *[the specific issue]*. | * Have you ever followed the advice that you find from the Internet regarding *[the specific issue]*?   [Yes, No] |

In total, a set of 48 C4D indicators (37 from the Social Ecological Model; 11 from the ICT4D model) emphasizing on informational and communication behaviours is suggested. Built on the current survey framework, future survey can expand its scope by adding in some of these indicators. Practically, it is easier to start experimenting with these new indicators focusing on a specific issue. Some convenient samples (i.e., clinic sample, college sample, or working site sample) can be recruited to carry out the initial experiments. In combination with qualitative research, these quantitative survey data can provide us with more insights in understanding the complex dynamic of C4D programmes and their effects in the fast-changing world of communication.

1. UNICEF Communication for Development (C4D), Strategic Framework and Plan of Action 2008-2011, Draft 02 18 September 2008, p. 1. [↑](#footnote-ref-2)
2. Sallis, J. F., Owen, N., & Fisher, E. B. (2008). Ecological models of health behavior. In K. Glanz, B. K. Rimer, & F. M. Lewis (Eds.), *Health behavior and health education: Theory, research, and practice* (pp. 465-486). San Francisco: Jossey-Bass. [↑](#footnote-ref-3)
3. Shefner-Rogers, C. (2013). Regional communication strategy development guide for newborn care and the prevention and control of childhood pneumonia diarrhea in East Asia and the Pacific region. A guide commissioned by the C4D Section, Programme Division, UNICEF/HQ, New York. [↑](#footnote-ref-4)
4. UNICEF Communication for Development (C4D), The Rationale for the Selection of C4D Indicators(2012), by the C4D Section, Programme Division, UNICEF/HQ, New York. [↑](#footnote-ref-5)
5. Laverack, G., & Wallerstein, N. (2001). Measuring community empowerment: a fresh look at organizational domains. *Health Promotion International*, *16*(2), 179-185. [↑](#footnote-ref-6)
6. C4D-related concepts on different levels of intervention approaches present different levels of abstraction. The full operationalization of the C4D-related concepts, as the indicators and example survey questions, are provided in Table 4 in the recommendation section. [↑](#footnote-ref-7)
7. For a complete discussion on all the behaviour change theories, see Glanz, K., Rimer, B. K., and Viswanath, K. (Eds.). (2008). *Health Behaviour and Health Education: Theory, Research, and Practice*. Jossey-Bass. [↑](#footnote-ref-8)
8. Most of the C4D-expected outcomes are from the document *The Rationale for the Selection of C4D Indicators* (2012), by the C4D Section, Programme Division, UNICEF/HQ, New York. [↑](#footnote-ref-9)
9. For a complete discussion on accountability, see Programme Accountability Guidance Pack (2013), by Save the Children UK, London. Available:http://www.savethechildren.org.uk/sites/default/files/docs/Programme\_Accountability\_Guidance.pdf [↑](#footnote-ref-10)
10. Information on MICS can also be found on the UNICEF websites at: http://www.unicef.org/statistics/index\_24302.html. [↑](#footnote-ref-11)
11. Information on DHS can be found on MEASURE DHS website at: http://www.measuredhs.com/. [↑](#footnote-ref-12)
12. Launiala, A. (2009). How much can a KAP survey tell us about people's knowledge, attitudes and practices? Some observations from medical anthropology research on malaria in pregnancy in Malawi. *Anthropology Matters*, *11*(1). [↑](#footnote-ref-13)
13. Green, C. E. (2001). Can qualitative research produce reliable quantitative findings? *Field Methods*, *13*(3), 3-19. [↑](#footnote-ref-14)
14. Yoder, P. S. (1997). Negotiating relevance: Beliefs, knowledge and practice in international health projects. *Medical Anthropology Quarterly*, *11*(2), 131-146. [↑](#footnote-ref-15)
15. Pelto, J. P., and G. H. Pelto. (1997). Studying knowledge, culture, and behavior in applied medical anthropology. *Medical Anthropology Quarterly,* *11*(2), 147-163. [↑](#footnote-ref-16)
16. WHO. (2008). A guide to develop knowledge, attitude and practice survey. Available: http://whqlibdoc.who.int/publications/2008/9789241596176\_eng.pdf. [↑](#footnote-ref-17)
17. UNICEF and the next MTSP: key opportunities and challenges. [↑](#footnote-ref-18)
18. Figueroa, M. E. (2002). *Communication for social change: An integrated model for measuring the process and its outcomes*. Rockefeller Foundation. [↑](#footnote-ref-19)
19. Note: Traditional social network indicators (i.e., reciprocity, intensity or strength, complexity, formality, density, homogeneity, and directionality) cannot be easily measured through MICS surveys on cross-sectional samples because such indicators require a large number of questions. [↑](#footnote-ref-20)
20. International Telecommunication Union (2010). Partnership on measuring ICT for development: core ICT indicators 2010. Available: http://www.uis.unesco.org/Communication/Documents/Core\_ICT\_Indicators\_2010.pdf. [↑](#footnote-ref-21)
21. Use of computer and Internet are not measured in DHS6. [↑](#footnote-ref-22)