

Supplementary Table 1: Analysis table: behavioral determinants related to food hygiene behaviors organized by IBM-WASH

| Food Hygiene | | | |
|-------------------------------------|--|--|---|
| IBM-WASH Dimension | Contextual factors | Psychosocial factors | Technology factors |
| Structural/ Societal | - Hot and cold seasons may affect food storage and reheating habits. | - Commitment of government to implement national programs focused on diarrhea prevention, and delivery of public health information using a mobile platform. | |
| Community | - Shared cooking facilities and established schedules to access facilities limit household access to stoves/gas to certain times of day. - Range of different housing types in urban Dhaka, with varying access to refrigerators, stoves, handwashing stations, and water pumps. Modified behavioral recommendations needed for each housing type (e.g. location of food storage). | - Social norms for reheating food prior to serving neighbors/guests/male household members. | - Food/fly covers are low-cost, common in households, and readily available for purchase in the community. - Food racks are common in households. - Raxines (plastic sheets) are low-cost, common in households, and readily available for purchase in the community. |
| Household/ Interpersonal | - Female household members primarily responsible for food preparation, cooking, and storage. - Household division of labor means that men are often outside the home during the day and women are busy with household tasks, not often leaving time for food reheating or preparation of multiple hot meals/day. - Household space is limited. Children placed on the bed or floor to eat, and generally not supervised. | - Perception that husbands in neighboring households do not help their wives to prepare food, and may even stop their older children from helping. - Relatives encourage caregivers to cook food daily and feed young children fresh food. - Perception that husbands prefer and expect to be served reheated food. - Perceived responsibility for food preparation, cooking, and storage at the household level. | - Mixture of shared/household access to stoves and water sources. -Household access to refrigerators. |
| Individual | - Children's age often dictates what they eat, with younger children being fed separate foods that are easier to chew and digest that are less spicy. - Parents sometimes work outside the home, leaving young children in the care of siblings or grandmothers. | - Low perceived self-efficacy to safely prepare and store food because of a busy work schedule or household tasks. - Perceived change in taste or smell if food is stored in the refrigerator. - Perception that a food rack alone is sufficient to store food. - Perception that during cold weather leftover food can stay safe for longer times. - Perceived disease risk of giving young children | - Soapy water is low-cost, and easy to prepare. - Low perceived need for covering food if it is in a food rack. |

| | | | |
|-----------------|---|--|--|
| | | <p>leftover food.</p> <ul style="list-style-type: none"> - Perception that soaking fruits and vegetables will remove formalin and render the items safe to eat. - Assessment of food safety by sight or smell. | |
| Habitual | <ul style="list-style-type: none"> - Favorable environment for forming/maintain covering food habits. - Variable environment for forming/maintaining reheating behavior. - Variable environment for forming/maintain handwashing around food preparation, cooking, and serving events. | <ul style="list-style-type: none"> - Existing handwashing habits - Existing food preparation, storage, and reheating practices. - Alterations in habits due to changes in weather. | <ul style="list-style-type: none"> - High perceived effectiveness of food racks/fly covers to keep cooked food safe during storage. - High perceived convenience and effectiveness of soapy water for handwashing. |

Supplementary Table 2: Analysis Table: behavioral determinants related to child mouthing behaviors organized by IBM-WASH

| Child Mouthing | | | |
|---------------------------------|---|--|--|
| IBM-WASH Dimension | Contextual factors | Psychosocial factors | Technology factors |
| Structural | | Commitment of government to implement national programs focused on diarrhea prevention, and delivery of public health information using a mobile platform. | |
| Community | - Lack of clean municipal play spaces in Dhaka. | | - Toys for young children readily available for purchase in the community. |
| Household/ Interpersonal | - Female household members are primarily responsible for supervising young children. - Lack of clean play spaces on household compound. - Lack of adequate support for child supervision. - Household division of labor means that women are busy with household tasks and often cannot give their full attention to supervision of children in the household. | - Aspirations to have a clean play space for young children. - Perception that all children in their neighborhood put dirty things in their mouths. | |
| Individual | - Children often play in the street without supervision. - Young child during the first two years of life exhibit frequent exploratory play behavior as they learn about their environment. - Parents often work outside the home, leaving young children in the care of siblings or grandmothers. | - High perceived risk of diarrhea and stomach aches if children put dirt/dirty things in their mouth. - Perception by elders that eating soil was not a problem for child health. - Perception that mouthing certain common household items was normal. - Perception that it is too difficult to stop children from putting soil in their mouth. - Preference for children to play inside. | |
| Habitual | | - Young children often play with dirty objects such as sand, pieces of bricks, discarded, wrappers, match sticks, mobile phones, and sometimes feces. | |

Supplementary Table 3: Analysis table: behavioral determinants related to child feces disposal behaviors organized by IBM-WASH

| Child Feces Disposal | | | |
|---------------------------------|--|--|---|
| IBM-WASH Dimension | Contextual factors | Psychosocial factors | Technology factors |
| Structural | <ul style="list-style-type: none"> - Disposal of child feces in a latrine is challenging during the rainy season because of the far distance of shared latrines. | <ul style="list-style-type: none"> - Commitment of government to implement national programs focused on diarrhea prevention, and delivery of public health information using a mobile platform. | |
| Community | <ul style="list-style-type: none"> - Shared latrine facilities may limit access for child feces disposal. - Open neighborhood garbage piles are easy to access disposal sites for diapers. | | <ul style="list-style-type: none"> - Child potties are low-cost, common in households, and readily available for purchase in the community. - Raxines (plastic sheets) are low-cost, common in households, and readily available for purchase in the community. |
| Household/ Interpersonal | <ul style="list-style-type: none"> - Female household members are primarily responsible for disposal of child feces, cleaning the defecation location, and cleaning the child after a defecation event. - Household division of labor means that women are busy with household tasks and do not have time to clean the defecation site immediately. | <ul style="list-style-type: none"> - Perception that neighbors throw child feces, including diapers, in open spaces. - Perception that many households in the community use a child potty, however do not clean it immediately, or properly with soap and water. - Perceived responsibility for feces disposal at the household level. | |
| Individual | <ul style="list-style-type: none"> - Parents work outside the home, therefore older siblings or grandmothers are often responsible for childcare. - Children of different ages have different defecation locations. - Younger (non-ambulatory) children cannot use potty independently. - Children may handle and spread their feces around the household. | <ul style="list-style-type: none"> - Child feces are considered as dangerous as adult feces. - High perceived risk of diarrhea from not disposing of child feces in a latrine. - Low perceived self-efficacy to clean child feces right away because of other household tasks and the far distance of latrine. - Concerns around neighbors seeing their child's feces on the bed or the floor of their home. | |
| Habitual | | <ul style="list-style-type: none"> - Existing habits for disposal of child feces. | |