| **Criterion** | **Example of text related to this criterion** | **Rating** |
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| **Criterion #1**  **Intervention Characteristics:** Intervention/Program source (From CFIR, Damschroder, 2009)2  **Explanation/Example:**  Is the intervention/program externally or internally developed? An intervention/program may be internally developed as a good idea, a solution to a problem, or other grass roots effort, or may be developed by an external entity (such as a foundation or a NGO). Interventions or programs that arise internally from the populations who will be impacted are sometimes more sustainable than externally developed programs dependent on external funding. The perceived legitimacy of the source may also influence implementation. | In response to the limitations, a new flocculant-disinfectant technology, that incorporates techniques used for municipal water purification, has been developed for treating water in the home. We hypothesised that this treatment could be useful in areas with turbid source water as the improvement in water clarity would encourage use. The lower chlorine demand associated with reduced turbidity and the removal of some chlorine-resistant organisms may provide a health advantage over sodium hypochlorite.  We conducted a 20 week study to evaluate the efficacy of the flocculant-disinfectant in preventing diarrhoea in rural western Kenya, an area where source waters were both heavily faecally contaminated and highly turbid (100-1000 nephelometric turbidity units (NTU)).0  *(Basically, the intervention was developed externally.)* | Good |
| **Criterion #2**  **Intervention Characteristics:** A description of why the intervention was hypothesized to have an impact on the outcome, according to theory. (From CReDECI, Mohler 2012; also mentioned in Michie, 2009)3,4  **Explanation/Example:**  The theoretical basis of the intervention should be clearly stated. This includes the theory on which the intervention is founded as well as, if available, empirical evidence from studies in different settings or countries. For example, "The implementation was based on Rogers’ Diffusion of Innovation theory, which posits 5 factors of innovation that influence a decision to adopt or reject an innovation: relative advantage, compatibility, complexity or simplicity, trialability, observability. A similar intervention, also based on Rogers’ Diffusion of Innovation theory, was successfully implemented in other countries." | No text is found. | Fair |
| **Criterion #3**  **Intervention Characteristics:**  Rationale for the aim/essential functions of the intervention/program’s components, including the evidence whether the components are appropriate for achieving this goal.  This differs from the need to articulate the theory behind the intervention in that the theory posits the general principles (such as Rogers Diffusion of Innovation) while this item is about specific components of the intervention and the effects of the component on specific targets. (From CReDECI, Mohler, 2012; also mentioned in Michie, 2009)3,4 | No text was found. | Poor / None |
| **Criterion #4**  **Outer Setting:** External policies and incentives (From CFIR, Damschroder, 2009)2  **Explanation/Example:**  How does the health service, intervention, or program relate to country and global health goals? Is the program part of a larger strategy? If so how is it strategically aligned? A country's health policies may influence the implementation of a particular intervention or program. | No text was found. | Poor/none |
| **Criterion #5**  **Intervention Characteristics:**  Detailed description of the intervention/program (From WIDER as described in Michie, 2009)4  **The detailed description should include:**  a. Characteristics of those delivering the intervention/program (such as a nurse or lay health worker)  b. Characteristics of the recipients  c. The setting  d. The mode of delivery (such as face-to-face)  e. The intensity of the intervention/program (such as the contact time with participants)  f. The duration (such as the number of sessions and their spacing interval over a given period) | No description of the field workers.  The article cites three other articles for a more complete description of the population. Also, Table 1 has summary statistics on the study sample divided by intervention status. Characteristics include average household size, literacy status of household head, water source type (pond or river, etc.) and average baseline water quality measurements.  The setting is described as “The study was conducted in 49 villages near Lake Victoria in Siaya and Bondo Districts, western Kenya. The demographic characteristics of people living in the area have been described elsewhere.An established clinic based surveillance system monitors the aetiology of diarrhoea among the population.  Infant mortality is about 130 per 1000 inhabitants. Surface water used for drinking is typically obtained from ponds, rivers, and springs; it is regularly contaminated with both human and animal faeces. Water is typically carried in 20 l plastic drums and is stored in wide mouthed clay vessels holding.  Field workers visiting participating compounds weekly and used a standardized questionnaire to record the presence or absence of diarrhea and any deaths during the seven days since the last visit for each person.  The precise length of each visit is not made clear.  There were different kinds of visits – weekly visits to ask about diarrhea, two longer surveys at weeks 5 and 15 to ask about attitudes towards the intervention, a baseline survey and unannounced visits every four weeks to collect water samples. | Poor/none  Good  Good  Good  Poor/none  Good |

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| g. Adherence or fidelity to delivery protocols | On behalf of the participants themselves, page 2: “**Compliance with intervention** Participants given flocculant-disinfectant retained the empty sachets after use. Each week field workers collected and counted empty sachets and replaced them. For participants using sodium hypochlorite, field workers collected and replaced bottles as needed each week. At the end of the study, partially used bottles were collected and weighed to determine the total use of sodium hypochlorite.”  *Nothing about adherence by field workers*. | Fair |
| **Criterion #6**  **Intervention Characteristics:**  Costs of the intervention and costs associated with implementing the intervention (From CFIR, Damschroder, 2009; CReDECI, Mohler, 2012)2,3  **Explanation/Example:**  The cost of the intervention and implementation can influence the adoption and sustainability; interventions maybe more difficult to sustain if they were supported as part of a research study. | Costs are not calculated nor considered in detail. Once again this appears to be an earlier stage efficacy trial that argues for further study. | Poor / None |
| **Criterion #7**  **Population needs**  (From CFIR, Damschroder, 2009)2  **Explanation/Example:**  The extent to which population needs, as well as barriers and facilitators to meet those needs, are accurately known and prioritized. This could include population-based data on causes of morbidity and mortality, political or cultural barriers or facilitators, and/or more locally focused data about local needs, barriers or facilitators. | Page 4, start of discussion section: In this setting where diarrhoea is a leading cause of childhood death and drinking water is highly turbid and contaminated with faeces, we found that children < 2 years from family compounds that treated their drinking water with flocculant-disinfectant had significantly less diarrhoea than compounds that used standard  practices (control). | Poor / None |
| **Criterion #8**  **Process of implementation:** Description of facilitators or barriers which have influenced the intervention or program’s implementation (see #10) revealed by a process assessment.  In contrast to the criterion #7 above which assesses barriers and facilitators as inputs to developing the intervention strategy, this criterion assesses the actual barriers and facilitators identified during and after the implementation.  (From CReDECI, Mohler, 2012; also mentioned in Michie, 2009)3,4  **Explanation/Example:**  "The attitudes of the nursing home managers turned out to be an important factor supporting or impeding the success of the intervention's implementation. The more the managers agreed with the interventions’ aim, the better the nursing staff felt supported." | No text found. | Poor / None |
| **Criterion #9**  **Description of materials:** Description of all materials or tools used for the implementation  (From CReDECI, Mohler, 2012)3  **Explanation/Example:**  "The primary enablers of behaviour change were paid community-based health workers, who were recruited from the local community based on 12 years or more of education,  proficient communication and reasoning skills, commitment towards community work, and references of community stakeholders. They received a combination of classroombased and apprentice ship-based field training over 7 days on knowledge, attitudes, and practices related to essential newborn care within the community, behaviour change management, and trust-building. After training, suitable candidates were closely mentored and supervised by a regional programme supervisor (n=4) responsible for 6–7 trainees, for an additional week before final selection was made." | There is great detail on a biologic/scientific level in terms of the chemical products distributed, but not really any description if any information/education components were included. | Poor / None |
| **Criterion #10**  **Process of Implementation:** Description of an assessment of the implementation process  (From CReDECI, Mohler 2012)3  **Explanation/Example:**  Process assessment is a prerequisite for determining the success of the intervention's implementation and should be an integral part of an assessment of the intervention’s effect. For example, "To gain insight into the dissemination and the delivery of the intervention and to draw conclusions about potential barriers and facilitators to implementing the intervention in other settings, data on the implementation process were collected alongside the randomized-controlled trial. Therefore, we assessed the quality of delivery of the interventional components (observed by members of the research team not involved in the delivery of the intervention) and the adherence to study protocol (number and type of deviations from the protocol, using a pilot-tested standardized form). We also analyzed barriers and facilitators for the delivery of intervention’s components (focus group interviews with intervention participants)." | No text was found. | Poor / None |