

# Clean cooking Implementation Science Network (ISN) Invitation to participate in development of case studies



**Summary:** All interested members of the clean cooking community are invited to submit proposals to develop evaluative case studies on historical or current clean cooking policy and intervention efforts. These case studies will provide the basis for analyses by the ISN and development of lessons learned for dissemination in a variety of forms. Limited financial support for the compilation of information, analyses and preparation of written case studies will be made available to support development of projects, as detailed below.

**Proposal deadline:** November 15, 2016

**Background:** The NIH, in partnership with USAID, the CDC and the Global Alliance for Clean Cookstoves (GACC), has launched a Clean Cooking Implementation Science Network (ISN) to advance the science of uptake and scale-up of clean cooking technology in the developing world. Hosted by the [Center for Global Health Studies \(CGHS\)](#) at Fogarty, and supported by the [NIH Common Fund](#), the Network aims to advance collaborative efforts and understanding among researchers and implementers to accelerate successful adoption and use of clean cooking technologies with an eye to scaling up appropriate use. For more information see the [Clean Cooking ISN](#) page.

The complexity and diversity of historical and current clean cooking programs around the world is significant. However, despite growing attention to both the potential impact of these programs for public health as well as the implementation challenges they present, a body of analytical case studies has not yet been developed for either the research or development communities. A set of case studies analyzed with both quantitative and qualitative information will enable us to understand a handful of programs in greater depth than is typical through research and program reports or systematic reviews. Each case study will provide a holistic and in-depth investigation of clean fuel program in different and complex contexts, and collectively are expected to provide insight into factors that contribute to success and failure as well as those factors that influence implementation and/or scale up. We believe a high quality compilation of some of these efforts and a synthesis of the lessons learned will accelerate learning for the global community.

**Focus:** Because of our principal focus on technologies that hold the most promise for public health, the compilation of case studies will be focused on clean fuel programs: specifically, those employing LPG, biogas, electricity, ethanol, and biomass pellet stoves rated Tier 4 for indoor emissions. The case studies will describe large projects or programs that have concluded (retrospective) as well some that are in still in progress (prospective) in LMICs or resource poor environments in other countries (e.g. indigenous or remote rural impoverished communities where solid fuels predominate). Large programs are defined here as efforts targeting a minimum of 5000 homes, up to national-scale policy initiatives.

We are seeking cases that represent a diversity of fuels (as defined above), approaches and environments around the world. In analyzing this diversity of programs our aim is to understand the factors that contribute to program success and/or failure including those related to the technology, setting, perceptions, finances, markets, regulations and programmatic features (Puzzolo et al. 2016; Rehfuess et

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al. 2014). In taking the case study approach we are seeking to understand a handful of programs (including national and regional efforts) in greater depth than is typical through research and program reports or systematic reviews, and we anticipate that both quantitative and qualitative information will be important. We are interested in approach, including for example any underlying theory of change, context, and how aspects of program implementation influenced outcomes. From the collection of case studies that will result from this effort we hope to learn lessons useful for future program development as well as features that influence scale up and spread of successful efforts and how these may vary across populations and settings.

**Case study framework and associated data needs:** We are employing the RE-AIM analytical framework (Glasgow et al. 1999) (Reach, Effectiveness, Adoption, Implementation, Maintenance) adapted for this purpose because of its broad fit and common use in public health program evaluations. The adapted version we are using is attached to this invitation and includes the descriptors/data types we are seeking in the case studies. Using a common framework will enable us to analyze common factors for success and failure across case studies. We anticipate that few, if any, studies will be able to obtain and present information on every variable included, but proposers should identify which elements they will be able to address with mixed methods (quantitative and qualitative) information.

**Use and Dissemination:** The case studies will be published initially as a group of 8-12 papers, most probably as a supplement to, or special issue in, a relevant journal that will provide open access. A group of ISN members will develop one or more synthesis papers in collaboration with the case study authors to accompany the case studies in the initial publication. The case studies will also provide the basis for multiple additional outreach and dissemination activities led by the ISN. These will likely include webinars, targeted outreach to policymakers around the world, and conference presentations.

**Financial Support:** Limited support is available for costs associated with compilation of data, analysis and preparation of the initial manuscript and publication. Eligible costs include part-time salary support for an intern or analyst and limited travel for interviews with relevant stakeholders. We anticipate that these costs will vary depending on the case and that not every case study will require support. Maximum costs that can be requested are \$30,000. Some support will be made available upon acceptance of the proposal, and final payment will be made upon delivery of a manuscript that is accepted by the case study subcommittee of the ISN. Travel and conference support for participation in subsequent dissemination activities may also be available in the future.

**Selection of case studies:** As outlined above, we aim to understand and represent a diversity of program efforts. A subcommittee of the ISN, in consultation with the ISN steering committee will select proposals for development, inclusion in final products, as well as potential financial support for the effort. Criteria will include: 1) quality and completeness of available data, 2) likelihood of generalizable outcomes relevant to the larger clean cooking community, 3) fit within the overall plan for the compilation of studies, including diversity in geography and program approach, 4) expertise and track record of proposer, 5) commitment to prepare manuscripts and participate in subsequent dissemination activities.

**Proposal instructions:** Proposers should submit a 2-3 page precis of the case study, including the background for the program and a plan for collection and analysis of data, as well as an annotated version of the RE-AIM framework attached to this invitation, a short CV of the proposer and any other

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team member proposed, and a budget, if funds are requested. Email a copy of the proposal to Ashlinn Quinn ([ashlinn.quinn@nih.gov](mailto:ashlinn.quinn@nih.gov)). Deadline for receipt of proposals is November 15, 2016.

**Timeline:** Initial projects will be selected by mid-December 2016 and invited to begin work. A first draft or detailed outline of the report will be due in mid-May 2017. A meeting at the NIH to develop these reports and plan synthesis of results across case-studies and publication and dissemination plans will place during the May-June period. Final manuscripts will be due late in September of 2017.

Questions may be directed to Joshua Rosenthal ([joshua.rosenthal@nih.gov](mailto:joshua.rosenthal@nih.gov)) to Dr. Quinn ([ashlinn.quinn@nih.gov](mailto:ashlinn.quinn@nih.gov)).

### **References:**

Glasgow RE, Vogt TM, Boles SM. 1999. Evaluating the public health impact of health promotion interventions: The re-aim framework. *American journal of public health* 89:1322-1327.

Puzzolo E, Pope D, Stanistreet D, Rehfuss EA, Bruce NG. 2016. Clean fuels for resource-poor settings: A systematic review of barriers and enablers to adoption and sustained use. *Environmental research* 146:218-234.

Rehfuss EA, Puzzolo E, Stanistreet D, Pope D, Bruce NG. 2014. Enablers and barriers to large-scale uptake of improved solid fuel stoves: A systematic review. *Environmental health perspectives* 122:120-130.

**See attached document: RE-AIM Checklist for available data elements**

## ISN Case study invitation – Data availability checklist

### RE-AIM Guide for clean cooking case studies

Please indicate in the grid below which data elements are available for your case study, and whether the information is available in quantitative or qualitative forms. The annotated grid should accompany your proposal.

Dimensions/Data elements	Available? Quantitative or Qualitative
<b>REACH (scale and coverage of intervention)</b>	
Description of target population (geographic coverage, numbers targeted, demographic characteristics)	
Duration/dates of intervention project/programme	
Setting characteristics (urban vs. rural, seasonal climate, access to roads and transport infrastructure, etc.)	
Percent individuals/households reached based on target population	
Characteristics of households reached compared to non-participants or to target population (e.g. baseline fuel/s used, socioeconomic characteristics, education etc.)	
Other factors that affect reach of program including policy context, program budget constraints, conflict, fuel availability and cost.	
<b>EFFECTIVENESS (ability of fuel/technology to achieve desired goals)</b>	
Description of clean cooking intervention fuel/technology (relate to IWA's Tiers and/or ISO standards if possible)	
<p>If available, from literature or measured in the field, (please address availability of each item):</p> <ul style="list-style-type: none"> <li>• Measures of stove emissions</li> <li>• Measures of household/personal air pollution exposure before and after intervention</li> <li>• Measures of safety (e.g. burns) before and after intervention</li> <li>• Measures of fuel and/or time savings</li> <li>• Measures of impact of the intervention on desired health outcomes</li> </ul>	

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<b>ADOPTION – Program and Societal level (factors influencing adoption of the clean cooking intervention)</b>	
Description of financial, tax, and subsidy aspects and how these have affected adoption and use over time (including cost of intervention to end-users and price comparison for other available energy alternatives)	
Description of supply chain (from fuel/stove production to fuel/stove distribution, consistency of supply etc.), and how these have affected adoption and sustained use	
Description of market development (e.g. promotional strategies, aspects influencing business expansion), and how these have affected adoption and sustained use	
Description of regulation and legislation (particularly around fuel supply, distribution and enforcements effectiveness of market rules), and how these have affected adoption and sustained use	
Description of policies, programmatic and policy mechanisms, and how these have affected program implementation and adoption	
Other factors important to adoption at the program and societal level	
<b>ADOPTION – Household and Community level (factors influencing adoption of the clean cooking intervention)</b>	
Measure of household use of technology, including if possible, degree of fuel or stove stacking	
Perception of affordability, Willingness To Pay measures	
<p>Perceived benefits and/or disadvantages of the intervention, and influence of these perceptions on adoption and sustained use. Important aspects to consider are perceptions of the intervention’s effect on:</p> <ul style="list-style-type: none"> <li>• health</li> <li>• cooking time</li> <li>• opportunity cost</li> <li>• cleanliness</li> <li>• safety</li> <li>• quality of food prepared</li> <li>• other</li> </ul>	
Accessibility/reliability of fuel supply, and its effect on adoption and sustained use	

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Other factors important to adoption at the household and community level	
<b>IMPLEMENTATION (How the program is rolled out and scaled up)</b>	
Description of implementation strategy including underlying theory, if any, and how it may be integrated with any other interventions (e.g. sanitation, antenatal services)	
Implementing agency / organization / company etc. (or a combination of these)	
Cost of intervention (time or money) from the implementer perspective	
Consistency of implementation across staff/time/settings/subgroups (not about differential outcomes, but process)	
Preparation for reliability of supply chain and price fluctuations	
Community involvement; including women’s engagement, and how these factors have affected adoption and sustained use of the intervention	
User and/or provider training	
Adaptations made to intervention during program/project roll out (i.e. was the intervention delivered as intended?)	
Other factors important to implementation, including policy and regulatory environment.	
<b>MAINTENANCE - Household and community Level (how well the intervention is sustained at the household/community level)</b>	

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<p>Indicate availability of data for each category and the time frame for initial and follow-up data (Ideally at 6 months to a year after initial intervention):</p> <ul style="list-style-type: none"> <li>• Measure of air pollution exposure (with or w/o comparison to a public health goal) and follow-up after final intervention contact</li> <li>• Measure of stove use (with or w/o comparison to a benchmark)</li> <li>• Measure of fuel use (with or w/o comparison to prior)</li> <li>• Measure of attrition (%) and differential rates by demographic/geographic characteristics or treatment condition</li> <li>• Measure of stove breakdown/repair</li> <li>• Measure of continued financial investment in the intervention by the household or community</li> </ul>	
<p>Other factors important to maintenance at the household and community</p>	
<p><b>MAINTENANCE - Program and societal Level</b> (factors influencing the sustainability of the intervention at the program level)</p>	
<p>Availability/ accessibility of intervention over time, and importance of these factors to adoption and sustained use</p>	
<p>If program is still ongoing at <math>\geq 12</math> months post intervention funding (provide timeframe)</p>	
<p>If and how program was adapted subsequently (which elements retained AFTER program completed)</p>	
<p>Some measure/discussion of alignment to organization mission or sustainability of business model</p>	
<p>Description of long-term repair and maintenance infrastructure, including forms of post-acquisition support, and their effects on adoption and sustained use)</p>	
<p>Description of any long-term subsidies/incentives and plans for continuity or phase-out, and their effects on adoption/sustained use</p>	
<p>Other factors important to maintenance at the program and societal level</p>	