Estimating the Reach of Community Interventions in CDC's CPPW and CTG Programs

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Communities Putting Prevention to Work

Communities Transforming
To make healthy living easier

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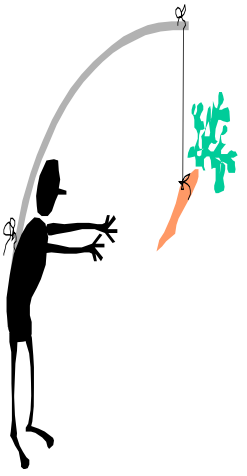
Overview of CDC's CPPW and CTG Programs

- **Communities Putting Prevention to Work (CPPW)**
  - 2-year program focused on chronic disease prevention
  - Emphasis on obesity and tobacco use prevention
  - 50 communities across US
  - Estimated potential reach of CPPW is 55 million people, nearly 1 in 5 Americans
- **Community Transformation Grant (CTG)**
  - 5-year program focused on chronic disease prevention
  - Emphasis on obesity and tobacco use prevention, clinical preventative services, social and emotional wellness, and healthy and safe physical environments
  - 61 communities across US
  - Estimated potential reach of CTG is about 120 million people, more than 3 in 10 Americans

What is Reach?

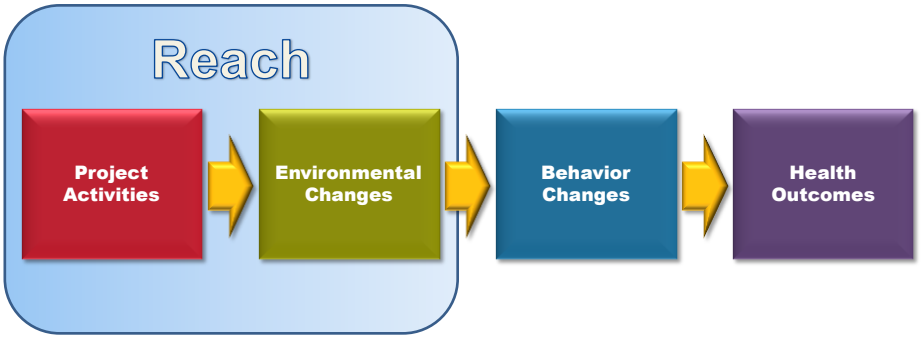
- **Reach = estimated number of unique individuals impacted by program activities**
- **Measured in number of people in a particular setting where they live, work, eat, play, and pray**
  - Number of people
  - Units of setting(s)
- **Central construct for public health**
- **Standardized approach for measurement is not yet established in community health literature**



Why are Reach Data Important?

- **Large scale community health initiatives involve investments from public and private funds**
  - Come with increased demands for performance monitoring, evaluation, and results
  - Presents dilemma to evaluators, planners, practitioners, and decision makers because logic models indicate it can take several years for these approaches to yield changes in health outcomes, but programs have relatively short implementation timeframe
- **Although long term improvements in health are ultimate goal, preliminary outcomes are important to maintain support for community health programs**
- **Reach data are available before other evaluation results to show breadth and coverage across communities**

Short Term Outcomes



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Use of Reach Data

- To determine how well implemented interventions are reaching the intended populations
- To maximize allocation of resources
- To guide mid-course corrections to implementation plans
- To provide information to communities, policymakers, media, evaluators, and others on individual community performance and programs as a whole
- To help inform future investments in community health

Sample Questions Answered by Reach

- **How many schools across the U.S. are engaged in physical activity-related interventions?**
  - How many students are impacted?
  - How many low-income students?
- **How many units of multi-unit housing are now smoke-free?**
  - In how many towns in California?
  - How many elderly Hispanic residents are benefitting from the new smoke-free environments?
- **How many patients are being served healthier meals in hospitals?**
  - In how many hospitals?
  - What percentage are in urban areas?

Sample CPPW Results

CPPW communities are reducing exposure to secondhand smoke. Since March 19, 2010, up to 26.5 million Americans in 21 communities have been protected from deadly secondhand smoke in workplaces, restaurants, bars, multi-unit housing complexes, campuses, parks, or beaches.

CPPW communities are increasing healthy options in vending machines in schools, hospitals, recreational facilities, governmental buildings, and businesses. Since March 19, 2010, up to 9.7 million Americans in 17 communities have greater access to healthier foods sold in vending machines across multiple settings.

Reach Data Approach

- Premised on the view that communities have adopted practice and evidence-based strategies
- Collaborate with communities for consistent calculations across programs
- Provide estimation techniques, approaches, and information resources
- Collect reach data as part of regular program reporting
- All reach data are estimates
- Reach counts are not cumulative across interventions or settings so an individual may be counted more than once

Data Collection

1. Communities submit implementation workplans
2. Plans are coded for interventions, settings, and disparate populations
3. Communities are provided with a customized spreadsheet that includes fields for the number of people reached, by setting, and by disparate populations
4. To ensure comparable data, communities are provided with guidance that addresses measurement instructions and suggested data sources
5. As a part of program reporting, communities asked to estimate reach
6. Compiled spreadsheets are entered in relational database

Sample Publicly Available Data Sources

Intervention by setting	Number of people	Number of units of setting
Smoke-free public housing	US Census Quickfacts: average number of people per household by county or city	HUD "Residents Characteristics Report" provides number of units
Healthy food sold at corner stores in urban area	Freedemographics.com: Number of residents within a 1 miles radius of an address	USDA's Food Environment Atlas by county for location of convenience stores
PE requirements in elementary schools	National Center for Education Statistics: number of students per school; or school district website	National Center for Education Statistics: number of schools in school district; or school district website
SNAP/WIC benefits at farmers markets	USDA's Food Environment Atlas: average number of SNAP participants by county	USDA's Agricultural Marketing Service Farmers Markets search tool
Nutritional guidelines for prisons and juvenile detention centers	US Census FactFinder: number of people living in institutionalized setting	Federal Bureau of Prisons facility locator tool

Data Analysis

- **Community workplans include quarterly schedule of planned interventions**
- **Recognition of actual reach vs. potential reach**
- **As communities report completed intervention, actual reach is included in calculations**
- **Provide reports for actual reach to date by programs, by community, by intervention category, by setting, by disparate population, or in any combination**

Progress Example

- **Data updated quarterly as objectives and activities are completed in communities**
  - Community A example:
    - Reduce exposure to secondhand smoke among residents in 15 municipalities
    - In March 2013, exposure reduced in one municipality.
    - Reach numbers for that one municipality counted.
  - Community B example:
    - Require 30 minutes of PE in K-12 schools in four school districts.
    - In September 2014, two school districts increased PE to 30 minutes per day.
    - Reach numbers for the schools in those two school districts counted.

What Reach Data Indicate: If Reaching Intended Participants

- **Overall:**

$$\frac{\text{Number of community members reached by interventions}}{\text{Total number of community members}} = \%\text{ of population reached}$$

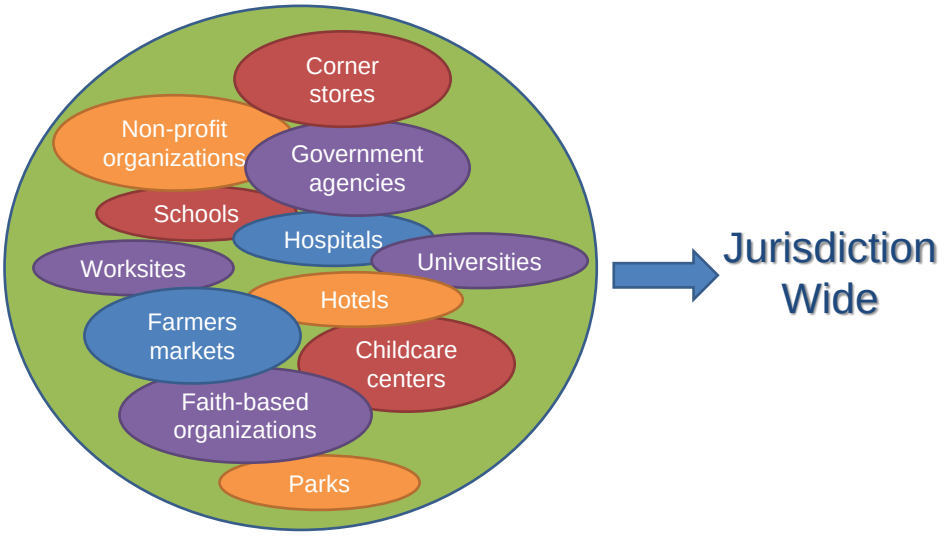
- **By setting:**

$$\frac{\text{Number of worksites reached by interventions}}{\text{Total number of worksites in community}} = \%\text{ of worksites reached}$$

- **Health equity considerations:**

$$\frac{\text{Number of low-income residents reached by interventions}}{\text{Total number of low-income residents in community}} = \%\text{ of low-income residents reached}$$

Reach Takes Place in Community Settings



Relative Reach

- **Interventions chosen by CPPW communities are estimated to reach 43% of their jurisdictional population**
- **Estimates vary:**
  - Farm to institution interventions: estimated to reach 31% of population
  - Competitive food interventions: estimated to reach 8% of population
- **Decisions made by communities may consider relative reach in light of available resources**

Limitations of Reach Data

- **Do not consider 'dose' or effect size of interventions**
- **Are estimates only**
- **Provide snapshots in time for continually changing numbers**
- **Assume fidelity of implementation of practice and evidence-based strategies**
- **Can not gauge health outcomes**

Implications for Community Health Programs

- **Can be used as strong indicator for program planning, implementation, and assessment**
  - Effectively used by CPPW and CTG to inform strategies
  - Provides early information on program breadth
- **Help communicate program details to stakeholders**
  - Makes success stories more tangible
- **Percent of population reached may provide a more useful indicator than actual number of people reached**
  - Small or large numbers may be misleading, depending on overall community population size

Implications for Community Health Programs

- **Inform resource allocation for maximum impact**
  - Emphasis on jurisdiction-wide when appropriate
    - Jurisdiction may be microcosm (e.g., all schools, all low-income residents)
    - Representativeness of disparate populations
  - Cost per capita as a tool
- **Strive for largest unit possible to maximize reach**
  - School district vs one school
  - Health care system vs hospital
  - Municipal government vs one agency