

Hello, and welcome to today's Coffee Break presented by the Evaluation and Program Effectiveness Team in the Division for Heart Disease and Stroke Prevention at the Centers for Disease Control and Prevention. We are really fortunate to have Alberta Mirambeau as today's presenter. Alberta is from CDC's Division for Heart Disease and Stroke Prevention and is a Health Scientist on the Evaluation and Program Effectiveness Team. My name is Jan Losby and I am also a member of the Evaluation Team. It is my pleasure to serve as today's moderator for this 20 minute session.

*Note: Screen magnification settings may affect document appearance.

Disclaimer: The information presented here is for training purposes and reflects the views of the presenter. It does not necessarily represent the official position of the Centers for Disease Control and Prevention.

Presentation Overview

- Community Health Worker (CHW) evaluation frameworks
 - National Community Health Advisor Study
 - University of Arizona Evaluation Toolkit
- Example CHW evaluation studies
- Areas for consideration
- Tools and Resources

Today I'll be talking about evaluating community health worker programs. And before I get into the presentation, I do want to share that today will be mainly an overview. What I hope that you'll take away from this session are tools and resources for your further enlightenment around this topic. I'll share with you two evaluation frameworks related to community health worker programs, describe a couple of evaluation studies, present areas for consideration, and end off with tools and resources for your reference.

Why Community Health Workers?

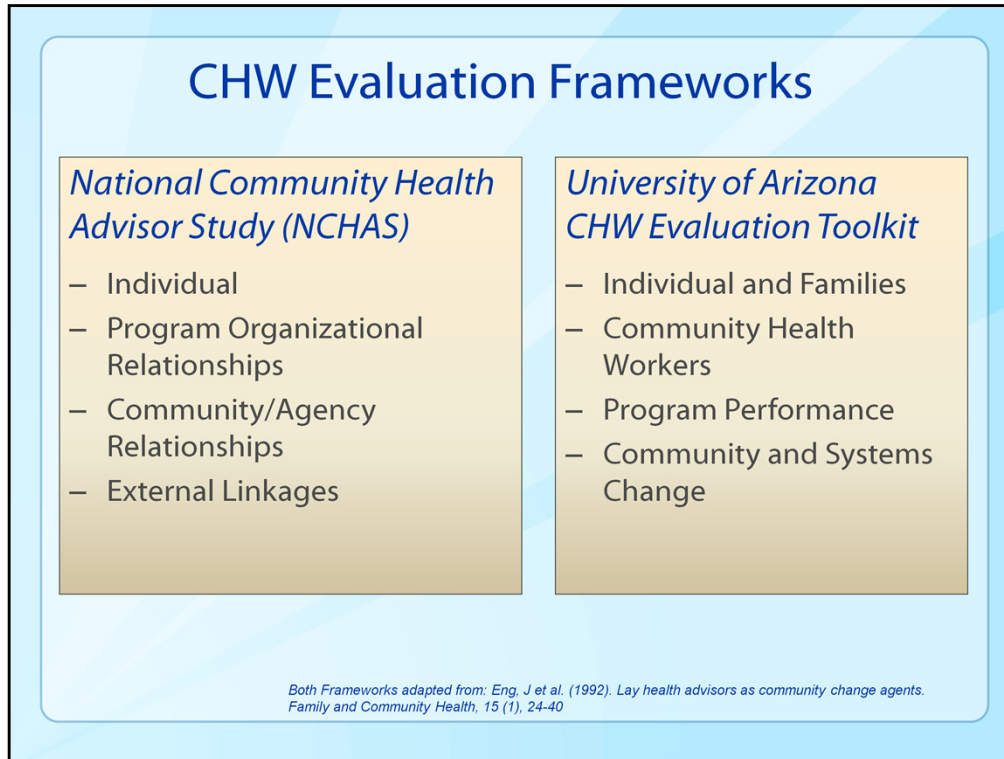
- 2010 and 2002 IOM Reports recommended the deployment of CHWs
- Promoted by the Patient Protection and Affordable Care Act



- Team-based care approach
- Community-clinical linkage
- Claims of cost-effectiveness

Before I actually launch into why it's important to evaluate community health worker programs, I want to at least take the moment and acknowledge why the emphasis and focus around community health workers. In 2002 and 2010, two IOM reports recommended the deployment of community health worker. The 2010 report focused on addressing hypertension and 2002 report looked at unequal treatment, confronting racial and ethnic disparities in health care. And in both of these reports community health workers were touted as an essential member of health care teams. This was also strengthened by language in The Affordable Care Act which also promoted the engagement of community health workers in team-based care.

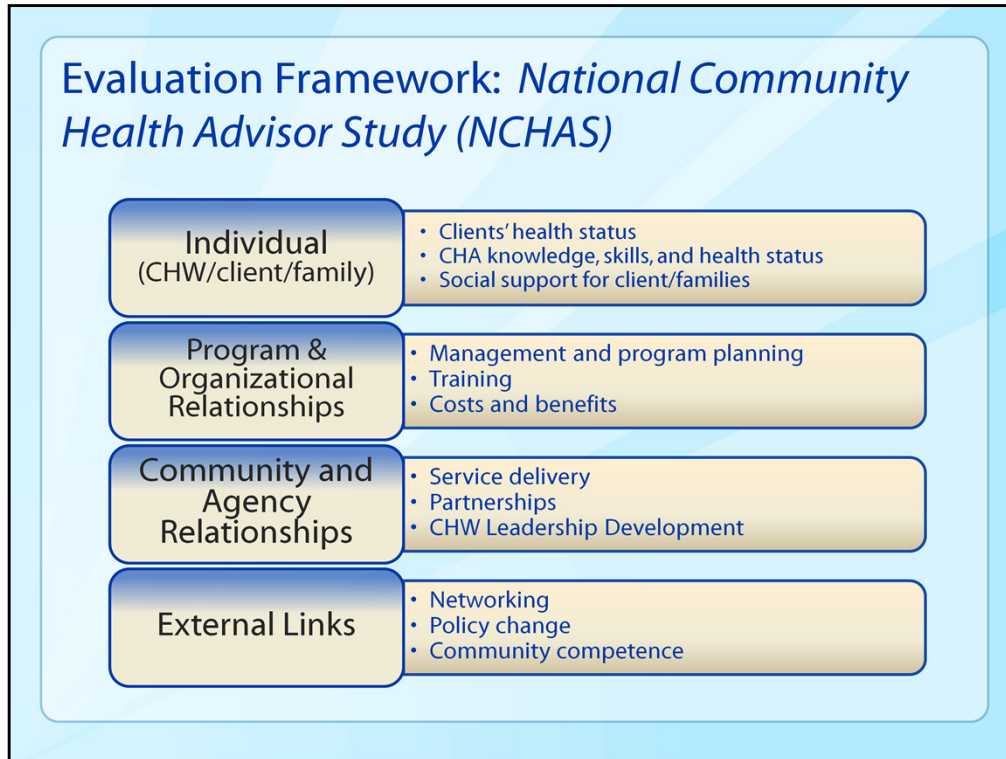
Also community health workers can serve as a viable bridge between the communities they serve and the health care systems that serve those communities. To add among the many other reasons that community health workers have been acknowledge as a promising public health approach, there is evidence to suggest that the engagement of these professionals also lead to cost-savings in health care. While we recognize that community health workers is a promising approach, it's also equally important to evaluate the effectiveness of community health workers within the context of your program.



Today I'd like to give you an overview of two evaluation frameworks that were developed to explicitly address the key areas that can be impacted when it comes to implementing a community health worker program. Let me first start by defining what I mean when I'm referring to community health worker programs within the context of this presentation. I'm referring to it in the broadest sense, so any public health strategy that intentionally includes community health workers as a key component of that program or activity. For example that might mean convening a statewide taskforce on developing recommendations for the community health worker field, or perhaps you're partnering with an organization that's piloting a community health worker program within a specific setting, specifically as a community clinical linkage strategy. In terms of this presentation, I'm referring to "Community Health Worker programs" in the broadest sense.

Going back to the slide before you, the 1998 National Community Health Advisor Study designed a framework for evaluating community health worker (CHW) programs. The authors created four different levels or areas that could potentially be impacted by a community health worker that one could assess in an evaluation related to community health workers.

The University of Arizona, the creators of the community health worker evaluation toolkit also presents a framework on evaluating community health worker programs. I'll elaborate on each of these frameworks but in general you'll see that they're similar and there's just some small differences between the two.

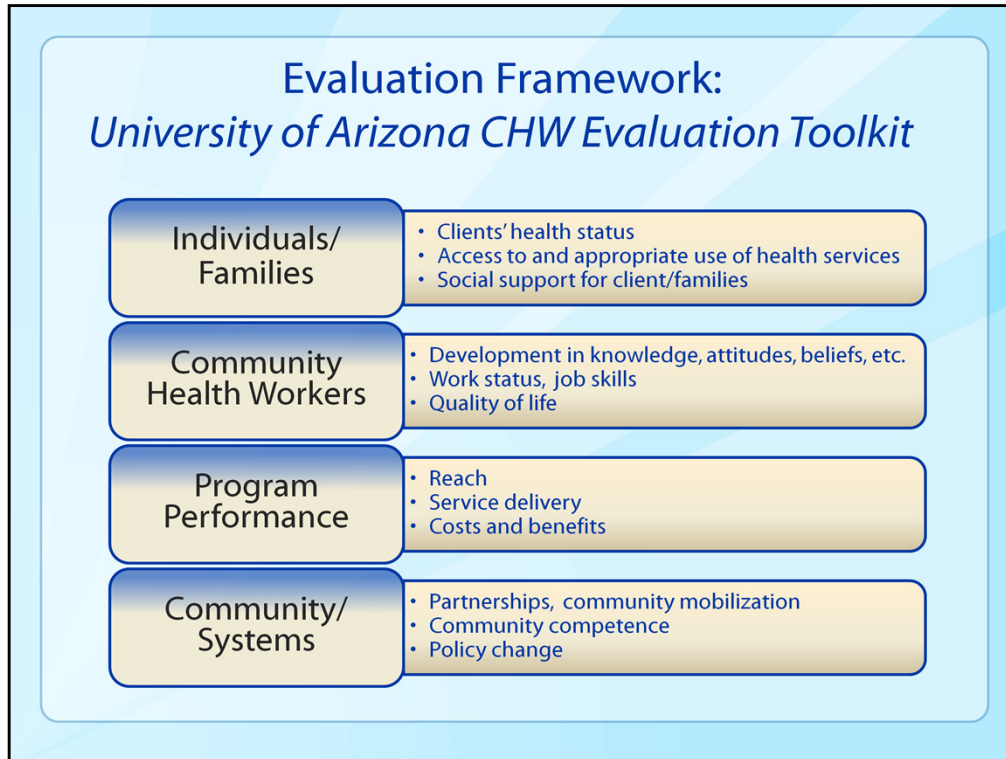


With the National Community Health Advisor Study, you'll see that they have four different categories. The first category is the individual category and here they recognized that community health workers are also a beneficiary of a program, so your evaluation might include the changes among the community health workers as well as the clients and the families that could potentially be impacted by that program.

There's also the potential for looking at the program organizational relationships. This area would typically consist of a process oriented where you're looking at monitoring the program for the purposes of improvement, how training is being conducted, and potentially what cost and benefits occur from that program.

You may also want to look at the community and agency relationships, and this level looks at the service delivery, what partnerships are being established, and how community health workers are serving as a leader in their community. This level also overlaps with external linkages which looks at changes that are taking place among networks and within the community.

At the end of this presentation, I've provided a link to a document that expands on each of these areas, and provides some suggested indicators as well as data sources if you were to reference this framework in your evaluation.



On the next framework, which was developed by the University of Arizona. Here again it's very similar in concept, but organized a little bit differently. The individuals and families are specifically in the first level where it looks at changes in the clients' health status or knowledge and attitudes or social support to the client and families. Whereas the second level places a specific emphasis on community health workers themselves and how community health workers and their knowledge and attitudes and skills might actually impact the delivery of the services they provide. Again in program performance you can look at the reach, service delivery, or the cost and benefits, and then lastly there's the potential to impact the community through changes taking place either in mobilization, or in systems.

CHW Evaluation Frameworks

National Community Health Advisor Study (NCHAS)

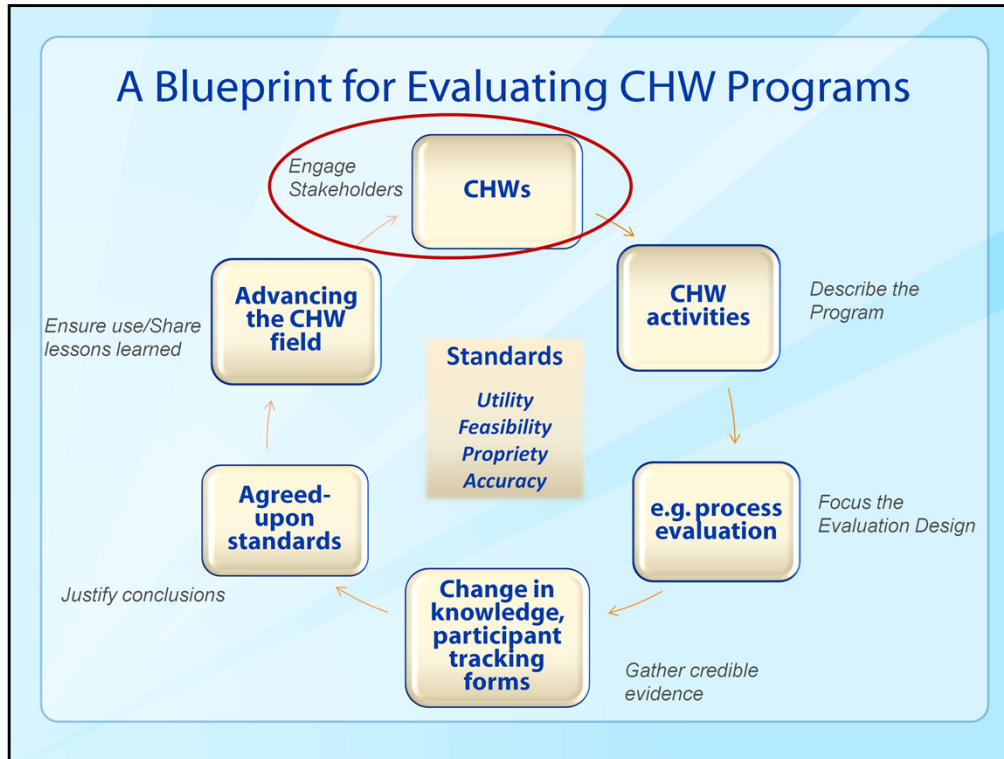
- Individual
- Program Organizational Relationships
- Community/Agency Relationships
- External Linkages

University of Arizona CHW Evaluation Toolkit

- Individual and Families
- Community Health Workers
- Program Performance
- Community and Systems Change

Both Frameworks adapted from: Eng, J et al. (1992). Lay health advisors as community change agents. *Family and Community Health*, 15 (1), 24-40

With both of these frameworks, they are very similar in concept in primarily but primarily different in how they are organized. I think they both provide good ideas on the most important elements to examine in an evaluation of a CHW program, based on the needs of the evaluation stakeholders and your intended use of the results. And once that's determined, these models serve as a great use to assist you in developing a plan for evaluating your community health worker program.



On this slide I want to share something that's a bit more familiar to everyone, and just to remind you of this framework and that you can always revisit the basics. So when you're embarking upon implementing a community health worker program whether at the individual level or looking at how community capacity has changed, know that the CDC framework for program evaluation also serves as a viable blueprint for doing that, and by revisiting this framework, you can apply a very familiar concept, to an area that may not be as familiar.

I won't spend too much time walking through the relationship of each of these steps with community health worker programs but what I do want to point out is that there's an essential element in step 1 and that's the community health workers themselves. Community health workers are also a key stakeholder in the evaluation planning process. Their buy-in of the evaluation is a key factor in the development and implementation of a successful evaluation.

Areas to Clarify in Your Evaluation

Establish a clear and explicit description of the CHW intervention/strategy

- What are the activities of the CHWs?
- Who is being served or coming into direct contact with the CHWs?
- What is the nature of the interactions between the CHWs and the population being served?
- What changes are expected among the population served?

On this slide what I'd like to do is just share some practical steps in areas for you to consider and clarify in the evaluation of your program. You really want to take the time to establish a clear and explicit description of the community health worker intervention or strategy. This in essence is your logic model. This is what's going to describe the scope of practice of the community health workers, who's being served and what's the nature of the interaction between the community health workers and the individuals they serve.

I'm reminded of a comment by Dr. Nell Brownstein whose studied the field of community health workers for decades and she says that community health workers are deployed and they get to work, and then positive changes occur. Something happens between their deployment and those positive changes, and those activities are in a little black box that we have yet to clearly articulate. By clarifying specifically what the nature of those interactions are and the scope of the activities by the community health workers we can start to describe what those relationships look like.

Areas to Clarify in Your Evaluation (continued)

Determine which component of the CHW program is important to evaluate:

- Client-level outcomes
- Community capacity
- Healthcare utilization
- Costs

Evaluation Frameworks from the National Community Health Advisory Study and the University of Arizona CHW Evaluation Toolkit can be referenced to identify potential component for evaluation

This slide is a reminder that you should determine which component of the community health worker program is important to evaluate based on the evaluation purpose, the needs of your stakeholders, and the use of the evaluation. Is it most important to look at client level outcomes, are you most interested in seeing how a coalition was able to change, to impact changes at the community level or how changes are taking place in the utilization of healthcare services. Once the program component has been identified then you can reference the evaluation frameworks that I described earlier for further guidance.

Areas to Clarify in Your Evaluation (continued)

Link CHW activities to intended outcomes

- Identify and/or modify existing data sources
- Explore existing validated measurements
- Conduct interviews
- Prepare for study limitations

University of Arizona CHW Evaluation Toolkit contains a variety of sample data collection instruments; literature base also serves as credible source for evaluation designs and instruments

And on this last slide, then you can think about linking the community health worker activities to the intended outcomes. To do this, data collection needs to take place. Therefore identify and/or modify existing data sources to be able to describe those linkages. Perhaps look at existing validated measurements. Some of the resources that I'll share at the end of the presentation offer a number of instruments that can be used to assess change in participants and/or community health workers. Another option is to conduct interviews with the participants to better understand their perspective. And let's not forget that this is practice-based evidence so you want to prepare yourself for the reality of evaluating the community health worker program and the limitations that may come.

Best Practice Indicators: Individual Evaluation Level

CHW Duties	Process Indicators	Outcome Indicators	Impact
<i>Improving Access and Appropriate Use of Services</i> <ul style="list-style-type: none"> • Case finding/outreach • Patient reminders • Resource/referral 	<ul style="list-style-type: none"> • # of visits/encounters • # appointments set • # case-finding chart review • # enrolled • # persons served • # assessed/screened • # referrals made 	<ul style="list-style-type: none"> • Changes in knowledge • Satisfaction w/CHWs • Self-management • Medication compliance • Lifestyle changes <ul style="list-style-type: none"> -- physical activity -- dietary habits -- smoking • Biometrics <ul style="list-style-type: none"> -- HbA1C -- blood pressure -- cholesterol 	<ul style="list-style-type: none"> • Reduced morbidity and mortality • Reduced costs • Reduction in health disparities
<i>Risk Reduction</i> <ul style="list-style-type: none"> • Health education • Informal counseling 	<ul style="list-style-type: none"> • # of education offerings • # enrolled in educational offerings • # completing program • # and type of material disseminated 		

Based on: Nemceck, MA and Sabatier, R. (2003). State of evaluation: Community health workers. *Public Health Nursing*, 20(4), pp. 260-270

In thinking about looking at potential data sources or indicators, this is a list of best practice indicators that were identified through a systematic review of 16 different studies. Through these studies the researchers were able to identify the most commonly used indicators to help assess the impact of the community health worker program. These indicators ranged from health conditions such as hypertension or diabetes to immunization and low birth rates. Other than the elements listed from the National Community Health Advisor study, there aren't extensive models for evaluating community health worker interventions beyond the individual or community health worker level as seen from this review and the other two examples that I'll share next.

Examples of CHW Evaluation Studies

- COACH Trial (Allen et al., 2011)
 - Intervention: nurse practitioner/CHW team addressing cardiovascular disease risk reduction
 - Data collection: encounter form, clinical records, patient-level surveys
 - Results: significant improvement in NP/CHW group across all health measures & patient perception of care
- Community Action against Asthma (Parker et al., 2008)
 - Intervention: CHW home visits for 1 year to reduce child exposure to asthma triggers
 - Data collection: screening questionnaire, family action plans, health records, caregiver surveys
 - Results: positive impacts in lung function & medication use, mixed results in reducing environmental triggers

I pulled out two examples of CHW evaluation studies. While they were done in a more controlled setting, I think they offer some examples on how you might be able to examine your community health worker program. The first study looked at how a nurse practitioner community health worker team addressed cardiovascular disease and the second focused on asthma. As noted there were a variety of data sources accessed in both studies and approaches for observing outcomes.

Gaps in CHW Program Evaluations

- Assessment of shorter-term outcomes
 - Client knowledge
 - Client satisfaction
- Cost effectiveness
- Impact on other underserved populations
 - For example, low-income undocumented immigrants
- CHW Training
- Stronger methodological designs

There's great potential to make a contribution in the field. The Agency for Healthcare Research and Quality commissioned a systematic literature review in 2010, and from that systematic literature review they revealed that these were the existing gaps in the literature. What I really want to point out here is that client satisfaction is an area that's not as deeply studied as other areas of community health worker programs. Being able to describe the patient's perspective, and their experience with interacting with community health worker programs will also serve as a great contribution to the field in understanding how we advance the community health worker field in public health efforts.

A Few Final Remarks

- Clarify which component of the CHW program is important for your evaluation
- Revisit the basics – CDC Evaluation Framework
- Builds capacity
 - “From them and For them”
- It’s in part, practice-based evidence
- More than health-related outcomes*

“... Much of the daily work that CHAs [CHWs] do and the positive changes their clients achieve are difficult to track...”

National CHA Study, 1998

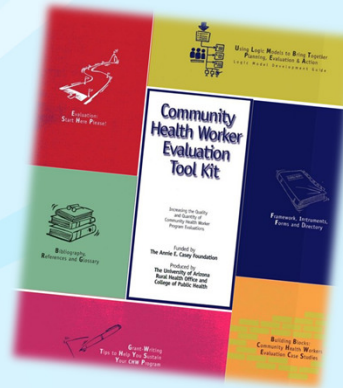
*Hawe, Penelope. (1994). Capturing the meaning of ‘community’ in community intervention evaluation: some contributions from community psychology. *Health Promotion International*, 9 (3): 199-210.

Just to share a few final remarks in general related to this presentation. As a reminder, clarify which component of the community health worker program is going to be important for your evaluation. And also let’s not forget that although there are two frameworks that I shared with you, you can revisit the basics. The CDC Evaluation Framework provides you the basic sequence of steps that you can take in evaluating any intervention. And remembering as a part of that process that community health workers are an essential stakeholder and it helps to build their capacity and makes the evaluation “From them and For them.”

I also want to point out that it’s in part, practice-based evidence, so there are going to be limitations to the process. And we also want to remember that when we’re looking at community health worker programs that there are outcomes that go beyond health related outcomes and we should pay attention to those changes that are occurring as well and the contributions they make to public health promotion.

Resources

- University of Arizona's Community Health Worker Evaluation Toolkit
 - Additional tools and sample forms/instruments
 - <https://apps.publichealth.arizona.edu/CHWToolkit/>
- National Community Health Advisor Study
 - Section 4: Evaluating CHA Services
 - <http://crh.arizona.edu/sites/crh.arizona.edu/files/pdf/publications/eval.pdf>
- CHWs Evidence-Based Models Toolkit
 - Chapter 6—Measuring and Evaluating the Impact of CHW programs
 - <http://www.hrsa.gov/ruralhealth/pdf/chwtoolkit.pdf>

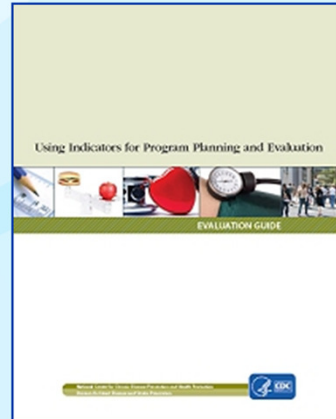


On this slide, I'd like to share the resources that I highlighted during today's presentation. The first one that I've pointed out here is the University of Arizona's Community Health Worker Evaluation Toolkit; in addition to the framework described there are also additional sample instruments or data collection tools that you may reference in your evaluation efforts.

The National Community Health Advisor Study has also been noted here with the link where you can specifically find the framework and an expanded description of the different categories that I discussed today. And then the Health Resources and Services organization also created a toolkit, as well as the Rural Assistance Center, and both of these tool kits have a module specifically on measuring program impact within community health worker programs.

Resources (continued)

- Rural Assistance Center CHW Toolkit
 - Module 6: Measuring Program Impact
 - <http://www.raconline.org/communityhealth/chw/>
- Diabetes Training and Technical Assistance Center
 - video recording of CHW training
 - <http://www.dttac.org/services/products.html>
- DHDSP Evaluation Resources
 - Evaluation guides, tip sheets, coffee break archives, and more!
 - http://www.cdc.gov/dhdsp/evaluation_resources.htm



The Diabetes Training and Technical Assistance Center recorded one of the trainings which was specifically in community health worker programs and converted it into a video recording, which is available online. Lastly, I want to remind you that our evaluation team is continually working to provide you with resources to guide you in your evaluation efforts that may be applicable to a community health worker program or another intervention that you're working on. So I've provided that link to you so feel free to check out the updated resources available on that Web site.

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- **Eng, J et al. (1992).** Lay health advisors as community change agents. *Family and Community Health*, 15 (1), 24-40
- **Hawe, Penelope. (1994).** Capturing the meaning of 'community' in community intervention evaluation: some contributions from community psychology. *Health Promotion International*, 9 (3): 199-210.
- **Nemceck, MA and Sabatier, R. (2003).** State of evaluation: Community health workers. *Public Health Nursing*, 20(4), pp. 260-270
- **Parker, E et al. (2008).** Evaluation of community action against asthma: A community health worker intervention to improve children's asthma-related health by reducing household environmental triggers for asthma. *Health Education and Behavior*, 35(3), 376-395
- **Rosenthal, E, Heer, H, Rush, C, & Renee-Holderby, L. (2008).** Focus on the future: A community health worker research agenda by and for the field. *Community Policy Brief*: John Hopkins University Press.
- **Rosenthal, E.L. et al. (1998).** National Community Health Advisor Study, University of Arizona Tucson, Arizona
- **Viswanathan, M. et al. (2009).** Outcomes of Community Health Worker Interventions. Evidence Report/Technology Assessment No. 181 AHRQ Publication No. 09-E014. Rockville, MD: Agency for Healthcare Research and Quality

This slide just shares some of the references that were mentioned throughout the presentation for your further reading, if you'd like to learn a little bit more about some of the studies that I talked about.

Thank You

**If you have any questions, comments, or
topic ideas send an email to:**

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