Published in final edited form as:

Fam Community Health. 2010 ; 33(3): 228–237. doi:10.1097/FCH.0b013e3181e4bc8e.

Transitioning From CHIP to CHIRP:

Blending Community Health Development With Community-Based Participatory Research

Paul B. McGinnis, MPA,

Oregon Rural Practice-based Research Network, Oregon Health & Science University, Portland

Monica Hunsberger, PhD,

Oregon Rural Practice-based Research Network, Oregon Health & Science University, Portland

Melinda Davis, PhD,

Oregon Rural Practice-based Research Network, Oregon Health & Science University, Portland

Jamie Smith, BSN, RN,

Jefferson County School District, Madras

Beth Ann Beamer, BSN, RN,

Community Health Improvement and Research Partnership, Mountain View Hospital District, Madras, Oregon

Danna Drum Hastings, MDiv

Jefferson County School District, Madras

Abstract

In 2006, a community health development model was used to engage citizens in Jefferson County, Oregon, around local health concerns. Childhood obesity emerged as a priority health issue. In 2007, a research component was introduced by Oregon Health & Science University to help the community garner resources and inform the field. This case study describes the collaboration between the Mountain View Community Health Improvement Partnership and Oregon Health & Science University to increase the number of county children at a healthy weight. Research and projects occurred simultaneously since community members are motivated by action, and research is a slower process.

Keywords

childhood obesity; community-based participatory research; community health development; rural

COMMUNITY HEALTH DEVELOPMENT and public decision-making process models have served rural communities well over the past 2 decades.¹ These models provide a vehicle for citizens to involve themselves in choices about the health services, projects, and resources that will be made available to them in their community. These process models

Corresponding Author: Paul B. McGinnis, MPA, Oregon Rural Practice-based Research Network, Oregon Health & Science University, 3181 SW Sam Jackson Park Rd L-222, Portland, OR 97239 (mcginnip@ohsu.edu). Ms Hastings is now with State of Oregon Public Health Division.

Disclaimer: The authors report no conflicts of interest.

involve the public in establishing the project agenda, researching alternatives, and gaining consensus before implementation. In Oregon, the Community Health Improvement Partnership (CHIP)² has facilitated entry into 12 communities and has led to community-based participatory research (CBPR) in several settings. Oral health research and chronic disease management practice-based research have occurred under the Baker County CHIP and the Lincoln County CHIP, respectively.³⁻⁵ CHIPs include a collaboration of individuals and agencies representing social and civic organizations, school systems, healthcare providers, government, and other community socioeconomic and demographic sectors.

Proponents of community-based and practice-based research argue that the social determinants of health, the medical ecological model, and the socioecological model mandate that research move out of academic settings and into the real world.⁶⁻⁸ Social determinates of health suggest that the physical and social environments combined with individual behaviors (tobacco, alcohol, and nutrition) and biology interact with access to care to determine health outcomes. Community interventions can improve the social determinants of health. The medical ecological model states that less than 1% of 1 000 people in a given month use tertiary care facilities; yet, this is where most research is conducted. Moving research on health promotion and prevention into the community promises to help a greater percentage of the population. The socioecological model recognizes the relationship that exists between the individual's health and his or her connection with family, social networks, social institutions, community, and the policies that govern his or her environment. Engaging communities in all components of research ensures that these intricate ties will be honored and incorporated into locally relevant health interventions. Given the multiple factors that contribute to the presence of health, broader participation in problem solving and research is needed.

What makes people want to participate in public life and improve the health resources and health status of their fellow citizens? They want action; they want to see change. Underlying all the strategies employed in health development models is the assumption that people have a right to participate in public affairs that affect their lives. The more something affects them, the more they will demand an opportunity to participate. They want their community to be better, healthier, more economically viable, and safer for their neighbors, friends, family, and themselves. While citizens may be interested in learning from peer-reviewed research strategies to fix their particular issue, generally, they are not initially motivated to act because of a research question. Their motivation for participation stems from community service and self-interest and not from a desire to provide generalizable knowledge to the field. Communities and their practitioners want quality healthcare and an environment that facilitates high quality of life. However, there is a fine line between quality improvement, community projects, resource development and research. With facilitated training, community members and health resource partners come to realize the benefits of using research-based approaches to address their community health needs.

In Oregon, CHIP provides a process that allows these self-interests to be met while establishing a foundation for CBPR. The principles of CBPR⁹ closely mirror the doctrine of the CHIP process. First, both acknowledge the community as a unit of identity. The CHIP process not only defines *community* as a network of like needs and ideas but also recognizes

a geographic denominator for the collection of data. Both build on strengths and assets existing in people and the community itself. CBPR facilitates a collaborative, equitable partnership in all phases of research, involving power sharing that attends to social inequalities. CHIP groups represent a variety of social, economic, cultural, racial, and geographic sectors of the community, with all having equal levels of participation. Co-learning and capacity building are central to both these processes. In CHIP, planning itself is viewed as a learning experience, with the premise that you do not need to be an expert to plan. CBPR focuses on the local relevance of public health problems and on ecologic perspectives, and CHIP encourages the group to focus on what can be accomplished at the local level employing the “see and touch” test in the selection of issues. Both CBPR and CHIP employ cyclical, iterative, and rational scientific approaches to problem solving. Results of work completed in both CBPR and CHIP are freely disseminated to people who participate and to the scientific community through presentation and publication. Finally, both involve longer-term processes, relationships, and a commitment to sustainability.

CHIP transitions to a Community Health Improvement and *Research* Partnership (CHIRP) when the local partners receive basic training in research development, design, data analysis, and interpretation. CHIP groups may decide to never enter into the research field. This is a decision made best by the community. A CHIP group can still address community concerns in meaningful ways. CHIRP maintains the CHIP community development framework and the complementary overlap with CBPR approaches. CHIRP provides a process model that allows community and personal self-interests to be met and simultaneously establishes a foundation for both practice-based participatory research and CBPR. By providing community partners with the necessary research training, they can recruit investigators from the “ivory towers” of academia and contribute equally in all stages of the research endeavor.

In addition to training communities in research methods and protocols, practicing clinicians may also benefit from research training. Practice-based research is also community engagement.¹⁰ Practices are a part of the overall community and linked to community-based resources and organizations. Clinicians play a central role in determining the scope of health services in their communities. However, it is often the community funds that pay for and support the resources and services that clinicians “use” to prevent, screen, diagnose, and treat illness. This creates a relationship between community needs and what clinicians do in their everyday work. The concepts of the patient-centered medical home and medical neighborhoods have considerable potential to improve health at the community level and reduce overall health expenditures. The boundaries between primary care practice and public health (population health) are becoming blurred. These boundaries are populated with numerous research opportunities, including the meaningful use of health information technology to improve health outcomes.

Researchers, principal investigators (PI), and funders have described their desire to involve communities in research pursuits.¹¹ They have also expressed frustration about the lack of preaward resources to develop relationships with communities and the lack of career-development recognition in academic settings for the work necessary to build trust and partnerships.¹² Because of these barriers, when attempting to find community settings in which to conduct research, investigators often secure funding first and then seek community

participation after, hoping to match their interests with those of communities. This approach has been described as “helicopter research,” in which “outside research teams swooped down from the skies, swarmed all over town, asked nosey questions that were none of their business, and then disappeared never to be heard of again,”¹³ and more recently as “drive-by” research, in which the investigator is only in the community to conduct his or her work and not necessarily to serve the community.

Once a community identifies its interest area, multiple problem-solving pathways are available to address the issue (Figure 1). These include education of the individual, the public, community clinicians, increasing the availability or accessibility of resources, and policy development. Any or all of these activities can be simultaneously pursued. If the partnership chooses an issue pathway response that leads to research, rather than having researchers “drive-by” hoping for a match between the investigators grant award and their needs, the community can “drive-by” the academic center and select PIs whose interests match their own and then collaboratively apply for funding opportunities. The problem pathways model leads to a variety of research opportunities, including practice-based research involving practice transformation, comparative effectiveness research, translational research, and clinical trials in the clinic/health resource setting. In the community/institutional setting, health disparities research, health services research, implementation research, diffusion research, and CBPR opportunities may emerge.

The model of transition from CHIP to CHIRP is not linear. The work on one side of the model is not conducted exclusively against the other. They occur in a symbiotic relationship in which the needs of the community and the researchers interact to lead to mutual benefit.

THE CASE

Jefferson County is located in central Oregon. It is defined as rural by all the working definitions¹⁴ and fits the socioeconomic and health status disparities associated with rural underserved populations. In 2006, the Mountain View Hospital District entered into an agreement with the Oregon Office of Rural Health to implement CHIP. A core component of the CHIP process is that each partner jointly funds an indigenous person to serve as the local CHIP coordinator. The Office of Rural Health dedicates community health development field staff members to assist the partnership organize, define their community, conduct qualitative and quantitative community assessments, and identify issues for pursuit and problem solving. The community hires the CHIP coordinator and mobilizes diverse sectors of the population for participation.

Once the Mountain View CHIP was formed and assessments were conducted, 5 broad areas of interest were identified for problem solving. These included quality of care provided at the local hospital, affordable health insurance, mental health care, oral health, and health promotion related to physical activity and nutrition. Committees were formed around each issue area, and they began work. This case study highlights the work of the committee addressing physical activity and nutrition because it relates to obesity treatment and prevention and describes the locally initiated activities. Figure 2 shows details of the local actions taken regarding childhood obesity.

At the individual level, the CHIP sponsored the training and licensure fees to conduct the Am I Hungry? program. This is a nondiet approach to mindful eating.¹⁵ This process occurred with adults because it was thought that their role-modeling would influence family eating behaviors, addressing 2 components of the socioecological model. Six multiweek classes serving 103 participants have been conducted to date and will continue.

At the clinician/clinic level, projects have been undertaken. One of the clinics in Jefferson County serves as a training site for Oregon Health & Science University's (OHSU's) mandated third-year medical student 5- to 6-week rural/community clerkship. These students conduct a "community project" as part of the experience. Since the formation of the CHIP, 3 students have focused their community project on childhood obesity.¹⁶ These projects have focused on keeping kids physically active, evaluating dining options in the community, and assisting with the development of the school district's wellness policy. These student projects help their preceptors to better understand the community environments and situation, thus making them more likely to participate in practice-based research and community projects to address childhood obesity.

At the community level, the Mountain View CHIP has sponsored or affiliated with multiple organizations both to provide educational programs and to conduct local health development activities. Oregon State University extension specialists have nutritional education programs in the local schools and run "Kid's Cooking" programs for kindergarten to fifth graders on the Warm Springs Reservation. Nutritional education activities included presentations at the Jefferson County Middle School and booths at community and school health fairs. Through its fundraising efforts, the Mountain View CHIP provided admission coupons and transportation vouchers for using the newly opened Madras Aquatics Center to assist those unable to pay. Approximately 700 children were assisted by these programs at a cost of about \$1 700. Projects tackled by the Mountain View CHIP and partners have included construction or rebuilding of 4 community gardens (with a plan for 3 more), building a walking path near the Senior Center, offering trainings on bicycle repair and bicycle rodeos, implementing the Safe Routes to School program, initiating health challenges among various organizations, coordinating kids' walking programs/contests at 2 elementary schools, participating in "Turn It Off Week," and introducing WeeBEE Walking at the Head Start programs. Furthermore, the Mountain View CHIP sponsored Madras Community Volleyball as a family-oriented physical activity opportunity.

The Mountain View CHIP also recognized the need for policy interventions and supported school wellness policies and other civic improvements that lead to active community environments. Therefore, the Mountain View CHIP collaborated with the local health department and others to conduct a comprehensive county assessment of the burden of chronic disease and developed a 3-year community action plan outlining priority policy initiatives to promote increased physical activity and improved nutrition.

It was at this point that the group began to realize that research could be a tool or means to achieve its desired outcomes, and an opportunity for CBPR funding was pursued. In 2007, the Northwest Health Foundation released a call for proposals to support planning and development of a CBPR partnership to test community policies to combat chronic illness.

The Mountain View CHIP in partnership with the Office of Rural Health and the Oregon Rural Practice-based Research Network, both programs housed at the OHSU, applied for the modest planning grant and was awarded funds. The aims of the grant were 3-fold: (1) develop a working research partnership; (2) provide the partnership with basic research training and skill development; and (3) collect preliminary data. These aims were designed to facilitate submission of competitive research proposals.

FORMATION AND ACTIVITIES OF THE MOUNTAIN VIEW CBPR PARTNERSHIP

The formation of the Mountain View CBPR Partnership, a subgroup of the Mountain View CHIP, included organizational partnership areas of potential responsibility and individual partner agreements that were signed by the partner and the local coordinator. These nonbinding agreements delineate the responsibilities of both parties. Partnership members included representatives of 2 clinics that are members of the Oregon Rural Practice-based Research Network, a representative from the hospital who serves on the Oregon Rural Health Quality Network, schools, public health, local government, and other social service organizations.

The basic research training program agreed to by the local CBPR coordinator and the OHSU team was designed to bring a group through the stages of group development that include Forming, Storming, Norming, and Performing.¹⁷ The orientation meeting for the partnership helped with the Forming stage. The meeting answered the questions: Why are you here? Who are the other members? What are we expected to do? How will the work get done? and What are the goals and objectives? Furthermore, it is important for members of the group to have a sense of belonging and ownership. This was accomplished by allowing the members to share their expertise through active participation in study planning. Group participation was facilitated by using an introductory sharing exercise that engages everyone in speaking and interacting at the start of the meeting. Members shared their expectations, concerns, attitudes, and beliefs about childhood obesity and past experience in research (most had none).

During the next 4 meetings, the group worked through the Storming phase of group development. During these meetings, questions related to tasks and activities were addressed. These included the following questions: Who is responsible for what and what knowledge is needed? What is the group structure? and Who will lead and in what areas? Basic information was transferred to the group through brief didactic sessions supplemented with group interaction. The first session differentiated research from community assessment work. Partnership members learned that the intent of research was to inform future research and were introduced to the role of institutional review boards (IRBs) and PIs. The second learning session covered protection of human subjects and members covered the ethical conduct of research, privacy, and personal health information rules and consent of subjects. The third session shared basic research methods with the partnership. Finally, the fourth meeting allowed the group to pose research questions regarding childhood obesity. Thirty-two questions were posed by the group.

During these 4 meetings, the group brain-stormed answers to the following questions: Why does a community need to engage in a community health development and research process? Who will benefit from our work and how? Who will/can help us and why (community assets)? and Who will/can hinder us and why (community barriers)? The answers to these questions pointed blame at individuals, organizations, policies, and societal trends. Some community members had empathy; others felt overwhelmed. Despite the daunting variety, common areas of agreement began to emerge from the discussion. The Norming phase of group development had begun. The local school district was seen as a community asset, with resources including the district nurse, teachers, and administration. The school district policy of weighing and measuring all kindergarten through fifth graders was viewed as a means to accurately measure the extent of childhood obesity over a longitudinal time period. However, expansion to middle and high school was desired.

The Performing stage was achieved through the successful collection of preliminary data on the body mass index of school children in kindergarten through 6th, 8th, and 11th grades. Sixth, 8th, and 11th graders had not been weighed and measured before, nor had the local school district utilized a protocol on how to accurately weigh and measure. Before weighing and measuring in 2008, a protocol was implemented. The Mountain View CBPR Partnership determined that this measurement would serve as a means of establishing a Child Health Ecological Surveillance System.¹⁸ The results were shared with the school board members and the general community. These preliminary data confirmed the partnership's perceptions and served to motivate pursuit of their action steps. A total of 47.6% of children were overweight or obese. The group felt it important to continue to weigh and measure these grade levels to see whether the overall community activities to reduce childhood obesity have the proper impact. This accurately measured data will also be compared with the self-reported heights and weights of 8th and 11th graders published in the Oregon Youth Behavioral Risk Factor Surveillance System conducted as the Oregon Healthy Teens survey.

FUTURE CBPR PROJECTS

Given its initial success engaging in research, the Mountain View CBPR Partnership is currently collaborating with the OHSU on 3 funded research projects that address childhood obesity and nutrition in rural Oregon. The first project, Policy Approaches to Children's Health (PATCH), is an 18-month partnership grant in conjunction with the OHSU Graduate Programs in Human Nutrition. The project tests the effectiveness of 3 school-based policies. These include (1) whether labeling foods with caloric values at the point of decision making influences food choices among middle school students; (2) whether having recess before eating lunch, the reverse of the current system, improves nutrient consumption and changes classroom behaviors among elementary-age students; and (3) whether or not to inform parents of the body mass index status of their children through written notification from the schools. This study is currently under way.

The Mountain View CBPR Partnership is also working with PIs associated with the OHSU Clinical and Translational Science Award through 2 National Institutes of Health-funded projects under the title "Nutrition Worlds." The first grant brings educational materials to rural community events, including an interactive exhibit in which participants serve as

human subjects while gaining an assessment of their current diet, body measurements, and blood measures (adults only). Adults also provide a DNA sample. The second Nutrition World research project engages rural middle school science teachers in nutrition education training and provides resources for student field trips during the academic year.

The Mountain View CBPR Partnership also submitted 2 National Institutes of Health proposals that were unsuccessful in garnering funding but provided good learning experiences. The intent is to retool for later submission. In all of these research efforts, financial resources are shared with the local community creating family wage jobs and bringing professional research skills and training to the community, thus deepening future research capabilities. Members of the Mountain View CBPR Partnership have been certified to participate in research under OHSU's "Big Brain."

LESSONS LEARNED

He who excels at resolving difficulties does so before they arise.

Sun Tzu¹⁹

Transitioning from CHIP to CHIRP is not without its struggles. Anecdotal lessons learned were generated during a brainstorming session of the Mountain View CBPR Partnership to inform others working in the field. Planning ahead to address these concerns may assist with the transition process.

- *Keep each research project budget separate from the overall budget of the CHIP.* When a cost overrun occurred in a specific area of a research plan, CHIRP members began to question expenditures for other community-related projects. While the research budget was transparent, the other CHIP resources were not. Make it clear to the partnership what resources they have influence over and which they do not.
- *Proactively develop a process for engaging and socializing new members to the CHIRP.* New community partners often join the partnership because of interest in specific research interventions or community projects. Offering one-on-one or small group orientation sessions before new members are permitted to participate in the full partnership meetings may help avoid frustrations and delays.
- *Develop a primer for new members on navigating the required IRB training.* At the beginning of the CHIRP process, community partners went through the required IRB learning modules together. However, new members need the training as well but need to complete it independently. A primer on how to navigate the process would be helpful.
- *Inform members about the potential conflicts of interest that arise, given their dual roles as researchers and participants in some studies.* Conflict of interest may be a problem if partners are also employees where a research intervention is taking place. In these cases, members need to be cautious about sharing their "opinions and beliefs" with their peers because these views may influence study outcomes.

- *Partnership members need to be reminded about maintaining privacy and the ethical conduct of research.* Smaller communities require vigilance in maintaining privacy of human subjects. Stressing privacy at all CHIRP meetings is helpful.
- *Do not assume that information trickles down.* For example, just because the superintendent of schools and the principal of the building approve and support the intervention does not mean all staff members and employees are aware of what is happening. Informing employees whose day-to-day work is most affected by the intervention being tested should be done by the research staff and coalition partners. The question is, “How much information can be shared with the broader community without it influencing the results?”
- *Structure meetings so that members can participate in activities that are personally meaningful.* The CHIRP generates research responses in clinical, population, and community settings. This diversity means that not all CHIRP partners are interested in *all* of the research endeavors taking place. Given that each research proposal demands unique attention and exclusive involvement, and that adding more meetings is not always desired, it is advisable to organize breakout workgroups during the regular CHIRP meetings so that some partners can leave without feeling badly and others can engage in activities that are relevant to them.
- *Structure your research training so that it meets local contexts.* This particular community is culturally diverse. Cultural competency training for the partnership should be part of the overall research training curriculum.

CONCLUSION

The CHIP is a model of community health development that closely aligns with the principles of CBPR. Providing research training to CHIP members, transitioning to the CHIRP, allows opportunities for synergistic collaboration between community partners and academic PIs. Both communities and researchers benefit when the health of the community is improved. The Mountain View CHIP case study is an example of a community health collaborative that is working to address its local health concerns through direct community action and nationally funded research projects. CHIRPs are optimally positioned to collaborate on a myriad of projects, ranging from clinical practice transformation to comparative effectiveness research to clinical trials to health policy research. Using CHIRP as a model of community health development can serve as a model for community research in a variety of settings.

Acknowledgments

This study was supported by the Northwest Health Foundation and the Oregon Clinical and Translational Research Institute, grant no. UL1 RR024140, and by the National Center for Research Resources, a component of the National Institutes of Health and National Institutes of Health Roadmap for Medical Research.

The authors thank the members of the Mountain View Community Health Improvement Partnership and the Mountain View Community-based Participatory Research Partnership for their volunteer efforts in service to their community.

REFERENCES

1. National Rural Health Association. Community Involvement Offers Hope to Rural Health Care Systems: A Report to the Northwest Area Foundation. Washington, DC: National Rural Health Association; 1994.
2. McGinnis P, Przybilla J. Community Health Improvement Partnership: A Rural Community Health Development Process Model. West Linn, OR: McGinnis and Associates; 1999.
3. Davis M, Hilton T, Benson S, et al. Unmet dental needs in primary care: a clinic, community, and practice-based research (ORPRN/PROH) collaborative. *Journal of the American Board of Family Medicine*. In press.
4. Oregon Department of Human Services. Oregon Rural Collaborative Final Report. Portland, OR: Health-Matrix Inc; 2007 Oregon Department of Human Services Contract No. 110607.
5. World Health Organization. Commission on the Social Determinants of Health. http://www.who.int/social_determinants/en/. Accessed March 15, 2008.
6. Calico F, Myers W. What Makes Rural Health Care Work? An NRHA American Tour. Washington, DC: National Rural Health Association; 2007:10–14.
7. Green L, Fryer G, Yawn B, Lanier D, Dovey S. The ecology of medical care revisited. *The New England Journal of Medicine*. 2001;344(26):2021–2025. [PubMed: 11430334]
8. Maton K Making a difference: the social ecology of social transformation. *The American Journal of Community Psychology*. 2000;28:25–58. [PubMed: 10824273]
9. Israel B, Eugenia E, Schulz A, Parker E, eds. *Methods in Community-Based Participatory Research for Health*. San Francisco, CA: Jossey-Bass; 2005.
10. Westfall JM, Fagnan L, Handley M, et al. Practice-based research is community engagement. *Journal of the American Board of Family Medicine*. 2009;22(4):423–427. [PubMed: 19587257]
11. National Institutes of Health. Report and Recommendations on Public Trust in Clinical Research, Revised and Approved by the Council of Public Representatives, National Institutes of Health. Bethesda, MD: National Institutes of Health; 2005.
12. National Institutes of Health. Improving health with communities: the role of community engagement in clinical and translational research In: *Proceedings of workshop no. 6 of the NIH-sponsored meeting*; 5 15, 2009; Bethesda, MD.
13. Moutour LT, Macaulay A. Diabetes mellitus and atherosclerosis: returning research results to the Mohawk community. *Canadian Medical Association Journal*. 1988;139:201–202. [PubMed: 3395933]
14. Oregon Office of Rural Health. Rural definitions. <http://www.ohsu.edu/ohsuedu/outreach/oregonruralhealth/data/definitions/index.cfm>. Accessed August 26, 2009.
15. May M Am I Hungry? <http://www.amihungry.com/>. Accessed April 26, 2010.
16. Oregon Health and Sciences University Area Health Education Center Program. Rural and community health clerkship—community project abstracts. http://www.ohsu.edu/ahec/clerkship/abstractsbysite.cfm?fk_sites=17. Accessed April 26, 2010.
17. Tuckman BW. Development sequence in small groups. *Psychological Bulletin*. 1965;63(3):384–399. [PubMed: 14314073]
18. Plotnikoff RC, Lightfoot P, Barrett L, Spinola C, Predy G. A framework for addressing the global obesity epidemic locally: the Child Health Ecological Surveillance System (CHESS). *Preventing Chronic Disease*. 2008;5(3). http://www.cdc.gov/pcd/issues/2008/jul/07_0007.htm. Accessed August 23, 2009.
19. Tzu S *The Art of War*. Oxford, England: Oxford University Press; 1963.

Figure 1.
Potential research and community project activities through blending community health development and research.

Figure 2. Activities and research in Jefferson County, Oregon, related directly to community health improvement partnership. OSHU indicates Oregon Health & Science University; BMI, body mass index.