Policy-Contribution Assessment and Field-Building Analysis of the Robert Wood Johnson Foundation's Active Living Research Program

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Background: The Robert Wood Johnson Foundation requested this utilization-focused evaluation of its Active Living Research (ALR) program. This evaluation reports on the trajectory of influence of past and future ALR outcomes on field-building and policy contributions as well as on possible users of completed and disseminated ALR products.

Methods: In 2006 and 2007, key-informant interviews were conducted with 136 representatives of first-line potential users of ALR research products, including state physical activity and nutrition program coordinators, policymakers, scientists, and funders. Literature reviews, bibliometric analyses, and document reviews served to describe the context for ALR's work and the ways it could enhance its utility for field building and policymaking.

Results: The contributions of ALR to the emerging transdisciplinary field included leadership in the development of measurement tools, epidemiologic studies, implementation research, the translation of research to practice, and the communication of learned lessons to diverse audiences. ALR's contributions to policy discussions were found across a spectrum of policy-development phases that included describing the problem, raising awareness of alternative strategies for increasing physical activity, convening nontraditional partners, and evaluating policy implementation.

Conclusions: Policy-relevant research can make contributions to policymakers' thinking but almost never causes a change by itself. Five years after the original authorization of ALR, there is ample evidence of its recognition as a resource by key players, its field-building influence, and its contributions to policy discussions. All these bear promise for a broader contribution to obesity prevention. Recommendations for increasing ALR's impact on policy and practice are offered.
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Introduction

Active Living Research (ALR) is one of five grantmaking programs launched by the Robert Wood Johnson Foundation (RWJF) in 2001 to increase physical activity at the population level.[1] This suite of programs sought to increase physical activity through research, community demonstrations, technical assistance, and policy and environmental changes to create more activity-friendly environments. From its inception, ALR was designed to "stimulate and support research to identify environmental factors and policies that could substantially increase levels of physical activity among Americans of all ages, incomes, and ethnic backgrounds" (www.activelivingresearch.org). While ALR's emphasis remains focused on the built environment, it was redirected by the RWJF in 2003 to identify policy and environmental determinants of physical activity within the low-income and racial/ethnic populations where levels of childhood obesity are highest and rising fast. For more information on ALR, the reader is referred to the articles in this supplement to the *American Journal of Preventive Medicine* by Orleans et al.[1] and Sallis et al.,[2] the latter of which includes findings from internal evaluations conducted by the ALR National Program Office (NPO).

By 2006, ALR was completing its first funding cycle and was being considered for renewal, at approximately the same time that the Healthy Eating Research (HER) program joined the suite of RWJF programs focused on the prevention of childhood obesity. It was at this juncture

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that the RWJF called for the external evaluation of ALR; this paper reports on one of two such evaluations.

The Evaluation's Charge and Guiding Questions

To assess ALR's current and future contributions and to inform decision making by the RWJF and the ALR NPO, two complementary external evaluations were commissioned by the RWJF. One evaluation, reported also in this supplement,[3] assessed ALR process and outcomes. The other evaluation, reported here, was a utilization-focused evaluation to assess and comment on the trajectory of influence of past and future ALR research findings as well as on the possible users of completed and disseminated ALR products. Utilization-focused evaluation is a "... process for helping primary intended users select the most appropriate content, model, methods, theory and uses for their particular situation."[4] In keeping with these principles, the internal stakeholders of the RWJF chose two evaluation questions that would be useful to their deliberations:

1. To what extent, and how well, is ALR working to build the field of research and practice focused on policy and environmental factors conducive to physical activity?
2. To what extent, and how well, are research findings from ALR contributing to policy discussions about how to promote physical activity through policy and environmental changes?

A Focus on Knowledge Utilization

In asking these questions, the RWJF chose *knowledge use* as a legitimate intermediate objective for ALR after 5 years of operation. While other evaluations demonstrated ALR's production of research knowledge,[2,3] this evaluation was intended to assess the potential use of that research knowledge: How do—and will—ALR research products contribute to a field of research and practice, including policy? This focus on practice was added to the original RWJF question to enable an exploration of field building. Further, in the tradition of policy-related research where the "results are never self-explanatory,"[5] the RWJF asked the evaluation team to provide commentary about a trajectory of use.

A focus on knowledge use is consistent with evaluation and policy research over the past 3 decades[4,6,7] that has discredited the idea that research alone has a direct and immediate effect on policy decisions.[8] Such instrumental use[6] was found unrealistic, and probably undesirable, given the failing of much research to influence practice, much less policy. Policymakers take research information into consideration along with a large number of other types or sources of information and issues, such as the media, constituents, and colleagues.[9] Policymakers process all this information with any number of documented models of use, including problem solving, political, interactive, tactical, or enlightenment models.[10] It is an enlightenment model that the RWJF brings into play in this evaluation where it seeks an understanding of the options and assumptions underlying lines of action as they apply to decision makers within the RWJF and to the external recipients of ALR research products.

A Tale of Trajectory and Contribution

Following an explanation of the methodology used, evaluation findings and commentary are presented in a series of questions that inform the guiding questions asked by the RWJF. The broad context of field building is explored and then narrowed to a focus on ALR's potential contribution within that context. Consistent with the knowledge-utilization literature, the evaluation did not look for a direct or sole influence of ALR findings on field building and policy change, but rather looked at ways that ALR research could enlighten the policymakers and practitioners who link research with policy discussions. Indicators of enlightenment included whether such practitioners and policymakers were aware of ALR products and saw the relevance of those products to their responsibilities. Findings of *policy contribution* are organized around a conceptual framework that defines contributions broadly and at multiple stages in the policy process. Lastly, a discussion of the findings and recommendations are offered.

The evaluation took into consideration the relative youth of ALR as well as the RWJF's recent expansion into childhood-obesity prevention, encompassing policy and environmental approaches to both active living and healthy eating. As described by Hirschhorn and Gilmore,[11] philanthropy builds a field of research, practice, or social change from ideas that are in currency at the time. It takes time for research to be proposed, funded, produced, and disseminated to policy and practice audiences. This study, therefore, assessed the recognition and the perceived contributions and utility of the ALR-funded research for field building and policy. It did not expect to establish causation or attribution; it explored implementation and policy contexts, and it offered recommendations on potential ways the initiative could be strengthened to influence policy and practice.

Methods

Logic Model

Using recommended evaluation practice,[12] evaluators developed a conceptual logic model to map an understanding of the interplay of various social and institutional forces that bear on policy contribution and field building. Construction of the logic model (Figure 1) was based on ALR's own logic model[2]; on multiple understandings of research influence and knowledge utilization[13] such as diffusion,[14] implementation,[15] and translation[16]; and on the stages and typologies of the policy process.[17]

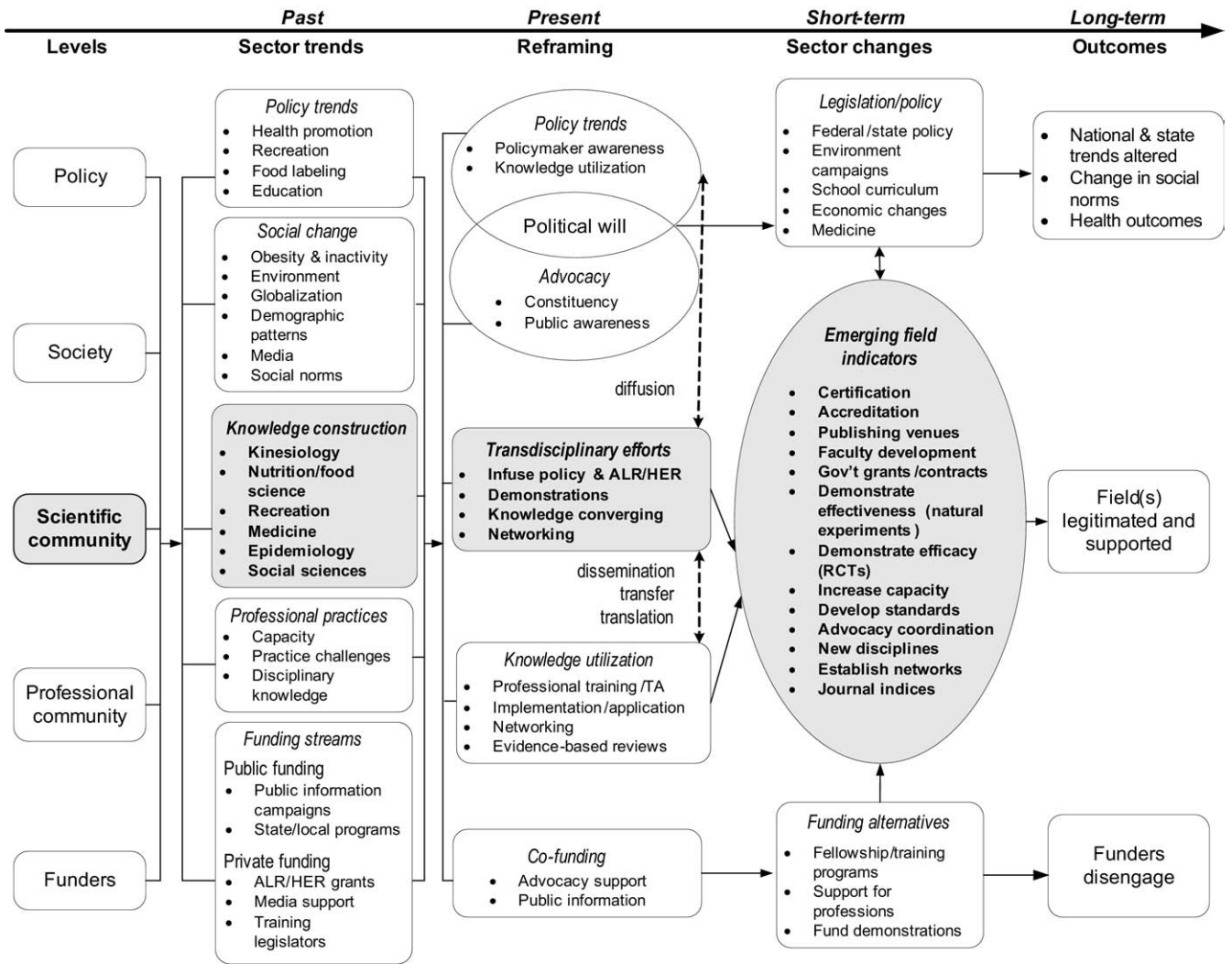

Figure 1. Evaluation logic model to assess ALR's contributions to field building and policy

The left side of the logic model identifies five domains of contribution to field building: policy, society, scientific community, professional community, and funders. Across time, the model anticipates individual sector trends that will be reframed and infused with policy in ways that support the emergence of a new field. The shaded path embeds ALR in multiple scientific contributions to field building. Space does not permit a full discussion of this model, but its presentation here is critical to a transparent explanation of the sample, methods, and analyses chosen.

Sample

The study collected data largely through telephone interviews with key informants. The sample consisted of 136 respondents. An outside–inward approach to sample selection is represented in the logic model, Figure 1, with the RWJF's intended impact and ALR's intended users. These end-users included (1) the most important first-line consumers and implementers of ALR research products at state and local levels; and (2) policy shapers, including advocacy, federal, and philanthropic organization leaders who ideally would apply those products in broad national policymaking. Interviews were conducted with informants representing four of the five levels of the logic model, as follows.

Professional community. This comprised 50 state coordinators employed by the 28 states funded by the CDC Nutrition and Physical Activity Program to Prevent Obesity and Other Chronic Diseases,[18] plus nine coordinators employed by states not funded by the CDC. At the nexus of federal, state, and local efforts in physical activity and obesity prevention, these coordinators represent the most likely translators and disseminators of research to frontline users of ALR knowledge and products in state and local policymaking. Further, they represent a manageable, national population of one kind of professional community; the 50 coordinators were a sample of 84 CDC-funded positions (some unfilled) at the time of the study.

Policy. State coordinators identified 36 policy shapers and advocates via a snowball sample as key players in the field and another type of potential end-user of ALR products. They included administrators or other key representatives of agencies engaged in children's health and advocacy, health policy development and analysis, land-use planning, media and

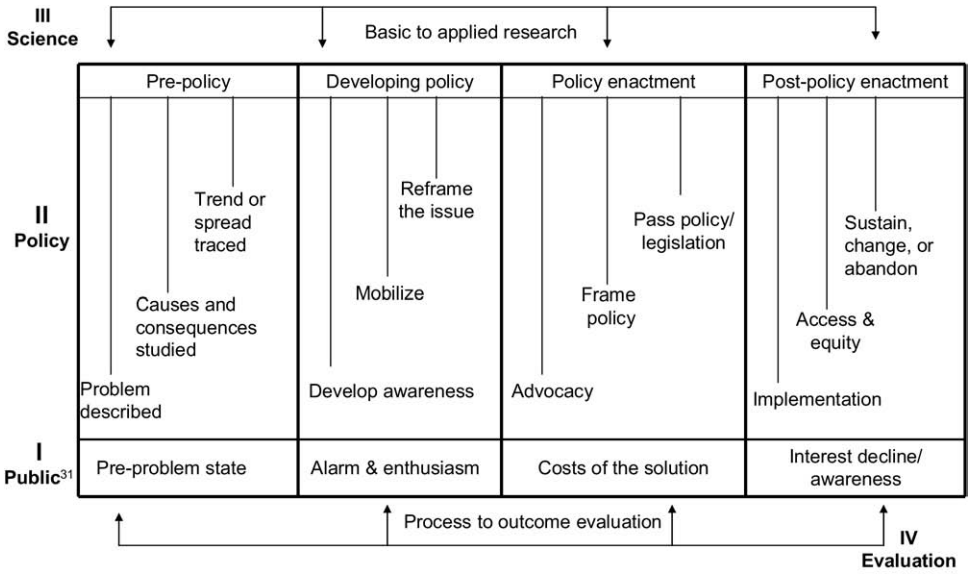

Figure 2. Science–policy–public–evaluation spectra: a framework to assess policy contributions

communications, parks and recreation, physical activity advocacy, and transportation planning.

Scientific community. Twenty-three researchers were identified through literature reviews as key contributors to the fields of nutrition, physical activity, obesity control, and health promotion. These were individuals who conducted population-level policy and environmental research addressing one or both sides of the energy-balance equation (i.e., physical activity and calorie intake) and had knowledge of policy development and field building.

Funders. These were seven representatives from philanthropic, health-related foundations other than the RWJF who have a role in supporting research and/or demonstrations in the areas of physical activity, obesity, or children's health. In addition, interviews were conducted with 11 RWJF leaders, managers, and key consultants.

Data Collection

Telephone interviews with key informants were conducted between August 2006 and April 2007. Each lasted from 15 minutes to 60 minutes. A standardized protocol reflecting the evaluation questions and major constructs of the logic model was developed with variations for each type of key informant. The protocols contained both closed- and open-ended questions. Core questions asked of more than one group of informants inquired about awareness of ALR, examples and indicators of ALR's policy-relevant contributions and field-building efforts, and larger contextual influences on ALR methods and impacts. In addition, professionals and policy shapers were asked questions about the general influence of research on practice and policy and about ALR specifically; researchers were asked questions about field-building facilitators, barriers, and trajectories; and funders also were asked about field building and about the sustainability and direction of the field.

Data Analysis

Quantitative data from closed-ended interview questions were aggregated by key-informant type, and frequency distributions were calculated. These data were used to examine assumptions about the presumed linkages shown in the logic model (Figure 1) and to identify patterns across key-informant levels. To answer the question of policy contribution, the analysis sought to trace practice influences on intended users inward toward ALR or other sources of influence (moving from right to left in the logic model). To answer the question of field building, the analysis moved from ALR outward to other sectors. To analyze contribution to policy, an additional framework, the Science–Policy–Public–Evaluation Spectra (Figure 2), was developed and will be explained in more detail later.

Qualitative data from interviews were analyzed for patterns within and across constructs using content analysis.[19] Conclusions or inferences for recommendations were drawn from two or more consistent and corroborated interviews and observations. Most of these could also be corroborated by quantitative analyses of the larger samples of interviewees.

Combined quantitative and qualitative data were analyzed in stages: (1) preliminary findings were reviewed and interpreted by the evaluation team; (2) data were triangulated[20] or verified across multiple sources; and (3) preliminary data interpretation, findings, and conclusions were verified or corroborated in discussions with RWJF leadership and staff, the ALR NPO, the ALR NPO advisory committee, and ALR grantees. These reviews of findings and interpretation are consistent with member checking[21] and with a participatory approach to evaluation research.

Literature Review and Bibliometric Study

A professional librarian conducted online searches of the public health, law, environment, and transportation literature published in the previous 6 years (2001–2006) on the keywords *obesity and overweight*, *physical activity and the built environment*, and *public health policy development*. She also conducted a bibliometric analysis covering the period 1975–2007 to identify patterns in the publication of scholarly articles for evidence of the emergence of multidisciplinary fields related to physical activity and nutrition. (Bibliometrics is the quantitative study of publications to profile scientific disciplines and includes the analysis of citation counts over time.[22,23]) This analysis involved searches of the National Library of Medicine's PubMed database (using the medical subject headings [MeSH] thesaurus), and the Institute for Scientific Information's Web of Knowledge™ database. The search also examined evidence of the merging of active living research with seemingly disparate

concerns such as climate change and the conservation of carbon-based energy consumption.

Using PubMed, the study examined patterns in the publication of scholarly articles for evidence of the emergence of transdisciplinary fields of research comparable to the fields of health promotion and tobacco control. In particular, the search looked for the trajectory of interest in childhood obesity and the sources of financial support for studies on nutrition and physical activity. The study used the Web of Knowledge database to determine where articles on physical activity and the environment (defined broadly) are being published and which disciplines the authors of each article represent. Finally, the search noted the publication venues of ALR studies and tracked whether websites related to active living linked to the ALR NPO.

These latter analyses served more to provide a broad understanding of the national and temporal context and trajectory of active living research than to evaluate the first few years of ALR research use. Both the qualitative interview data and the bibliometric analysis substantiated or modified the evaluation's logic model and provided insights on perceived needs and on opportunities in the field for research to influence policy discussions.

Results

Is a Field Emerging?

The evaluators defined field building as the development of a critical mass of effort, energy, and capacity to offset the forces that promote physical inactivity, poor nutrition, and excess weight. This is consistent with the characterization of field building by the RWJF to build leadership and capacity by strengthening infrastructures, supporting research, and encouraging linkages among researchers, practitioners, and policymakers—and, in its Human Capital portfolio, which referred in 2007 to "engaging researchers from a wide range of disciplines" and "building expertise, to address the social, environmental, behavioral, economic, and biological factors that affect health."[24]

The evaluation found ample evidence of emerging elements of what usually comes to be identified as a field—in this case, of research and action on some combination of physical activity, the built environment, healthy eating, and childhood-obesity prevention. The evidence included a growing body of scientific literature, growing acknowledgement of the importance of the obesity epidemic and related problems that this literature is addressing, and growing consensus on the need for research to guide both policy and the shifting research and action agendas of funding agencies.

A growing literature. The initial study objective, without attempting to attribute the growing literature and other scientific and policy movement to ALR, was to understand the context in which ALR was launched and active during its first 6 years and to ascertain a possible trajectory of field building that the RWJF could help nurture in future years. Between 2000 and 2006, a period during which relevant RWJF programs were being carried out, the annual number of journal articles on childhood obesity showed a fourfold increase. Sallis et al.[2] confirm these findings, as shown in their Figure 2. Also found was the noteworthy trend of the increasing publication of physical activity articles in journals for fields other than health, including transportation, environmental science, and urban planning. While only 16% of the studies funded through the ALR program had been completed at the time of this evaluation, nearly half of the researchers funded in the first six rounds of ALR were actively publishing the results of studies about physical activity and environments.

Research support. The bibliometric analyses of the field-building question also addressed the kind of balance that has been struck between physical activity and nutrition research in relation to obesity control and identified sources of support for that research. A PubMed search of the periods 1976–2000 (n=270 citations) and 2001–2006 (n=321 citations) found that the percentage of support for research that was focused on physical activity alone, and on physical activity and nutrition combined, increased relative to support for research that was focused solely on nutrition, reflecting the growing attention to physical activity. Also, during the same periods, the percentage of nonfederal support of research in these areas increased from 18% to 27%. It appears that philanthropy has played an increasing role in supporting this research. In a review of the ALR grantee abstracts, it was noted that several acknowledged that their funding from RWJF was (or would be) supplementing prior funding from a federal government source. Since this review, the RWJF has entered into an important three-way collaborative relationship with the NIH and the CDC to facilitate greater involvement of prominent federal funding sources.[25]

What Is the Name of the Field?

Key informants could not agree on the name of the emerging field that included ALR, HER, and other obesity-prevention approaches. They suggested names such as *energy balance, active living/healthy eating*, and *promotion of healthy living*. One funding key informant captured both the frustration of trying to name a field and the challenge of deciding which disciplines would come together to create it:

> It's not one specific field, it is many fields. We don't need to find an umbrella that everyone stands under all the time. There is a need to facilitate linkages around specific issues. The work is building fields, not a field.

The bibliometric analysis also found increasing instances of titles and abstracts combining topics related to active living with topics related to climate change and carbon-based energy consumption. Whatever the field is named, it will evolve with the changing epidemiology and economics of the problems it addresses along with the academic, professional, and political debates surrounding them.

Is There Awareness of ALR Within the Field?

Key informants recognized that RWJF programs (with special emphasis on ALR) had played a role in developing the science related to active living. The RWJF received recognition for leadership in the development of measurement tools, implementation research, the translation of research results to practice, and the communication of lessons learned to diverse audiences. Table 1 summarizes the recognition and perceived influence of ALR by key respondents. A high percentage of all three types of intended users had *heard of ALR*. Among state coordinators who had heard of ALR, nearly two thirds were aware of at least one ALR research study. Nearly half of the coordinators who were aware of an ALR study and more than two thirds of the policymakers and scientists who had heard of ALR had had contact with an ALR researcher. This contact stemmed from the involvement of researchers in community settings such as meetings, committees, and task forces. At least for state coordinators, the CDC played an active role in fostering such research–practitioner exchanges. All three types of informants had visited the ALR website. All scientific key informants who had heard of ALR had read an ALR publication; two coordinators subscribed to the ALR newsletter.

What is the trajectory of the field? The study team was asked to assess and comment on the trajectory of the active living field in relation to their experience with health promotion and related fields. Without a control group or other contemporary comparison for the evaluation of ALR's contribution to field building, the study turned to tobacco control as a recent example of both field building and public health success in reversing a national epidemic of like proportions with some similar causal forces.[26,27] The trajectory of the field encompassing active living, childhood obesity, and the environmental and policy influences on these—as inferred from the bibliometric analysis and a tracking of state legislative initiatives—resembles the acceleration phase of the S-shaped diffusion curve of tobacco control, clean-air initiatives, and restrictions on cigarette-vending machines.[26,28] The growing attention to a balancing of the behavioral aspects of health, including nutrition and physical activity, with environmental determinants of those behaviors could be seen as the continuation of growth in the general health promotion field. The fields of active living and obesity control, as distinct from their earlier incarnations in physical education, sports medicine, nutrition counseling, and other individual approaches, began their trajectories later than tobacco but currently appear capable of accelerating at a projected pace equal to or greater than tobacco control.

Table 1. Percentage of positive responses to questions about awareness of ALR and use of selected ALR products by type of respondent

	State coordinators *n*(%)	Policymakers *n*(%)	Scientists *n*(%)
	n=59	*n*=36	*n*=14[a]
Heard of ALR	53 (90)	28 (78)	10 (71)
Aware of at least one ALR study	38 (64)	na	na
	n=37[b]	*n*=28[c]	*n*=10[c]
Had contact with ALR researchers	17 (46)	18 (64)	7 (70)
	n=55	*n*=28[c]	*n*=10[c]
Visited ALR website	40 (73)	11 (39)	7 (70)
	n=54		
Subscribe to ALR newsletter	2 (4)	na	na
			n=10[c]
Read ALR publications	na	na	10 (100)

[a]Asked of a subsample of scientific key informants whose awareness of ALR was unknown
[b]Asked only of key informants who were aware of at least one ALR study
[c]Asked only of key informants who had heard of ALR
ALR, Active Living Research; na, question not asked

Within This Field, Has ALR Contributed to Policy Discussions?

To assess progress toward policy contributions by ALR in concert with the suite of related communications and implementation programs funded by RWJF, state coordinators and scientist key informants were asked whether they were aware of any instances in which research funded under the ALR program has influenced policy discussions. Of the 81 respondents to this question, one quarter indicated that they were aware of an ALR contribution to policy, nearly two thirds were not aware of a policy contribution, and the remaining respondents were unsure. These responses are heavily dependent on the key informants' understanding of *contribution to policy*. For example, it was unclear whether this phrase meant the passing of legislation, the raising of community awareness, or something else to respondents

To capture a broad and fair understanding of contribution to policy, the study logic model was supplemented with an additional framework specifically focused on policy contribution. The Science–Policy–Public–Evaluation Spectra (Figure 2) is grounded in policy literature, in an understanding of multiple paths to outcomes,[13,29,30] and in the data from this study.

Expanding on Downs's spectrum of the public's attention to issues,[31] the framework added comparable spectra for policy, science, and evaluation. The four-stage policy spectrum includes pre-policy, developing policy, policy enactment, and post-policy enactment. The comparable spectrum for science ranges from basic to applied research. The evaluation spectrum ranges from process assessment to outcome-evaluation research. The framework posits that policy is a process, not an event, and that contributions to policy can be made at multiple points

across time in the context of public and scientific influences and useful evaluation findings.

With this analytic framework we sought to identify whether and how ALR had contributed or could contribute at the four stages in the policy process, with the recognition that ALR program staff and grantees were and are prohibited from using RWJF funds for lobbying for policy change and legislation; they are limited to informing the policy debate or discussion.

Pre-Policy: Problem Described, Causes and Consequences Studied, and Trends Traced

While the public may have been largely unaware of the developing obesity epidemic in the 1990s, research and surveillance demonstrated the rapid rise in obesity, especially childhood and adolescent obesity. In the late 1990s, the data were used to flag the problem as one of epidemic proportion and worthy of public health attention. The data were used also to highlight jurisdictional comparisons, which in turn made the problem more salient for state and local policymakers. As obesity rates continued to rise, researchers were studying the issues, the media disseminated the discoveries, and funders were supporting studies to understand the scope and nature of the problem.[32] The RWJF physical activity and related obesity initiatives, including ALR, grew out of this phase in the late 1990s. During the next stage, ALR made (and continues to make) contributions to policy discussions—as noted in the Sallis[2] and Gutman[3] articles—such as the following:

- developing, refining, and validating research tools to study and describe the problem;
- formulating and issuing requests for research proposals on policy and environmental issues related to obesity;
- building research capacity to study the issues through funding choices, grantee training, and field-building activities. As one scientific key informant said, "It's hard to make a direct link. I have the impression that the products of the research are creating an expertise in this area";
- publishing research findings for the scientific community;
- disseminating research findings for public and policymaker understanding; and
- convening annual conferences of researchers and presenting to them the views and perceived needs of policymakers.

Developing Policy: Awareness, Mobilization, and Reframing the Issue

Active Living Research contributed to the development of policy through increasing the awareness of physical activity, mobilizing partners, and reframing issues related to physical activity and obesity control. This is evidenced in the following quotes from key informants.

Awareness/attention to the issue:

- *I can't name one specific thing. RWJF has raised the profile on this issue.* (state coordinator)
- *. . . to the degree it has raised awareness around the built environment, it has created a new awareness.* (state coordinator)

Mobilize/convene:

- *It has created [opportunities where] . . . nontraditional partners have come together.* (state coordinator)
- *Yes. At the community level. Bringing together coalitions.* (scientist)

Reframe the issue:

- *. . . used information from the ALR . . . or . . . used information from Jim Sallis.* (multiple state coordinators, funders, policymakers offered such quotes)
- *. . . used the financial information regarding the cost of physical inactivity at the ALR [web] site.* (state coordinator)
- *. . . [use] ALR research that is specific to [respondent's state].* (state coordinator)

Policy Enactment: Advocacy, Frame Policy, Pass Policy/Legislation

Key informants identified a range of ways in which ALR products contributed to the enactment of policy through advocacy, the framing of policy, and specific legislation. This is exhibited in the following quotes.

Advocacy:

- *Importantly, Robert Wood Johnson's funding program is producing research that is generating debate (e.g., the debates about urban sprawl), which over time will result in change . . . Robert Wood Johnson program is becoming very effective in that someone is funding an advocacy program (credible public speakers) to present a counterview.* (scientist)

Frame policy:

- *. . . the walkable communities. I use this info a lot to get policymakers to think about it and our community.* (state coordinator)
- *I'm less aware of the direct level the foundation has had. On an indirect level: use of models, research summaries in the Active Living by Design [have] been influential at the policy level.* (state coordinator)

Belief in use/potential use:

- *RWJF has funded a lot of this work and I'm sure it has had some policy outcomes.* (state coordinator)
- *I can't give specific examples. But I know that they will. I'm sure the RWJ study being conducted in [my state] will make an impact.* (state coordinator)

Passage of legislation:
Respondents offered six instances of ALR's contribution to the passage of a specific policy or legislation. These included Texas Senate Bill 19 on Elementary School Children's Level of Physical Activity (www.legis.state.tx.us/BillLookup/Text.aspx?LegSess=77R&Bill=SB19)and Texas Senate Bill 42 on Middle School Children's Level of Physical Activity (www.legis.state.tx.us/tlodocs/79R/billtext/html/SB00042F.HTM). These and the other examples were vetted with the ALR NPO, but **not** substantiated by them. It is unclear whether informants were mixing other Active Living programs, such as Active Living by Design, with ALR, or whether these are valid examples.

Post-Policy Enactment: Implementation, Access, and Sustaining or Changing Policy

While public interest as an issue may decline over time, the Science–Policy–Public–Evaluation Spectra used in this analysis do not assume that policy starts or stops with the passage of policy/legislation. From a classic implementation perspective, the passage of policy is a beginning, not an ending, and the potential for policy contribution continues.[33]

This was the case with the Texas bills mentioned in the preceding section. When the ALR NPO staff were vetting these examples, they explained that the legislation had passed in 2001, the year ALR was first funded. It was unclear how ALR could be credited with the passage of those bills. However, ALR is currently funding evaluations of the implementation of the bills, and the results of those evaluations will continue ALR's influence on policy. The importance of implementation as a contribution to policy was stressed by a policy key informant who said:

> One of the risks of research is that the emphasis on what is yet to be learned often gets in the way of implementation. I believe that the wisdom of practitioners and the community should be emphasized more than research. Research should be a tool to further the implementation of this wisdom.

In summary, if *contribution to policy discussion* is narrowly defined as the passage of legislation, the evaluation appropriately found little or no evidence of ALR's direct contribution. If *contribution* is understood as contributing to policy at multiple points in a complex and protracted process, then ALR did contribute, and has further potential to contribute in ways consistent with the RWJF's grantmaking goals and clear prohibitions against the use of its funds for lobbying purposes.

Discussion

A field of research and practice around active living with an emphasis on environmental and policy approaches does appear to be emerging with parallel contributions, if not influence, attributable to ALR. The NPO has created products, linkages, awareness, and influence in its harnessing of the multiple disciplines whose efforts are needed to effectively address active living and obesity. The growing literature and supported research clearly indicate an upswing in the number of publications and funded projects in which physical activity is examined and pursued as something more environmentally determined or policy-influenced than in the individual, behavioral, physiologic, and sports- and recreation-related approaches of the earlier literature.

Key influential program planners and coordinators at the state level and policymakers or advocates at state and local levels seem to recognize ALR by name, and some can identify studies or initiatives that they believe were products of ALR that are useful to their work. Most of their specification of sources for basing the planning and policy initiative in evidence, however, are CDC sources and other federal documents such as the *Guide to Community Preventive Services*,[34–38] some of which include evidence from ALR-funded studies or which ALR has had a hand in developing and disseminating. Many key informants give personal credit to the NPO director, James Sallis, for his vision and energy in implementing ALR, but some were conflating ALR with other sources, including other programs in the RWJF active living suite and initiative for the control of childhood obesity. The CDC's role in compiling and disseminating ALR research to state coordinators is of particular note.

It might be possible to have the impression that the NPO's original conceptual model for the ALR program was conceived as a one-way flow from research to end-users—practitioners and policymakers. This is the conventional way that researchers view the production and use of research products.[8,28] The research agenda and the expectations of its application in evidence-based practice often fail to give sufficient credence or weight to the experience of practitioners, program planners, and policymakers. The NPO has attempted through its annual conferences and its collaboration with various partners to compensate for the one-way impression of its conceptual model, but the research community itself has not been entirely prepared to break from its traditions of investigator-initiated and academically centered and controlled research.

Awaiting data from long-term research projects may have led to missed opportunities to address targets of policy development that could be fruitful in the short term. The RWJF's expanded investment in the Active Living Leadership program, now renamed Leadership for Healthy Communities, and RWJF's recent initiative on Early Assessment of Environmental Interventions to Prevent Childhood Obesity, for example, are expected to enhance the policy and practice relevance of the research funded through ALR. The possibility of engaging the practice, program planning, and policy end-users more actively in framing the research questions and interpreting interim data in terms most meaningful and relevant to

their needs could signal some shift in future rounds of ALR calls for grant applications. Whether the size and scope of the current grants are sufficient to encompass social and environmental change effectively remains another question for continuing examination.

Limitations

Four limitations of the evaluation should be noted. First, the evaluation occurred early in the history of the ALR program and, therefore, in the early stages of impact on the long-term processes of policy change and field building. Second, the evaluation does not completely reflect a shift in RWJF and Childhood Obesity team strategies that occurred concurrent with the evaluation. Third, some respondents confused ALR with other programs in the RWJF suite of programs. Finally, snowball sampling has limitations in its representation of opinions, perspectives, and behavior that would be more divergent from those of the people making the referral.

Recommendations

Five recommendations are offered. These are based on the evaluation findings and the experiences of the evaluation team in the related areas of public health; health promotion (e.g., tobacco control); and community organization and advocacy for policy change.

Bridging Research and Policy

An emerging transdisciplinary field relating the environment and policy to active living has grown, with contributions from the ALR NPO and grantees. Future efforts need to move more substantially toward the evaluation of promising policies and environmental-change initiatives, which accelerated in their passage and implementation during these early years of ALR. To fulfill its potential to make active living a reality, the emerging field needs substantial and coordinated investments in these areas, including clear incentives for researchers and other grantees to focus on the early applied and policy ends of the spectrum (including studying advocacy groups, legislation, and other efforts to influence and support ALR policy). A national active living policy research and surveillance agenda[39] directed toward childhood obesity, with allowances for state and local variations,[40] would serve as a useful compendium of this work and a guide to researchers mystified by the policy focus.

Boosting the Visibility and Relevance of Policy

The policy voice of ALR can be amplified by continuing to engage end-users and intermediaries such as CDC in delineating policy, surveillance, research, and evaluation questions[30] as early as possible in the research process. This early focus on knowledge use increases data and research relevance and usefulness. For example, this might involve focusing on cost effectiveness and other issues of particular interest to state legislators and other policymakers and making translation and dissemination[26] strong expectations for every aspect of ALR work—in ways consistent with RWJF funding restrictions.

Emphasizing Collaboration and Coordination

Active living research is part of a growing transdisciplinary field.[41] Greater coordination among researchers, advocates, policymakers, city planners, and others at every level will bring needed coherence and amplify the field's contributions to childhood obesity. This could include seeking incentives for greater collaboration across the suite of childhood-obesity programs (within RWJF); stronger linkages within the research community and between researchers and policymakers; connections to related but distinct fields (e.g., healthy eating research and policy); coordination across philanthropies (including nonhealth philanthropies) and across federal agencies; and a strong emphasis on coalition building and collaboration across academic disciplines and public–private sectors. The tobacco experience with the systematic documentation of the early successes in California and Massachusetts points toward ways in which policy shapers and advocacy groups can inform the research agenda as well as be guided by it.[42]

Strengthening Policy Measurement and Evaluation

As recognized by the ALR NPO, the emerging transdisciplinary field needs some standardization in measurement and evaluation tools so that research results can be more relevant and comparable over time, across communities, across disciplines, and across studies. This is especially true of the poorly defined and documented policy arena. A transparent understanding of contributions to policy is encouraged for future assessments, along with the use of a tool such as the Science–Policy–Public–Evaluation Spectra (Figure 2) to capture a range of policy contributions.

The IOM, with RWJF, CDC, and NIH support, is convening a committee to develop a framework for evidence to monitor policy changes related to childhood obesity. Other collaborative efforts are needed to examine how research questions are formulated (ideally including end-users and emphasizing policy) and how evaluation designs can take into account the many component parts that constitute complex interventions.[42] All of these could be incorporated into an ambitious, coherent research agenda for the growing field related to the prevention of childhood obesity that would guide research efforts and stimulate new lines of inquiry in the future. This work should include the collaboration with other major research funders, including the CDC and NIH, that was underway as this manuscript went to press.

Shaping Policy and Practice Through Training

Training, technical assistance, and knowledge exchange offer many opportunities to shape the emerging transdisciplinary field. Training could include policy workshops for researchers and state legislators or other policymakers. Knowledge-exchange examples include providing collaborative opportunities between research grantees and policy shapers. Technical assistance examples include providing guidance on ALR implications for new and potential partners working in other fields and advocacy guidance for everyone involved in ALR.

Obesity as a public health problem will not decline in response to more research any more than individual weight control will yield to more information. Engaging the policymakers and other end-users in shaping the research agenda and participating in the research process will ensure a more-effective translation of research into action.

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References

1. Orleans CT, Leviton LC, Thomas KA, et al. History of the Robert Wood Johnson Foundation's Active Living Research program: origins and strategy. Am J Prev Med 2009;36(2S):S1–S9.
2. Sallis JF, Linton L, Kraft MK, et al. The Active Living Research program: six years of grantmaking. Am J Prev Med 2009;36(2S):S10–S21.
3. Gutman MA, Barker DC, Samples-Smart F, Morley C. Evaluation of Active Living Research: progress and lessons in building a new field. Am J Prev Med 2009;36(2S):S22–S33.
4. Patton MQ. Utilization-focused evaluation. 3rd ed. Thousand Oaks CA: Sage Publications, 1997.
5. Patton MQ, Grimes PS, Guthrie KM, Brennan NJ, French BD, Blyth DA. In search of impact: an analysis of the utilization of federal health evaluation research. In: Weiss CH, ed. Using social research in public policymaking. Lexington MA: Lexington Books, 1977.
6. Weiss CH. Evaluation research: methods for assessing program effectiveness. Englewood Cliffs NJ: Prentice-Hall, 1972.
7. Weiss CH. Have we learned anything new about the use of evaluation? Am J Eval 1998;19:21–33.
8. Lindblom CE, Cohen DK. Usable knowledge: social science and social problem solving. New Haven: Yale University Press, 1979.
9. Weiss CH, Bucuvalas MJ. Social science research and decision-making. New York: Columbia University Press, 1980.
10. Weiss CH. The many meanings of research utilization. Public Adm Rev 1979;39:426–31.
11. Hirschhorn L, Gilmore TN. Ideas in philanthropic field building: where they come from and how they are translated into actions. In: Patrizi P, Sherwood K, Spector A, eds. Practice matters: the improving philanthropy project. New York: The Foundation Center, 2004.
12. Logic model development guide. Battle Creek MI: W.K. Kellogg Foundation, 2004.
13. Ottoson JM. Beyond transfer of training: using multiple lenses to assess community education programs. In: Rose AD, Leahy MA, eds. Assessing adult learning in diverse settings: current issues and approaches. San Francisco: Jossey-Bass, 1997.
14. Rogers EM. Diffusion of innovations. 5th ed. New York: Free Press, 2003.
15. Fixsen DL, Naoom SF, Blase KA, Friedman RM, Wallace F. Implementation research: a synthesis of the literature. Tampa FL: University of South Florida, Louis de la Parte Florida Mental Health Institute, The National Implementation Research Network, 2005.
16. Graham ID, Logan J, Harrison MB, et al. Lost in knowledge translation: time for a map? J Contin Educ Health Prof 2006;26:13–24.
17. McCool D. Public policy theories, models, and concepts: an anthology. Englewood Cliffs NJ: Prentice Hall, 1995.
18. Hamre R, Renaud J, Franco E, Williams-Piehota P. Nutrition and physical activity programs to prevent obesity and other chronic diseases: program strategies and rationale. J Hunger Environ Nutr 2007;2:85–101.
19. Krippendorff K. Content analysis: an introduction to its methodology. Newbury Park CA: Sage Publications, 1980.
20. Yin RK. Case study research: design and methods. 3rd ed. Thousand Oaks CA: Sage Publications, 2003.
21. Merriam SB. Case study research in education: a qualitative approach. 1st ed. In: The Jossey-Bass education series, The Jossey-Bass higher education series, The Jossey-Bass social and behavioral science series. San Francisco: Jossey-Bass, 1988.
22. Koskinen J, Isohanni M, Paajala H, et al. How to use bibliometric methods in evaluation of scientific research? An example from Finnish schizophrenia research. Nord J Psychiatry 2008;62:136–43.
23. Kondilis BK, Kiriaze IJ, Athanasoulia AP, Falagas ME. Mapping health literacy research in the European Union: a bibliometric analysis. PLoS ONE 2008;3:e2519.
24. Robert Wood Johnson Foundation. What we fund: building human capital. 2007. www.rwjf.org/programareas/approach.jsp?pid=1135.
25. NIH, CDC. RWJF childhood obesity research collaborative. www.rwjf.org/childhoodobesity/grant.jsp;jsessionid=LJKT6lQl2JN16ZS22DTsdJb2BgH4yVSDbGxLRPpspygTpLdgP9fJ!1781476577?id=64539.
26. Green LW, Orleans CT, Ottoson JM, Cameron R, Pierce JP, Bettinghaus EP. Inferring strategies for disseminating physical activity policies, programs, and practices from the successes of tobacco control. Am J Prev Med 2006;31(4S):S66–81.
27. Green LW, Nathan R, Mercer SL. The health of health promotion in public policy: drawing inspiration from the tobacco control movement. Health Promot J Austr 2001;12:12–8.
28. Green LW, Ottoson JM, Garcia CM, Hiatt RA. Diffusion, dissemination and implementation of evidence. Annu Rev Public Health 2009;30. doi:10.1146/annurev.publhealth.031308.100049.
29. Ottoson JM, Green LW. Community outreach: from measuring the difference to making a difference with health information. J Med Libr Assoc 2005;93(4S):S49–56.
30. Ottoson JM, Wilson DH. Did they use it? Beyond the collection of surveillance information. In: McQueen DV, Puska P, eds. Global behavioral risk factor surveillance. New York: Kluwer Academic/Plenum Publishers, 2003.
31. Downs A. Up and down with ecology: the 'issue-attention' cycle. Public Interest 1972;28:38–50.
32. Committee on Prevention of Obesity in Children and Youth. Preventing childhood obesity: health in the balance. Washington DC: National Academies Press, 2005.
33. Pressman JL, Wildavsky AB. Implementation: how great expectations in Washington are dashed in Oakland. Berkeley: University of California Press, 1979.
34. Task Force on Community Preventive Services. The guide to community preventive services: what works to promote health? New York: Oxford University Press, 2005.
35. Task Force on Community Preventive Services. Recommendations to increase physical activity in communities. Am J Prev Med 2002;22(4S):67–72.
36. Dunn AL, Blair SN. Translating evidence-based physical activity interventions into practice: the 2010 challenge. Am J Prev Med 2002;22(4S):8–9.
37. Kahn EB, Ramsey LT, Brownson RC, et al. The effectiveness of interventions to increase physical activity: a systematic review. Am J Prev Med 2002;22(4S):73–107.
38. Green LW, Wilson RW, Bauer KG. Data requirements to measure progress on the objectives for the nation in health promotion and disease prevention. Am J Public Health 1983;73:18–24.
39. Mercer SL, MacDonald G, Green LW. Participatory research and evaluation: from best practices for all states to achievable practices within each state in the context of the Master Settlement Agreement. Health Promot Pract 2004;5(3S):S167–78.
40. Mercer SL, Green LW, Rosenthal AC, Husten CG, Khan LK, Dietz WH. Possible lessons from the tobacco experience for obesity control. Am J Clin Nutr 2003;77(4S):S1073–82.
41. Stokols D, Hall KL, Taylor BK, Moser RP, Syme SL. The science of team science: assessing the value of transdisciplinary research. Am J Prev Med 2008;35(2S):S77–S252.
42. Mercer SL, DeVinney BJ, Fine LJ, Green LW, Dougherty D. Study designs for effectiveness and translation research: identifying trade-offs. Am J Prev Med 2007;33:139–54.