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Making public health programs last: conceptualizing sustainability

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Abstract

In public health, programs constitute an important method of improving health, and program sustainability is critical. Knowledge on sustainability raises nevertheless two major issues. The first concerns the social structures within which programs are sustained. The literature suggests different structures however only organizational structures, namely routines, are used for analysis. The second issue concerns the temporal aspect of sustainability that is typically conceived as the final phase of program development after the planning, implementation, and evaluation phases. This 'stage' model does not allow one to consider that sustainability must be prepared in advance, concomitantly with implementation. These structural and temporal dimensions ground our proposal to re-conceive sustainability. The literature on organizations defines two relevant social structures, one organizational (routines), and one institutional (standards). This in turn suggests three degrees of sustainability. We then emphasize how sustainability is concomitant with the implementation process, by exploring events that characterize these processes.

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1. Introduction

In public health, programs constitute a current worldwide method of improving the health and welfare of populations (Beauregard, 1995; Nancholas, 1998). Although knowledge on program planning, implementation, and evaluation is abundant (Wholey, Hatry, & Newcomer, 1994; Zuniga, 1994), that of health promotion program sustainability, tends to be contradictory and fragmented. Actors involved in such programs usually consider their sustainability to be a priority (Altman et al., 1991), but anyone who wishes to sustain a program will encounter contradictory recommendations and will not find any ready-to-use method available for evaluating the degree of sustainability. Little is known about the sustainability process. Consequently, it is difficult for public health practitioners to know how and when to influence the sustainability of 'their' programs, for decision-makers to know how and when to evaluate them, and for researchers to study them. This article proposes a re-conceptualization of program sustainability.

The concept of sustainability refers to the continuation of programs (Shediac-Rizkallah & Bone, 1998). According to Scheirer (1994), a sustained program is defined as a set of durable activities and resources aimed at program-related objectives. The literature in health promotion utilizes numerous synonyms for sustainability. This profusion of terminology is testament to the significant desire for better comprehension of the phenomenon. Institutionalization is the most common synonym, and other terms used to discuss sustainability include adoption, appropriation, colonization, consolidation, durability, embedding, incorporation, integration, longevity, maintenance, nesting, permanence, perpetuation, persistence, routinization, survival and viability (Altman, 1995; Bracht & Kingsbury, 1990; Bracht et al., 1994; Florin, Chavis, Wandersman, & Rich, 1992; Goodman & Steckler, 1989; Lefebvre, 1990; Lichtenstein, Thompson, Nettekoven, & Corbett, 1996; O'Loughlin et al., 1998; Renaud, Chevalier, & O'Loughlin, 1997; Shediac-Rizkallah & Bone, 1998; Thompson, Lichtenstein, Corbett, Nettekoven, & Feng, 2000; Thompson & Winner, 1999; Weisbrod, Pirie, & Bracht, 1992).

The literature on health promotion acknowledges four reasons why sustainability concerns public health practitioners. First, sustained programs can maintain their effects over a long period (Manfredi, Crittenden, Cho, Engler, & Warnecke, 2001; Puska et al., 1996), and this sustainability

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allows for the study of long-term effects (Altman, 1995). For example, many health promotion programs aim at behavioral changes, and ‘usually for such changes to occur, programs must survive over an extended period of time’ (Steckler & Goodman, 1989, p. 35). Second, there is often a latency period between the beginning of program-related activities and their effects on population health (Jackson, Altman, Howard-Pitney, & Farquhar, 1989; Thompson, Lichtenstein, Corbett, Nettekoven, & Feng, 2000). Change in population health outcomes ‘in most community health areas may not be detectable for 3–10 years’ after the beginning of programs (Roussos & Fawcett, 2000, p. 374). Third, were programs perceived as being beneficial for the health of targeted populations, the absence of sustainability would lead to an investment loss for the organizations and people involved (Goodman, Steckler, Hoover, & Schwartz, 1993; O’Loughlin et al., 1998; Rissel, Finnegan, & Bracht, 1995; Shediak-Rizkallah & Bone, 1998; Steckler & Goodman, 1989; Yin, 1979). Fourth, discontinued community programs bring disillusion to participants and therefore pose obstacles to subsequent community mobilization (Goodman et al., 1993; Shediak-Rizkallah & Bone, 1998).

A review of empirical studies on program sustainability enabled us to identify at least five debated questions. These are: What is sustainability? Why does it occur? How does one measure it? When does it start? Where are programs sustained? For example, there is little consensus on the definition of sustainability (Shediak-Rizkallah & Bone, 1998). Table 1 maps out which studies have addressed each of these questions. The present article focuses on two of these questions: the structure where programs are sustained and the moment when sustainability begins. The objective of this article is to re-conceptualize the structural and temporal dimensions of sustainability. Regarding the former, we will argue that organizational routines constitute a useful structure to reconcile community-based and organization-based perspectives on sustainability. Regarding temporality, we will put forward that sustainability starts with the beginning of program development and as such, can hardly be conceived as a final phase of development.

2. Social structures of sustainability

2.1. Organizational routines

In the health promotion literature, authors often differentiate between program sustainability within health or education organizations from that within coalitions and community groups. This distinction appears to echo the social structures in which the programs are sustained, one organizational and one community-based. These structures, in turn, could be used to differentiate two types of sustainability, one in organizations and one in communities (Shediak-Rizkallah & Bone, 1998). We understand social structures as abstract tools of analysis such as elements,

relations or concepts that take account of ‘social reality’ at a given moment (Mendras, 1989). However, empirical studies do not discriminate between these two social structures. For example, Bracht et al. (1994) distinguish sustainability in health or education organizations from that in community coalitions. They do not, however, define similarities and differences between the structures that permit the analysis of sustainability in organizations and those that would allow the study of sustainability in community coalitions. Their work suggests that sustainability consists in transferring responsibility for a program from one organization over which the community has little or no power to an organization over which it does. Thus, it seems that it matters little whether one refers to organizations or communities in the analysis of sustainability, because empirical studies on health promotion program sustainability are centered on sustainability only within organizations.

The preponderance of this organizational perspective in empirical studies, as shown in Table 1, is not surprising if one accepts the broad meaning currently attached to organizations. Referring to Friedberg (1997) definition of organizations, community groups or coalitions constitute organizations in the same way as public health administrations. An organization is a form of organized collective action with indistinct borders where the wishes of members do not necessarily coincide. Indeed, the tools of organizational analysis can be applied to the study of community groups or coalitions (Boulte, 1991). In this broader meaning of organizations, several authors, while discussing program sustainability within communities, suggest that programs are sustained, above all, within organizations such as community groups or coalitions that allow community members to control or influence a program or what remains of it (Florin et al., 1992; Nezelek & Galano, 1993; Staggborg, 1986). For example, the first heading in the training curriculum of the thousands of volunteers and professionals involved in the Block Booster health promotion program is entitled ‘Establishing a strong organizational structure’ (Kaye, 1990, p. 153). A coalition is generally formed by health professionals and community leaders at the initiative of a health organization. It is an alliance between people and organizations whose objectives typically differ, but who pool together their resources to effect changes, something they cannot achieve on their own (Butterfoss, Goodman, & Wandersman, 1993; Crozier-Kegler, Steckler, Herndon Malek, & McLeroy, 1998; Gamson, 1961; Wandersman et al., 1996). Moreover, a program can be sustained when the coalition formed for its implementation continues to operate even after the professionals have withdrawn from it (Kinne, Thompson, Chrisman, & Hanley, 1989).

In terms of organizational program sustainability, the studies by Yin (1979) are authoritative (Goodman & Steckler, 1989; Steckler & Goodman, 1989). According to Yin (1979), sustainability is a question of routinization

Table 1
Sustainability of health promotion programs: questions addressed by empirical studies

References of studies	What is sustainability?	Why does it occur?	How does one measure it?	Where are programs sustained?	When does it start?
Altman (1995)	X	X		In coalitions and organizations	From the beginning
Barab et al. (1998)	X		X	In organizations	'Stage' model
Bracht et al. (1994)	X			In coalitions and organizations	'Stage' model
Butterfoss et al. (1998)				In coalitions	'Stage' model
Florin et al. (1992)	X	X		<i>In coalitions (as organizations)</i>	
Flynn (1995)	X		X	In coalitions	
Goodman and Steckler (1987-88)	X			In organizations	From the beginning
Goodman et Steckler (1989)	X	X		In organizations	'Stage' model
Goodman et Steckler (1989)	X	X		In organizations	'Stage' model
Goodman et al. (1993)	X		X	In organizations	
Goodman et al. (1993)				In coalitions and organizations	'Stage' model
Goodson et al. (2001)	X		X	In organizations	'Stage' model
Health and Coleman (2002)	X	X		In organizations	
Jackson et al. (1994)	X			In coalitions and organizations	From the beginning
Lackey et al. (2000)		X		In coalitions and organizations	
Lefebvre (1990)	X			In coalitions and organizations	
Manfredi et al. (2001)	X			In coalitions	
Manfredi et al. (2001)	X			In organizations	
Nezlek and Galano (1993)				<i>In coalitions (as organizations)</i>	
O'Loughlin et al. (1998)	X	X		In organizations	'Stage' model
Paine-Andrews et al. (1996)				In coalitions	'Stage' model
Paine-Andrews et al. (2000)	X	X		In coalitions and organizations	From the beginning
Pluye et al. (2000)	X	X		In coalitions and organizations	
Pluye et al. (2003)	X		X	In organizations	
Prestby, Wandersman, Florin, Rich, and Chavis (1990)	X	X		In coalitions	
Rissel et al. (1995)	X			In coalitions and organizations	
Roberts-De Gennaro (1986)	X	X		In coalitions	
Scheirer (1990)	X	X		In organizations	
Staggenborg (1986)		X		<i>In coalitions (as organizations)</i>	
Steckler et Goodman (1989)	X	X		In organizations	'Stage' model
Thompson et al. (2000)	X			In coalitions	
Weisbrod et al. (1992)	X			In organizations	
Wickizer et al. (1998)	X			In coalitions and organizations	

and manifests itself in organizational routines. 'When an innovation has become a stable and regular part of organizational procedures and behavior, it is defined as having become routinized' (p. 55). The concept of routinization was first proposed in the 1920's by the sociologist Max Weber (1995). The process of routinization assures that a social activity is established on a durable basis (i.e. routine). To explain routinization, Weber used the notion of domination, which constituted the source of legitimate authority in collective action. Domination could be either of bureaucratic or charismatic ideal type. Bureaucratic domination is based on explicit rules or knowledge, and those who exercise it have the legal right to give orders. Charismatic domination is grounded in the blind compliance to a commanding leader. Weberian routinization refers to the bureaucratization of charismatic domination, the latter naturally tending to rely on bureaucratic domination so as to improve its efficiency and reproduce itself. In the context of health promotion programs, the bureaucratic and charismatic types of

domination are exemplified respectively by the organizational management that controls the routines associated with the sustained program (Goodman et al., 1993) and the program's champion (Steckler & Goodman, 1989). In Weberian terms, however, if a program is to survive, the charisma of the champion must be routinized through organizational bureaucratic processes.

We suggest, therefore, that sustained programs are primarily routinized within organizations. The social structure that characterizes program sustainability is an organizational routine. So, whether the will to ensure sustainability is located within communities or within public health organizations, the programs intended to be sustained must be backed up by some form of organized action, an organization. It is true that concrete situations are complex, and that they do not correspond neatly to a bureaucratic or charismatic ideal type. An example of the former ideal type would be public health organizations employing paid professionals, and an example of the latter would be volunteer-based health promotion community

groups led by a champion. Concrete situations are a mix of both. For example, volunteers and public health professionals were both involved in the state-wide coalitions that [Nezlek and Galano \(1993\)](#) studied with organizational tools of analysis. The fact that ideal types do not exist does not weaken our argument concerning the routinization process. Indeed, one could hypothesize that small community groups' routines are less complex and less intense than those of large health organizations because the former are based on a rudimentary administrative apparatus and fewer resources.

Moreover, an organizational routine is, by definition, durable. The regularity of social activities becomes customary when activities depend on routines ([Weber, 1995](#)). According to the literature on organizational learning, organizational routines are defined in terms of memory, adaptation, values, and rules ([Pluye, Potvin, & Denis, 2000](#); [Pluye, Potvin, Denis, & Pelletier, in press](#)). A routine is a typical procedural operation. Routines are integrated in organizations like the *memory* of actions or procedures shared by the actors. For example, such a memory is materialized in the social network of a multinational firm ([Olivera, 2000](#)). The organizational knowledge stored in this network can be mobilized for decision-making after a few phone calls to find 'someone in the firm who has the relevant experience' (p. 819). Routines are *adapted* to suit their contexts. By way of illustration, suppose that an organization produces a new car every 10 min, and every six minutes ten months later: 'materials and technology change over the ten months, as suppliers and technicians make adjustments' ([Weick, 1996a, p. 171](#)). Routines reflect the *values*, beliefs, codes, or cultures by means of symbols, rituals, and language. For example, [Cook and Yanow \(1996\)](#) noted that to justify having a flute reworked, workers would say that it 'doesn't look right', an expression meaningless to anyone else, because the additional work required did not correspond to any visible problem with the flute (p. 442). Routines adhere to *rules* that govern action and decision-making such as manuals of procedure, rules of information transmission, or plans. In every organization, these rules account for 'the way things are done around here' ([Levitt & March, 1996, p. 525](#)). This conception of routinization and routines leads to a first proposition.

Proposition 1: Routinization constitutes the primary process permitting the sustainability of programs within organizations and may lead to program-related organizational routines. These routines allow for the analysis of program sustainability. Memory, adaptation, values, and rules define organizational routines.

2.2. Institutional standards

Organizational routines help to resolve the problem of recognizing the social structures of program sustainability. Nonetheless, this is not sufficient if we seek to truly

understand it. To focus solely on routines would lead to a limited intra-organizational perspective of program sustainability: the existence or absence of routines stemming from a program. This perspective does not take into account external pressures that influence organizations. The literature suggests that there exist other structures for the analysis of sustainability, structures that are institutional rather than organizational.

In health promotion, several authors use the notions of institutionalization and routinization synonymously ([Goodman & Steckler, 1989](#); [Goodman et al., 1993](#); [Goodman, Steckler, & Kegler, 1997](#); [O'Loughlin et al., 1998](#); [Renaud et al., 1997](#); [Rissel, Finnegan, & Bracht, 1995](#); [Steckler & Goodman, 1989](#); [Thompson & Winner, 1999](#)). This is not surprising since organizations and institutions are intertwined social structures. Social institutions permeate organizations and they are made operational by organizations that seek to make them as efficient as possible ([Jepperson, 1991](#)). Traditionally, institutions have represented society's 'rules of the game' ([Jepperson, 1991](#)), carrying the external constraints internalized by actors and constituting processes that are both normative and cognitive 'which apply in a definite social system and define what is and is not legitimate in this system' ([Mendras, 1989, p. 93](#)). As for institutionalization, it is 'a process by which certain social relationships and actions come to be taken for granted, and a state of affairs in which shared cognition define what has meaning and what actions are possible' ([Powell & DiMaggio, 1991, p. 9](#)). Institutionalization comes about through the elaboration of social system-wide principles, norms, laws, and rules ([Lefebvre, 1990](#)). Without denying the interconnectedness of organizations and institutions, differentiating them permits not only the identification of different types of sustainability but also, different degrees of sustainability. Neo-institutionalism clarifies this issue.

According to the neo-institutionalists, institutions are social structures of a higher order than organizations ([Clemens & Cook, 1999](#)). 'Neo-institutionalism insists on a more autonomous role for political institutions' that are also state-level: government, elected officials, public administration, legislature, and legal system ([March & Olsen, 1984, p. 738](#)). These institutions are infused with social ideologies, values, norms, and preferences, and, in turn, they provide society with rules and policies. At the level of the organization, programs and technologies may be constrained by some of these rules and policies. For example, emergency services in all hospitals utilize state-defined formulae ([Powell & DiMaggio, 1991](#)). Put otherwise, some programs are institutionalized at a higher level than that of the organization ([Powell & DiMaggio, 1991](#)). Such programs are said to be constrained by institutional standards. These standards are public and exist legally for the social good ([Ingram & Clay, 2000](#); [Stinchcombe, 1997](#)). Institutional standards directly constrain organizations or actors ([Jepperson, 1991](#)).

State-level rules and policies that constrain organizations and people make institutional standards operational. As defined in the *Webster's Ninth New Collegiate Dictionary*, a standard applies to any definite rule, principle, or measure established by authority. 'The state consists of those political institutions that together comprise a system of order that claims a monopoly on the exercise of coercive power and the authority to issue determinations that are binding on all of those living within a prescribed territory' (Atkinson, 1993, p. 7). Neo-institutionalists emphasize the legitimacy of institutional standards upon which organizations are based over power and coercion (Greenwood & Hinings, 1996; Selznick, 1996). Considering these definitions of state-level institutions and standards, examples of institutional standards include federal, state level, county level, and municipal government rules and policies as well as accreditation standards that might be set by universities, hospitals, or school districts.

In health promotion, a state-level healthy public policy is a legal institutional standard. Such a policy may constrain organizations' routines or actors directly. For example, in Quebec, the law on smoking obliges employers to post signs forbidding smoking, and this obligation introduces new routines into organizations (Quebec Government, 2003). The term public policy refers to a course of relatively broad patterns of action that are recommended or enforced by public authorities in relation to a problem set by the public agenda (Atkinson, 1993). Healthy public policies are explicitly concerned with health promotion (Milio, 1988; McKinlay & Marceau, 2000; Pentz, 2000). Like all institutions, healthy public policies are durable (Goumans & Springett, 1997). A program may be considered sustained if it is integrated into organizational routines or an existing policy, or if it introduces a new policy (Baum & Cooke, 1992; Ouellet, Durand, & Forget, 1994). Furthermore, 'some researchers argue that diffusion of intervention programs to a policy level is necessary for durability' (Thompson et al., 2000, p. 355).

Results of two empirical studies of health promotion programs illustrate these definitions. Altman (1995) indicated that activities related to the *Stanford Five Cities Project* were maintained by the Monterey County Health Department. He concluded that 'policy recommendations issued by the Centers for Disease Control' constituted key factors in enhancing the sustainability of this project. In the same vein, Gans, Bain, Plotkin, Lasater, and Carleton (1994) suggested that activities related to the *Pawtucket Heart Health Program* were continued in schools, and became embedded in the state-level Basic Education Plan and in the Lunch Program of the Department of Health. Our understanding is that these recommendations, plans, and programs are policies provided by state-level institutions and represent forms of institutional standards.

All of this suggests that studying sustainability requires searching for the presence of organizational routines or institutional standards. Traditionally, institutions are stable,

and institutional changes are rare and come about in a radical manner after the mobilization of the population or after hierarchical, authoritarian decisions. This echoes Lefebvre's (1990) suggestion that institutions represent a maximum and final degree of sustainability in health promotion. However, neo-institutionalists claim that institutions are not the paragons of stability they were believed to be. Institutions change in a progressive manner as a result of learning (Clemens & Cook, 1999). Changes may come about due to the actions of the State, organizations, or individuals (Ingram & Clay, 2000). Although institutional standards do not correspond to a final degree of sustainability, we may nevertheless assume that they are more resistant to change than are organizational routines. A standardized routine is more sustainable than a routine that is not standardized. The former is integrated within a normative system that is more durable than the routine itself. For example, the Virginian vaccination program, which was first enacted in a single municipality, as a pilot project, was further extended to eighty-eight municipalities in the state due to contracts with state-level public health administration (Butterfoss et al., 1998). We hypothesize that this statewide intervention policy, as an institutional standard, creates conditions for a more robust sustainability than routines in any single organization.

Without denying the interconnectedness of institutions and organizations, neo-institutionalism suggests a second ideal type of social structure for the analysis of program sustainability, namely institutional standards. These standards indicate, in turn, a second process of sustainability, namely the standardization of programs. Therefore, each of these two social structures, routines, and standards, indicate different degrees of sustainability. Our first proposition stated that program sustainability relies on the presence of organizational routines, whether these routines are standardized or not. Under the hypothesis that institutional standards are more durable than organizational routines, standardized routines are associated with a higher degree of sustainability than non-standardised routines. Obviously, the more a program is sustained, the more durable it will be. Conversely, the longevity of a particular program says little about its future sustainability, because the program could disappear at any time. Moreover, an empirical study indicates that the presence of standards may not guarantee the presence of corresponding routines (Kraatz & Zajac, 1996). Indeed, 'some organizations adopt change whereas others do not, despite experiencing the same institutional pressure' (Greenwood & Hinings, 1996, p. 1023). This conception of standardization and institutional standards leads to a second proposition.

Proposition 2: Standardization constitutes the secondary process permitting the sustainability of programs. This process is superimposed upon the primary process of routinization and may lead to program-related standardized routines that are more sustainable than simple organizational routines. Institutional standards introduce a higher

degree of program sustainability. Such standards are materialized by state-level rules and policies, and constrain organizational routines.

3. Temporality of the sustainability process

As illustrated in Table 2, the development of programs is often modeled as a linear sequence of phases. The label of these phases may change but the sequence is typically one where planning, implementation, evaluation and sustainability phases follow one another chronologically with minimal overlap. The sustained program is the culmination of this 'stage' model (Renaud et al., 1997; Shediach-Rizkallah & Bone, 1998). Each phase seems to be marked by specific events. For example, the implementation phase begins by putting the planned interventions to work with external or temporally earmarked funding. The resources necessary for program activities are either the responsibility of local organizations, in the case of external financing, or

incorporated into the core budget, in the case of earmarked funding. The cessation of external or earmarked financing corresponds with the end of the implementation phase and, if the activities continue after an evaluation, with the beginning of the sustainability phase. This transition in funding occurs, in general, after 3–5 years of implementation.

A close examination of implementation and sustainability suggests that this 'stage' model is deceptive in theory and artificial in practice. It suggests that a sustainability phase naturally follows a successful implementation phase. Sustainability means that 'problems in implementation have been encountered but have, hopefully, been dealt with successfully' (Bracht, Kingsbury, & Rissel, 1999, p. 101). This model does not take account of the recursive or reflexive character of sustainability and learning or of the continuous adjustments that shape the sustainability process. The arbitrary nature of the boundaries between the phases testifies to the fact that sustainability begins with the conception of programs. This suggests that the 'stage' model of program development is problematic.

Resources illustrate the arbitrariness of demarcating between the implementation and sustainability phases based on a financing transition. For example, the evaluation of the program financed by the Kaiser family foundation raised two issues (Wickizer et al., 1998). First, the choice of the financing used to demarcate the transition between these phases was arbitrary when the financing sources are multiple. At the end of the initial external funding period, most sites of the Kaiser program had secured financing: some were receiving community funds, one benefited from another form of external financing, while others had access to various sources of financing. In our opinion, multiple financing was indicative of the vitality of the sustainability process. In general, program actors profit from initial financing in order to obtain complementary funding.

The second issue was the problem of the meaning of sustainability when implementation stopped at the end of the initial external funding period. After the initial funding ended, only one site of the Kaiser program had stable and sufficient financing to continue previous activities, and six others secured an average of 25% of initial funding. In our opinion, when the continuation of programs is far beyond the means of the community, the end of external financing does not represent the beginning of a sustainability phase but leads to the end of the sustainability process. Sustainability may be prevented by 'too much' external funding (Lafond, 1995; Shediach-Rizkallah & Bone, 1998). These issues suggest that a 'stage' model of program development makes it problematic to know when to influence, evaluate, or study sustainability conditions.

Indeed, we believe the 'stage' model of program development can lead to contradictory recommendations of how to influence sustainability. In a 'stage' model, what is sustained, in theory, prolongs what had been implemented. Thus, sustaining a program consists in finding

Table 2
Illustration of the 'stage' model: empirical studies on health promotion

References of studies	List of phases
Barab et al. (1998)	Adoption Implementation Institutionalization
Bracht et al. (1994)	Design and initiation Implementation Evaluation Program maintenance
Butterfoss et al. (1998)	Formation of the coalition Implementation Maintenance Outcome and institutionalization
Goodman and Steckler (1989) ^a	Unsatisfied demands, search for response Evaluation of alternatives Adoption Initiation of action Implementation Institutionalization
Goodman et al. (1993)	Community mobilization Development of interventions Process outcomes Institutionalization
Goodson et al. (2001)	Program development Adoption Implementation Evaluation Institutionalization
O'Loughlin et al. (1998)	Awareness of the program Adoption Implementation (incorporation if needed) Institutionalization
Paine-Andrews et al. (1996)	Pre-planning Planning Implementation Institutionalization

^a The same model is used in Goodman and Steckler (1987–88) or Steckler and Goodman (1989).

the means of reinforcing, and making last what had been implemented. For example, [Lichtenstein et al. \(1996\)](#) suggested combining paid staff and volunteers, while [Thompson et al. \(2000\)](#), for the same program, recommended paid staff only. The implementation of this program depended on both paid staff and volunteers. A year after the end of external funding of the program, [Lichtenstein et al. \(1996\)](#) continued to recommend a ‘staff-volunteer’ combination as the way towards sustainability. Two years later, given the attrition amongst the volunteers, [Thompson et al. \(2000\)](#) recommended paid staff only. Stated otherwise, to promote sustainability, a ‘stage’ model emphasizes what can be done given what had been implemented. We, on the other hand, claim that the means of promoting sustainability will be determined by the critical examination of what is achieved during implementation. Thus, it is necessary to re-conceptualize the trajectory of programs.

We propose that program implementation and sustainability are not distinct and successive phases but are concomitant processes. We define a process as a sequence of events. Assuming the concomitance of the implementation and sustainability processes resolves the arbitrariness of the temporal distinctions between them and clarifies how one can influence sustainability. Indeed, some studies echo this proposition. [Altman \(1995\)](#) indicates that sustaining programs in communities requires a collaboration from the beginning with professionals or volunteers that represent those communities. [Jackson et al. \(1994\)](#) put a sustainability strategy in place from the beginning because the initial aim was ‘to create a self-sustaining health-promotion structure embedded within the organizational fabric of the communities, that continues to function’ after the end of initial funding (p. 385). According to [Gans et al. \(1994\)](#), ‘program institutionalization has been an integral issue in planning and implementation’ of the project (p. 94).

This conceptualization of implementation and sustainability as concomitant processes is also congruent with [Yin \(1979\)](#) conclusions. According to Yin, implementation and routinization are not completely separate, and the end of initial external funding represents ‘only a part of a much more complex set of organizational changes’ that is associated with routinization (p. 112). Yin also claims that routinization is a process that combines several types of events. At least two of these occur with the beginning of implementation: the continuation of the program after some turnover of personnel or its continuation after technological renewal or updating. Personnel turnover can happen at any time during program implementation, and certain technologies have to be renewed and updated frequently.

Conceptualizing implementation and sustainability as concomitant processes suggests means of impacting sustainability. It places both program sustainability and implementation in the mindset of public health practitioners and decision-makers. For example, the stability of resources is one of the factors that influences program sustainability.

It is necessary to keep in mind resources for long-term program development when planning programs. Indeed, [Goodman et al. \(1993\)](#) suggest that it is necessary to have enough timely resources available to implement and sustain a program. [Jackson et al. \(1994\)](#) and [Wickizer et al. \(1998\)](#) attribute the majority of sustainability failures to the inadequacy of long-term resources. From our ‘concomitancy’ perspective, what is planned and implemented also depends upon what is sustained. Thus, this perspective involves a teleological reversal in respect to the ‘stage’ model. Nonetheless, this conceptualization raises the problem of the specificity of sustainability processes relative to implementation.

It does not suffice to admit the concomitance of these processes. One has to be able to distinguish sustainability from implementation. Given that processes are chronological sequences of events, we can distinguish between implementation and sustainability in the presence of events specific to each of these processes. In fact, if every implementation event is potentially a sustainability event, and if one does not distinguish specific sustainability events, then one risks blindly influencing, evaluating, or studying those events that are conducive to implementation as if they were events conducive to sustainability. In particular, the same event may have different effects on different processes. Using the example of resources, it is considered traditionally that the more resources there are, the better the program is implemented. Sometimes, however, ‘too many’ external resources may be unfavorable to sustainability ([Lafond, 1995](#); [Shediac-Rizkallah & Bone, 1998](#)).

In order for the ‘concomitancy’ conceptualization to be useful, therefore, either specific events have to be associated with each process or some events have to be shown to influence different processes in different directions. To explore the existence of events specific to each process, the contributions of [Pluye et al. \(2000\)](#) and [Yin \(1979\)](#) on sustainability processes were juxtaposed with those of [Scheirer and colleagues on implementation \(Roberts-Gray & Scheirer, 1988; Scheirer, 1994\)](#). This juxtaposition suggests three types of events; (1) those specific to sustainability; (2) those specific to implementation; (3) and joint events that belong to both sustainability and implementation. By way of illustration, types of event are listed in [Table 3](#). For example, three specific events that favor sustainability are (1) the maintenance of financial resources that guarantee supplies, (2) the maintenance of technologies and their updating through a long-term contract, and (3) the maintenance of ad hoc training. By way of another example, a specific event that favors implementation is the minimization of disruption caused by a program to existing work techniques and rules of the host organization. Based on the ‘concomitancy’ conceptualization, and these events, we deduce a third proposition.

Proposition 3: The processes of implementation and sustainability are concomitant. Certain specific events influence sustainability, and others, implementation. Others

Table 3

Illustration of types of event, either specific or common to implementation and sustainability of programs

Types of event specific to sustainability processes	Standardization of programs by means of state-level rules and policies Stabilization of organizational resources allowed for programs (staff, funding, equipment, training) Risk-taking by organizations in favour of programs
Types of joint sustainability and implementation events (events common to, or 'bridging', implementation and sustainability processes)	Integration of rules relative to programs into those of organizations Incentives reward organizational actors involved in programs (vs. costs discourage actors) Adaptation of programs according to effectiveness and needs (vs. competition or failure) Objectives fit (vs. reorientation) Transparent communication between actors (vs. misinformation) Sharing of cultural artifacts between programs and host organizations
Types of event specific to implementation process	Integration of rules relative to programs into those of organizations Investment of adequate resources to complete activities (staff, funding, equipment, training) Technical or practical compatibility of program-related activities with those of organizations (vs. disruption of the operating work flow)

influence both implementation and sustainability, as joint events belonging to both processes. The presence of these events suggests means by which to influence, evaluate, and study the processes of program sustainability.

4. The concept of sustainability: routines, standards and the concomitance of processes

Our critical analysis of theoretical and empirical studies of sustainability along two problematic lines, social structure and temporality, suggests the following conceptualization. Sustainability may be limited to organizational routines or may comply with state-level institutional standards that give rise to more durable standardized routines. These routines and standards permit the analysis of two sustainability processes: routinization (primary process) and standardization (secondary process). These processes are concomitant with the process of implementation. Sustainability processes are influenced by specific events and by joint events that bridge implementation and sustainability.

Nonetheless, we have three qualifications to this conceptualization. It neglects actors; it does not address the issues of pilot projects; and it does not address the role of evaluation. First, it evokes a structural-functional theory of disembodied social action, in which events seem only contingent, while in reality, strategic actors must come into the picture (Pluye et al., 2000).

Second, it does not address the issue of pilot projects, which aim to test health promotion activities and constitute a special type of program. In intervention research, pilot projects 'help to determine the effectiveness of the intervention and identify which elements of the prototype may need to be revised' (Fawcett et al., 1994, p. 37). Such projects have numerous repercussions for the organizations where they are implemented. Organizations learn from experimentation (March, Sproull, & Tamuz, 1996). Also, according to our conceptualization, pilot projects may well

be routinized whenever related activities become organizational routines and meet the characteristics of routines: memory, adaptation, values, and rules. Once pilot projects are routinized, they may generate institutional standards and be standardized, as previously noted about the Virginian vaccination experience (Butterfoss et al., 1998).

Third, our conceptualization does not address those contributions in health promotion that suggest only effective programs should be sustained: 'not every program or intervention is worth sustaining and thus sustainability may be premature when efficacy is not established' (Altman, 1995, p. 527). Following the literature on organizational learning, we suggest that results of evaluation studies comprise 'one of the contingencies that feed a process of organizational learning which, itself, is more directly responsible for sustainability' (Potvin & Gauvin, 2000, p. 55). Program sustainability will be hindered if the results indicate the absence of efficacy or if actors perceive failure. Conversely, sustainability will be favored if there is some efficacy or if the efficacy is uncertain. In other words, actors will believe in the potential efficacy of programs, and they will sustain 'their' programs, unless they are convinced of some unexpected inefficacy. 'Community members often have a wish to continue intervention activities even when the results of a trial are ambiguous or unknown' (Thompson & Winner, 1999, p. 138). Moreover, results will be useless unless actors internalize them. As Torres (1994) put it, 'more interactive reporting practices best facilitate organizational learning.... This issue may ease as evaluators begin to use alternative methods of communicating and reporting.... Beyond the traditional skills of research design, data collection and analysis, we speak of negotiation, facilitation, coaching, articulation of issues, co-creation of conclusions, and dialogue' (p. 339).

Thus, an undesired consequence of this 'concomitancy' conceptualization of implementation and sustainability would be to have program sustainability regarded as an end in itself, regardless of effectiveness, a risk already highlighted

by Green (1989) or Hawe, King, Noort, Gifford, and Lloyd (1998). We believe, however, this undesired consequence can be prevented by reflexive practice or by evaluation. The former requires that program actors within organizations critically scrutinize their actions (Argyris & Schön, 1978, 1999; Feldman, 2000). For example, health promotion coalitions' members may annually review coalition effectiveness, and they may use the results of this review to influence coalition sustainability. Thus, they are able to prevent this undesired consequence when a coalition is ineffective. Effectiveness is usually evaluated in terms of five intermediate outcomes: members' participation and satisfaction, leadership, group functioning (notably an absence of conflict) and member training (Butterfoss, Goodman, & Wandersman, 1996; Crozier, Kegler, Steckler, McLeroy, & Herndon Malek, 1998; Kumpfer, Turner, Hopkins, & Librett, 1993; Mansergh, Rohrbach, Montgomery, Pentz, & Anderson Johnson, 1996; Rogers et al., 1993). The understanding is that these intermediate outcomes may lead coalitions to improve the health of their community.

Furthermore, our conceptualization is based on two bodies of literature: organizational learning and neo-institutionalism. Other bodies of work could have been used and would have provided complementary insights. The first relevant group of studies are those supported by innovation diffusion theories that have given rise to many empirical studies on the sustainability of health promotion programs, notably the pioneering contribution of Steckler and Goodman (1989). These theories focus on the initial implementation of innovations, what Rogers (1983) called adoption (diffusion throughout organizations). Behavioral, political, and marketing perspectives are complementary in explaining this process (Strang & Soule, 1998). Innovation means 'new to the organization, and can involve new customers, new uses, new manufacturing, new distribution or logistics, new product technology, and any combination of these' (Dougherty, 1996, p. 425). Innovation diffusion theories are well suited for studies of the adoption of new programs in organizations. Adoption is essential because obviously, if it does not occur, there will not be any implementation, nor learning, nor sustainability. However, these theories are less adequate to examine sustainability. According to Scheirer (1990), most studies on the diffusion of innovations pay little attention to the extent of implementation and to sustainability. These studies do not explain 'how can complex organizations solve the problems of normal functioning' (Dougherty, 1996, p. 435). Innovations need to be integrated into normal routines, via organizational learning, if they are to survive.

A second body of literature concerns the concept of viability, a concept used in both organizational ecology and psychosocial studies of organizations. The former examine organizational viability referring to the survival of organizations among a population of organizations (Baum, 1996; Hannan & Freeman, 1989). The latter consider viability as a basic characteristic of organizations. Viability is associated with constraints and opportunities from inside and outside

organizations (Beer, 1979, 1994). It depends notably on the renewal of organizational routines (Levitt & March, 1996; Weick, 1996b). This renewal is important to cast some light on what becomes routinized programs. Program-related routines need to be renewed from time to time if programs are to survive. In turn, this renewal may contribute to the viability of organizations. 'The enterprise may last for hundreds of years, changing all of its components parts many times, and assimilating many kinds of change on the way-and yet it is recognizably itself' (Beer, 1979, p. 277). Program sustainability ends when renewed routines become unrelated to program objectives.

5. Lessons learned

Our conceptualization suggests three degrees of sustainability depending on the presence of organizational routines or institutional standards. Until now, attempts at discriminating between different degrees of sustainability focused on routinization in organizations and did not take into account state-level institutional standards (Barab, Redman, & Froman, 1998; Goodman et al., 1993; Goodson, Murphy Smith, Evans, Meyer, & Gottlieb, 2001; Pluye et al., in press). For example, according to neo-institutionalists' definitions, Goodman et al. (1993) 'Level of Institutionalization Scale' only addresses organizational dimensions. The rows of their summary matrix identify four functions of organizations, whereas the columns represent three aspects of sustainability in organizations. The conceptualization that we propose can straightaway be made operational in terms of three degrees (Table 4). (1) *Weak sustainability-absence of routine*: Some activities from the program are continued but they are not the object of any routine in organizations, whether or not they are integrated into any institutional standard. They do not meet all the characteristics of routines (memory, adaptation, values, and rules), whether or not they are constrained by state-level rules or policies. (2) *Medium sustainability-presence of non-standard routines*: The program is continued via routines in

Table 4
Three degrees of program sustainability in organizations

Continuation of organizational activities aimed at program-related objectives	Weak sustainability	Medium sustainability	High sustainability
Non-routinized activities	X		
Routinized activities (activities meeting all the characteristics of organizational routines)		X	
Standardized routines (routinized activities complying with a state-level rule or policy)			X

organizations, but these routines are not integrated into institutional standards. Some activities from the program meet all the characteristics of routines, but they do not comply with any state-level rule or policy. (3) *Strong sustainability-presence of standardized routines*: These routines are standardized. They are constrained by a state-level rule or policy, as a healthy public policy provided by government. This last degree of sustainability measurement contributes to knowledge.

Finally, our line of argument about the concomitant implementation and sustainability processes is congruent with the literature on evaluation and planning (Fig. 1). Our presentation of sustainability and implementation processes casts doubt on the generally accepted ‘stage’ model of program development, and leads to a conceptualization of these processes as concomitants. Indeed, literature on evaluation and planning also challenges the ‘stage’ model. First, the existence of an evaluation phase that temporally begins when the implementation phase ends is challenged by empirical studies in health promotion (Potvin, Haddad, & Frohlich, 2001). For example, the practical framework of the North Karelia Project consisted of three elements: planning, implementation, and evaluation. ‘Although they usually occur sequentially, as listed, in time, in many cases these elements take place simultaneously as the project proceeds’ (Puska et al., 1996). Furthermore, authoritative authors stated that ‘listing evaluation as the last phase is misleading, for evaluation is an integral and continuous process from the beginning through all phases of implementation’ (Green & Kreuter, 1999, p. 42).

Second, planning does not stop when implementation begins. It reflects a process of continued forecasting of activities and resources in relation to program objectives (Pineault & Daveluy, 1986). Planning is to implementation as ideas are to actions (Alexander, 1985; Majone & Wildavsky, 1979; Ottoson & Green, 1987). It both prescribes and reflects the implemented services (Majone & Wildavsky, 1979). Planners carry out a synthesis of the whole program

and analyze its elements, while leaving room for intuition (Mintzberg, 1994). In this sense, planning combines already planned and emergent strategies. Thus, the ‘concomitancy’ conceptualization permits to understand Paine-Andrews, Fisher, Campuzano, Fawcett, and Berkley-Patton (2000) whose experience indicates that sustainability can be an object of annual plans. These plans were made from the very beginning of the health promotion programs so as to anticipate problems and prevent withdrawals. In other words, we supplement Mintzberg’s proposals with the suggestion that planning allows one to reconcile or foresee the transition between innovations and routines. Furthermore, as suggested by Green and Kreuter (1999), preliminary inquiries and needs assessments are preludes to implementation and sustainability when they are both social and epidemiological, behavioral and environmental, educational and ecological, and administrative and political.

6. A conclusion, by way of an example

By way of a conclusion, let us suppose that investigators examine the sustainability of a health promotion program. Program-related activities have been conducted in public schools and are presented in a curriculum. In our conceptualization, investigators may conclude that program sustainability is high in a school for two reasons. First, these activities are continued and meet all the characteristics of organizational routines: (1) memory, such as the network of tenured teachers who hold the curriculum (such a memory requires stable resources), (2) adaptation as the activities that are annually adapted to students’ preferences, (3) values as teachers saying ‘the HP’ for health promotion when they discuss the curriculum, (4) rules as an appointed coordinator in the school who supervises the activities. Second, these activities are constrained by an institutional standard. They are integrated into the recommendations entitled Basic

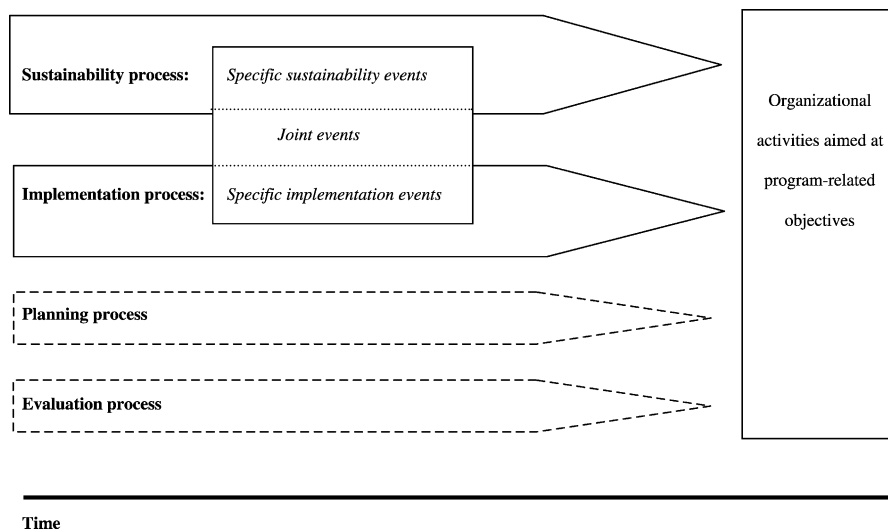


Fig. 1. Program sustainability: The ‘concomitancy’ conceptualization.

Requirements for Education annually published by the Department of Education. A year later, investigators may conclude that program sustainability is medium. Program-related activities are continued but the Department reforms its plans and removes the health promotion policy. In another school, they could conclude that program sustainability is weak because there are no organizational rules relative to the curriculum. A year later, they could conclude that the program is not sustained in this school. As a reform, curriculum-related activities are discontinued.

This article proposes a theoretical representation of two sustainability processes, namely routinization or standardization, and three degrees of program sustainability: non-routinized activities, routines, or standardized routines. It also suggests that measures can be taken to impact the development of programs from the very beginning, in order to make them last. Distinguishing routines and standards clearly identifies two levels of action conducive to the sustainability of a program: organizational and state. Thinking of program sustainability primarily in terms of organizational routines places it within reach of all health promoters. Further, thinking of sustainability in terms of institutional standards ultimately allows public health practitioners to act on healthy public policies. This conceptualization may help practitioners, decision-makers, and researchers to integrate the future of programs into their concerns, to reconcile innovations and routines, and to become more reflexive in their practice.

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