



Auckland UniServices Limited



THE UNIVERSITY OF AUCKLAND  
FACULTY OF MEDICAL AND  
HEALTH SCIENCES



CENTRE FOR HEALTH SERVICES  
RESEARCH AND POLICY

## **Development of a Knowledge Management System for Let's Beat Diabetes**

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# **Development of a knowledge management system for LBD**

## **1. Introduction**

The goal of the *Lets' Beat Diabetes* (LBD) programme evaluation is “*To create a learning environment in which multiple individuals and organisations can learn from each other, and from successes and challenges to continuously improve quality*” (Clinton, et al. 2006). To meet this goal the evaluation team has utilized an adapted Centre of Disease Control evaluation framework for public health initiatives (CDC, 1999) as the foundation for the evaluation. This framework relates well with the goal of developing a learning organization. While the more traditional elements of the evaluation models appear to be working well within the LBD programme, it has become clear that information is not flowing through the organization and community as had been desired. Therefore it was determined that a detailed model needed to be built to structure the transfer and flow of information. The task of building a model fits with the component of the LBD evaluation framework that states information should be fed back to all stakeholders. This paper provides rationale for the development of a model, provides an outline for a potentially useful model and provides recommendations to begin operationalising the model.

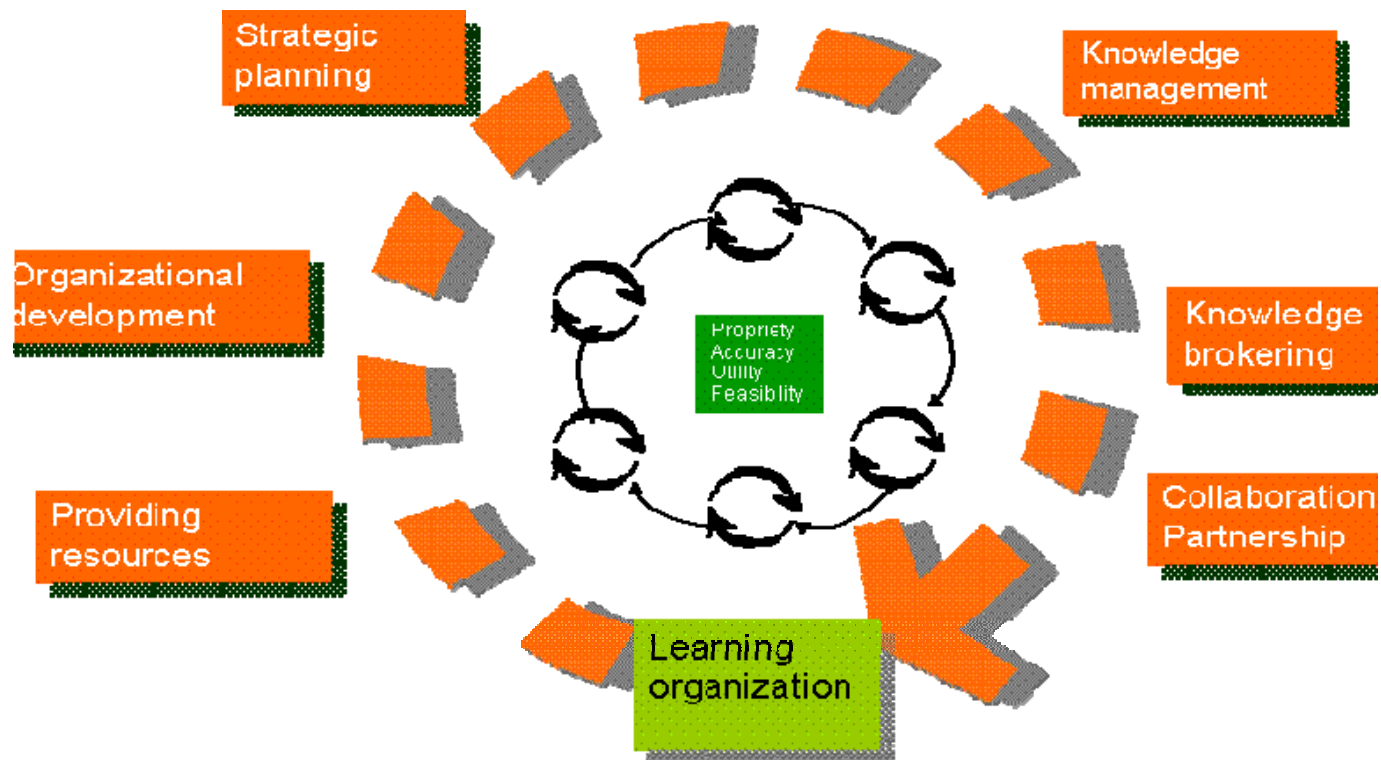
## **2. LBD and community change**

LBD is concerned with whole community change, and fundamental to this change is the establishment and maintenance of a learning environment. For a learning organization to function effectively the organization needs to take on the responsibility of managing information throughout the organization. A successful organization must continually adapt and learn in order to respond to changes in the environment and to grow. Senge (1990) defined a learning organization as “*human beings cooperating in dynamical systems that are in a state of continuous adaptation and improvement*”. In the case of LBD this means managing information around the LBD community. This is a reflective process where the evaluation can be seen as a catalyst in this change process. The following model demonstrates the role of the evaluation in the process of whole change,

and identifies some of the key factors that lead towards a learning environment. This model also illustrates that knowledge management is a significant element in this process and it is linked to all the other factors.

Figure 1 represents the change to a learning environment, where a learning organization is developed to bring about change. The evaluation model is at the centre of this change. The core notions of Propriety, Accuracy, Utility, and Feasibility define the standards for the evaluation, and then there is strategic planning, organisation development, provision of resources, collaborative partnerships all aiming to learn from the evaluation to improve the people, products, and processes and thus stimulate the change process.

Figure 1. The role of evaluation and the change process



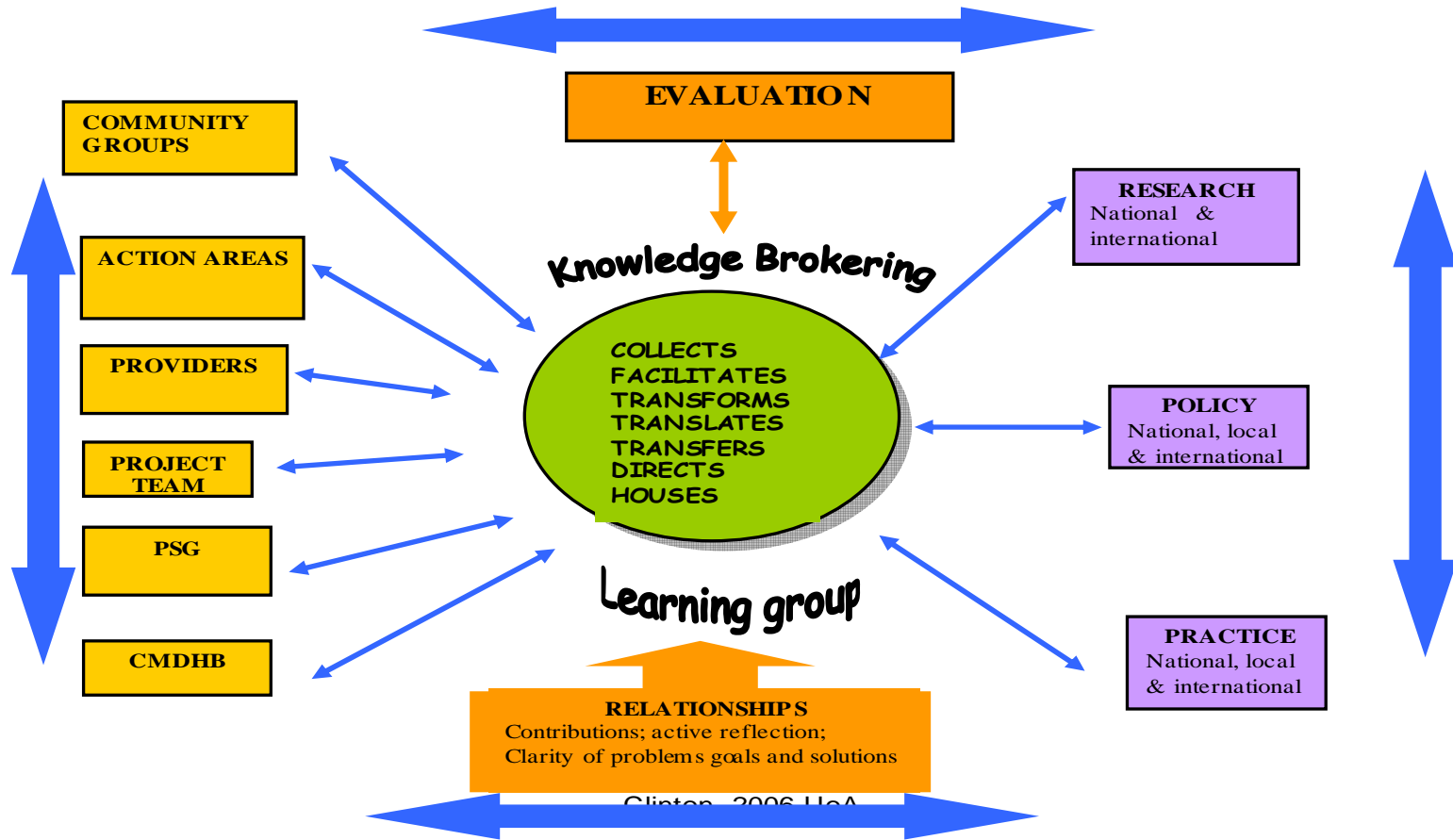
### **3. Development of a Knowledge Management System**

Knowledge Management is defined as “*Capturing, organizing, and storing knowledge and experiences of individual and groups within an organization and making this information available to others in the organization*”. Knowledge Management models are designed to manage, develop, identify, accumulate, and apply knowledge within an organisation. It involves practices used by organisations to identify, create, distribute and utilize knowledge for learning within the organisations. While managing information is critical to facilitating learning, engagement by stakeholders in the process is also critical. Such a system will increase the relationship between policy practice and research.

In an attempt to address this issue of utilizing knowledge to bring about change the evaluation team looked to contemporary models of information flow to develop a knowledge management system that is aligned with the LBD evaluation framework. As a means of increasing the probability success that there is knowledge flow throughout the organization into the learning of the organisation (illustrated by the double arrows circling the core Evaluation issues) we suggest relying on the principles of knowledge transfer and knowledge brokering. Also fundamental to the success of this model is the strengthening of relationships between stakeholders within this system. Strong relationships will ensure that information flow is always two ways.

A critical phase of this model (depicted by the arrows in Figure 2) is to ensure transfer of the emerging evaluation knowledge, via the various roles, to the Research, Policy and practice concerns of the organisation, and to the various stakeholders (community groups, action areas, providers, project team, PSG, and CMDHB). The concept of Knowledge Transfer (the double headed arrows in Figure 2) provides further explanation of how information moves throughout a learning organization. Knowledge transfer is *about transferring good ideas, research results and skills between universities, other research organisations, businesses and the wider community to enable innovative new products and services to be developed* ([www.ost.gov.uk](http://www.ost.gov.uk), 2007). Knowledge transfer can involve a number of activities such as seminars and presentations, however the most important component is that dialogue that occurs as a consequence of the information.

Figure 2. Draft model of knowledge management system



A structured model is recommended to manage the flow of information within the organisation to facilitate a learning environment and guiding information generally through the system. This structure is to be seen as a component of the overall change process (Figure 1) and is tied to the evaluation model that states information should be fed back to all stakeholders. However, the model is structured to include all information that enters the organisation, such as policy, practice and research related information. It is important to see that Figure 2 takes the **Knowledge Management** part of Figure 1 and unpacks it in more detail. Further, it is essential to acknowledge the role of the evaluation in this structure as well as how this contributes to the overall goal of societal change in Counties Manukau.

It is suggested that the management system has several roles. The system will

- COLLECT** or gather information from all pertinent sources such as the research policy and provider communities. As well as the community at large. Evaluation information is seen as a critical supply of information
- FACILITATE** learning relationships. e.g. build capacity around combating type 2 diabetes and research through a variety of activities
- TRANSFORM**, analyze or interpret information for application. As an organisation determine the importance of incoming information for the various stakeholders.
- TRANSLATE** information into the appropriate language for the appropriate stakeholders
- TRANSFER** or facilitate the uptake of information. Determine the medium of the transfer and provide the vehicle for transfer of information for the appropriate stakeholders
- DIRECT** the flow of information. Determine which direction the information needs to go to and to come from. This is particularly important for feedback and response to new information
- HOUSE** or stores information. There needs to be an information technology system that can provide storage access and a pathway for information, that is very user friendly for all stakeholders

There are three components that are critical to this process of developing a Knowledge Management System.

## Knowledge Brokering

- *Knowledge brokering is about bringing people together, to help them build relationships, uncover needs, and share ideas and evidence that will let them do their jobs better. It is the human force that makes knowledge transfer (the movement of knowledge from one place or group of people to another) more effective.*

The notion of knowledge brokering is an entity that is specifically charged with the tasks of operationalising the system and specifically strengthening the relationships fundamental to this process. Knowledge Brokering has one main focus; identifying people interested in a particular issue, bringing them together, building their relationships, and their sharing ideas and evidence. A critical feature of Knowledge Brokering is that it supports evidence-based decision making. The aim is to improve the participants and organization work efficiency and effectiveness.

It is vital for a collaborative environment to exist in order for Knowledge Brokering to work well in practice. Brokers, then, are links between different entities or individuals that otherwise would not have any relationship (Gould & Fernandez. 1989; Feldman 2001; Stone, 1996). There are a number of examples of Knowledge Brokering in the international health sector e.g. The Knowledge Exchange Network (KEN) of the Canadian Cancer Society Manitoba Division (see <http://www.cancer.ca>); the Cooperative Research Centre for Freshwater Ecology (CRCFE) (See <http://freshwater.canberra.edu.au>) and the SAHPM Initiative as a Knowledge Transfer and Knowledge Brokerage Pilot (see <http://www.scotland.gov.uk>). The main outcome of knowledge brokering is that research will be increasingly used by policy makers and stakeholders to develop more effective, efficient and responsive public policies, resulting in cost savings and more effective policies.

## **Learning Group:**

This is a group that is seen as a steering group to provide guidance and governance from the stakeholders to control the knowledge management system. This group ensuring the system develops appropriately to suit all stakeholders

## **Knowledge warehouse:**

This is the information technology system that underpins and stores the information. This system provides the technology so that all stakeholders can access information, transfer information, provide a place where suggestions for the need for information can be made and store the information in a user friendly manner.

## **4. Conclusion**

The model is critical for facilitating change in the LBD community. It is believed that there would be a number of important benefits from the development of this system that relate to the enhancement of a learning organisation.

- Developing a principle of critical reflection e.g. increased capacity in evaluation and the use of evaluation tools
- Being informed by community and research i.e. Communication with community and being informed by ongoing research
- Have the means to push all information through out the community i.e. Have a vehicle and system to manage the information.

## **5. Recommendations**

1. LBD investigates the notion of the Knowledge broker. Consider that the evaluation team might provide this service.
2. Evaluation team and members of LBD present the model to SOPH to encourage engagement in this process.
3. LBD management team set up a small group to scope the implementation plan for such a model
4. Invest in an IT system that would encompass such a knowledge management system

5. Use this dissemination of this report as a means of demonstrating the worth of such a process.

In an effort to bring all stakeholders together in an understanding about the LBD learning organisation it is suggested that a symposium be held to showcase LBD and the learning organisation. This report would be basis of this symposium. This symposium would have a number of purposes.

- Illustrate the progress of LBD
- Gain feedback from our stakeholders about this progress
- Impart knowledge

Following is an example of a possible format for the symposium:

**Morning:**

- Keynote speaker: Type 2 diabetes
- Several Presentations from the evaluation report

*Lunch*

**Afternoon**

- Evaluation working group and key stakeholders join workshop to interpret the finding from the report. Following this symposium there would be structured phases of dissemination