Applying a Systems-Centered (SCT) approach and social network analysis (SNA) to citizen-centric behaviour change. Rowena Davis

How could SCT and SNA be used to think through and tackle social change – for example, reducing obesity?

Introduction

This paper outlines a Systems-Centered® and Social Network approach to citizen-centric behaviour. Both of these approaches take a systemic view to human systems enabling one to see patterns and understand what is helping and getting in the way of change at many different levels (from the individual through to the family, community and wider society). They help identify where and how to intervene to effect change.

Role, Goal and Context

From a systems-centered perspective the first questions one clarifies are: what is the context; what are the goals; and what are the different roles. This is based on the notion that every context has its own goals and that at all system levels, e.g. individual citizens, families, local agencies and Government, one can take up one's role to support or hinder achieving the goals. In the case of citizen-centric change, one would be thinking through role, goal and context from both the policy / implementation and citizen levels.

From the policy perspective, understanding the **context** in relation to obesity would include:

- Reviewing existing data e.g. from the Department of Health (DH) website http://www.dh.gov.uk/en/Publichealth/Obesity/index.htm :
    - The latest Health Survey for England (HSE) data shows us that nearly 1 in 4 adults, and over 1 in 10 children aged 2-10, are obese.
    - In 2007, UK Government-commissioned Foresight report predicted that if no action was taken, 60% of men, 50% of women and 25% of children would be obese by 2050.
    - Obesity can have a severe impact on people's health, increasing the risk of type 2 diabetes, some cancers, and heart and liver disease.
    - There is also a significant burden on the NHS - direct costs caused by obesity are estimated to be £4.2 billion per year and forecast to more than double by 2050 if we carry on as we are.
- Using mapping techniques to show, for example:
    - Obesity rates by, for example, locality, socio-demographics, including gender, age and ethnic group.
    - Roles, goals and contexts of different populations/segments by locality. This technique discriminates similarities and differences of different segments in the population and identifies drivers of behaviour. For example, young professionals may be obese due to lack of time/skills in preparing meals/for exercising. The eating and exercising behaviours of young people in low income brackets may be driven mainly by economic considerations and potentially by learned behaviour from family of origin. Each of these requires a different approach in terms of intervention. This mapping highlights how from the different actors' perspective their behaviour 'makes sense' and identifies the specifics of what is helping or getting in the way of change.

- Gathering new data to fill gaps.

The **goals** of any policy / intervention would need clarifying. For example, the DH website articulates the following:

- We want people to know that they can change their lifestyle and make a difference to their health.
- The Government will provide clear, consistent messages on why people should change their lifestyle, how to do so, and put in place ways to make this easier.
- We will also work in partnership with local government, charities and business to reduce obesity. - building collaboration across functional boundaries is an essential part of SCT and SNA

This initial process is likely to highlight differences between different actors and areas. Information, as mentioned on the DH website, may be only one issue. For example, recent research shows that lack of social sanctions and lack of negative peer responses to obesity influence the higher levels, creating a feedback loop that reinforces over-eating/under-exercising. In addition, research on behaviour change highlights the role of ambivalence and the importance of implicit compared to explicit goals in driving behaviour. SCT posits that ambivalence is the result of not being able to integrate different subgroups in the self. Implicit goals (what I do versus what I say I do) always win out over explicit ones. If one's implicit goal is to satisfy one's desire to eat this will always drive behaviour more than the explicit goal to lose weight.

Clarifying the relative importance of e.g. social norms, informal networks, economic conditions, learnt patterns of behaviour and information from Government will be necessary to focus efforts and ensure that policy goals are realistic and take account of different actors' contexts.

The **roles** of those engaged in policy-making and implementation, for example Government, COI, local authorities, schools, charities and business would need clarifying, taking into account the initiative's goals. For example, if one goal is to reduce childhood obesity, then schools are an important middle level context for intervening and likely to have a key role in implementation. A school choosing to support such a project might alter school dinner menus, modify PE in the curriculum and consider how to influence norms around eating habits.

Getting agreement on roles takes time. Crucially, it needs an understanding of what should be in order to support overall goals, as distinct from a simple description of what is.

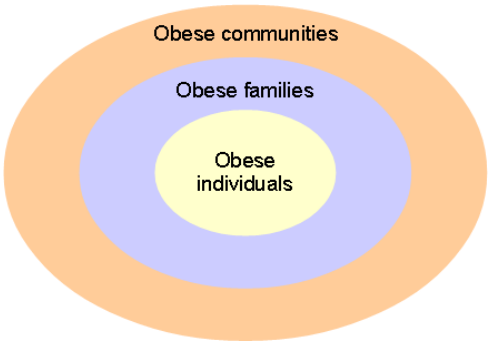
It is often helpful to map the roles of different players to identify the similarities and differences in their goals and contexts. This highlights areas where cooperation is likely to be more fruitful (due to similarity around goals and purpose) and areas where it is likely to be there is likely to be more difference and which require work to identify common goals. This latter principle is based on the notion from Agazarian's Theory of Living Human Systems (1997) that part of the human condition is we tend to find it easier to work with similarities and conversely close off to differences that are too different, preventing new information from coming in and change occurring.

Where to intervene

The paradox at the heart of behaviour change for government is the need to think about the whole system **and** the individual at the same time. The White Paper 'Equity and Excellence – Liberating the NHS' points to a move in the current Coalition Government from a population-based approach to healthcare commissioning to one that is individual and personalised. It is possible that this signals a shift in policy focussed on behaviour change too.

Ultimately change has to take place in individual behaviour. However, individual citizens are strongly influenced, if not governed, by the systems they are part of and (another paradox) can influence these systems too. From the policy perspective, it is costly to intervene at the individual citizen level and, from a systems-centered perspective, the individual is not the most effective point of intervention either. Instead, changing the wider system's norms, goals, support systems, social sanctions etc is likely to be more effective in directly influencing and sustaining individual change.

A systems-centered perspective looks at any system in the context of the system above and below it. SCT posits that working with the middle system is where one is likely to have most impact as it has boundaries with the system above and the system below. Which group of three sub-systems one chooses to focus on depends on what one is trying to understand or change. The diagram to the right identifies one set of three systems in obesity. Taking these three, one would be looking to intervene at the family level. Equally, it would be possible to decide to put families as the first level, followed by communities and geographical areas. In this case, one would be looking to intervene at the community level.



SCT recognises the power of subgroups to influence and implement behaviour change at the individual and wider system levels. Being part of a group with the explicit goal of tackling obesity / changing lifestyles could play an important role for individuals. An initial mapping could be used to identify extant community groups, potentially linking up different groups / adding to their agenda (food co-ops, organising fun runs). Obese individuals could then be offered these groups to support each other and identify what's helping and getting in the way of losing weight with a view to reducing what's getting in the way, including exploring their ambivalence and building support for changing. This, however, requires skills to help the group and individuals achieve their goals and facilitate the typical dynamics and defences that emerge in groups. SCT has a model of phases of group or team development (Gantt & Agazarian, 2007) (similar to many others cfr. Wheelan, 2005). SCT's specific contribution here is it identifies behaviours that help the team or organisation develop to create a more productive, problem-solving climate. Government funding to develop facilitation skills in local groups may well offer a good return on investment.

It would be important to have the wider context support the changes with appropriate structures. Local Authority exercise facilities, school meals, supermarket promotions/food labelling, primary and secondary care professionals could all play their part in supporting or hampering the changes. This is where an initial mapping of the system and the links between different parts is invaluable in identifying feedback loops and likely intended and unintended consequences of initiatives.

How to intervene

From the initial (probably iterative) clarification of Roles, Goals and Context one would identify choices and pathways for implementing the goals.

One might do an initial forcefield analysis of what is likely to help or get in the way of achieving the goals/implementation based on existing knowledge of the pros and cons of different choices. This is likely to highlight gaps which might be filled by subsequent research.

One of the key goals in citizen-centric change from a systems-oriented perspective is shifting from seeing the world mainly from an individual perspective to seeing the

wider context and taking up one's role as a citizen with behaviours that support the wider context. This has affinities with the Big Society's aims of an active, engaged citizenry.

Building on Lewin's (1951) notion that in any system there will be behaviours and factors (driving forces) that move toward the goal and restraining forces that move away from it and which are in balance at any point in time to keep the system stable, a systems orientation focuses on weakening the restraining forces. This automatically releases the driving forces towards system development (Agazarian 1997; Gantt and Agazarian 2006). The forcefield would probably need to be at different system levels e.g. at the individual citizen, food industry, health professionals, partnership working and so on.

Below is a 'straw-man' force-field on reducing obesity. This would be populated with additional data from existing and further research.

Driving forces for reducing obesity from individual citizen perspective	**Restraining forces for reducing obesity from individual citizen perspective**
Explicit Government targets to cut obesity levels → means there may be specific support e.g. funding for self-help groups at GP practices, gastric band surgery	← Cuts in budgets means may be less help from Government for these initiatives
	← Perverse incentive to get fatter to reach the eligible level of obesity required to qualify on the NHS for gastric band surgery
Wider social debate about the notion of → individuals taking responsibility for their actions	← Much of popular culture supports notion individuals have right to do what they want including treatment (e.g. gastric bands), regardless of consequences to wider family or society
Some recognition of the power of groups and→ communities in effecting and supporting change (Weight Watchers, Alcoholics Anonymous) etc.	← Obesity now attributed to genetic factors by some clinicians and some obese people, contributing to helplessness and a lack of shame
Local council 'Walk to School Days' and cycles → for hire e.g. London and York raise awareness of alternatives to driving & promote exercise	← Social norms in obese families / groups support 'helplessness' – there's nothing the individual can do about it
Greater mobility and ability to take part in → activities for the individual	← Where obesity is inter-generational, risk factors increase from conception
Lower risk of disease e.g. diabetes, joint problems→ for the individual and their children/families	← Weight loss requires lifestyle shift – change in diet, activity levels – and takes time
School dinner & 'grow your own' debates have→ raised awareness of healthy eating	← Access to exercise facilities is restricted in areas of social deprivation and in low income groups
Food labelling now includes fat & sugar levels→	← Belief / ? reality that a healthier diet is more costly
Public debate, including comments by the Prime→ Minister, about the importance of school sport may mean this becomes a reality in more schools	← Cheaper to produce fast food with high levels of saturated fat and sugar so requires cooperation from producers to reduce these
Greater willingness in society to talk about→ emotions and conflicts within self	← Lack of sports facilities at state schools means fewer children develop habit of exercising
	← Cuts to budgets means may be less sports provision for children and young people
	← Low tolerance for ambivalence in society - people tend to be scorned for ambivalence: *'you say you want to lose weight but you don't do anything about it'* – and few mechanisms/opportunities to help people understand and manage better the conflicting 'subgroups' within themselves

Social Network Analysis (SNA) might be useful to gather more data and agree action. Depending on the goals, the SNA could be done with a cross-section of players, e.g. obese citizens, health professionals, the local authority, or with a single group, for example obese citizens in a local area. SNA identifies and maps informal networks around any given issue. It can be used to identify who is connected to whom and adds value/doesn't add value, and who should be connected to whom to solve the issue at hand. It also identifies conflicts and broken links that need attention to facilitate more functional action-orientated relationships to achieve goals. The process I use can be adapted to collect data on any issue. The data is collected via a web-based tool, Magus Networker. Through workshops, those who have provided the data make sense of the current situation and problem-solve / decide what to do about what is not working well. This approach is again based on the premise that systematically weakening the restraining forces enables change to take place. It is also based on the principle that involving those on the ground / who own the issue is more likely to produce action they will implement than approaches that impose solutions from outside.

Communication

SCT posits that one of the first tasks is to build a good working system or climate – at all levels e.g. at the policy / implementation partnership as well as the target population levels. This requires paying attention to how we communicate/ how information comes into the system and being able to step into others' shoes.

The SAVI (System for Analyzing Verbal Interaction) grid (Simon and Agazarian 2006) based, inter alia, on information, cognitive dissonance and stress theories, posits how information comes into a system has more impact on one's ability to hear it than the content of the communication. The theory states we tend to react to information that is too different from what we currently know. We also tend to dismiss 'noisy' messages i.e. ones that are ambiguous, redundant or contradictory.

SAVI also posits that using problem-solving communication behaviours is likely to foster cooperation and open boundaries to new information so that it can be heard, integrated and acted upon (all necessary conditions for change to take place). Orienting people to the facts, empathising with the challenges, allowing them time to explore their drivers and challenges, make sense of and own the implications of changing/not changing and offering concrete support are more likely to foster change than, for example, telling people what to do, discounting their perspectives or blaming them.

SAVI could be used both to guide communications with the target audience and as a tool to increase problem-solving verbal behaviours with individual citizens, small groups, larger populations and in partnerships working on policy and implementation. It could be an integral part of the facilitation training for local support groups.

Emotional intelligence

Notions from neurobiology highlight that for behavioural change to take place both the cognitive and emotional information systems in the brain need to be working together as an integrated whole (Siegel, 2007). This links with the SCT notions that we need to have an open channel between thinking and feeling and that change takes place through the discrimination and integration of similarities and differences in these two sources of information.

One way of looking at this in the context of citizen-centric behaviour change is that one is gradually increasing the capacity of the individual citizen, family, local community, wider society to take in new information and decide if and how to behave differently. This process is not simple or linear. One is essentially creating new neural pathways at the individual citizen level as 'neurons that fire together wire together' (Hebb, 1949/2002) as well as attempting to strengthen social norms and values that

support the change. In the case of obesity, this is likely to require persistent undoing of old patterns of behaviour and attitudes in order to move towards ones that support healthier behaviours. Often with engrained patterns of behaviour, individuals experience a conflict between what they want to do and what they actually do (ambivalence). SCT has a method of functional sub-grouping as a way of exploring separately the different sides of any conflict as a way of accessing the information in each and making choices based on common sense and emotional intelligence.

Types of intervention

Behaviour change is complex and takes time. A systems-centered approach posits it requires policies and interventions based on a systemic view of the drivers of behaviour and the restraining forces to change.

It is likely that around obesity there will need to be a mix of communications (above and below-the-line at national and local levels), direct help from professionals in local authorities, healthcare, education and charities, as well as self-help in groups and individually.

SCT methods were developed partly in response to the managed care systems introduced into the US in the late 1980s and early 1990s. The number of sessions health insurance companies were willing to pay for became time-limited. The SCT methods are designed to be transparent, normalising and to enable change after even one intervention. SCT offers 'a systematic, sequenced, goal-oriented, step-by-step .. plan with clear criteria for assessing progress at the end of each …session. …[It] can be stopped at any time, and begun at any time from where it left off.' (Agazarian and Gantt, 2000). This approach may offer a model in helping individual citizens and groups deal with obesity, both face-to-face and remotely e.g. via help-lines, web-based forums and telephone conference calls.

Conclusion

The systems-centered ideas and methods outlined here could be used to inform how to think about influencing behavioural change, where to intervene, the messages to convey and the tools to teach individuals and groups as they try to shift behaviours. In the context of the Government's Big Society agenda, particularly pertinent is the SCT focus on facilitating a shift from an individual to a wider citizen view of the world where one is more aware of and able / willing to contribute as an active member to developing the wider society.

Acknowledgments

Thanks to Dr Susan Gantt, Director of the Systems-Centered Training and Research Insitute, Inc and to Juliet Koprowska, Head of Social Work, Department of Social Policy and Social Work, University of York for comments on earlier versions of this article.

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