DebateGraph: A new way to address the complexity of obesity

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As our understanding of the causative factors and consequences of obesity increases, healthcare professionals and policy makers are faced with an ever-expanding amount of data that can appear overwhelming in the search for effective solutions to this global crisis. New ways to incorporate these developments and allow us to see the relationships between the findings are required. This article outlines the College of Contemporary Health’s Obesity DebateGraph, a new, free-to-use, online tool that can help to unravel the complexity of the obesity space, collaborate and share ideas, and better understand the ways to tackle the obesity pandemic.

We all agree that obesity is a complex issue for which no country has yet found a solution, and the problem is rapidly increasing. Globally, the annual cost of obesity is estimated to be $2 trillion, and by 2030 it is expected that 41% of the world’s population will be overweight or obese (Dobbs et al, 2014). According to recent Health Survey for England data, 1 in 4 adults are obese, and this trend is on the rise (Health and Social Care Information Centre, 2014). The impacts of obesity – socially, economically and physically – are pervasive and need to be understood from a breadth of perspectives in order to be adequately addressed.

When knowing is not enough

As our understanding of the complexity of the causative factors and consequences of obesity increases, so does our need for innovative ways of analysing the data, and their inter-relationships, to generate effective solutions. This was illustrated in the Foresight Obesity System Map (Figure 1; Butland et al, 2007), which is familiar but overwhelming to many people. This may in part be because of the way we prepare healthcare professionals to deal with complexity. A report from The Commission on Education of Health Professionals for the 21st Century (Frenk et al, 2010) concluded that:

“Professional education has not kept pace with these challenges, largely because of fragmented, outdated, and static curricula that produce ill-equipped graduates […] Redesign of professional health education is necessary and timely, in view of the opportunities for mutual learning and joint solutions offered by global interdependence due to acceleration of flows of knowledge, technologies, and financing across borders, and the migration of both professionals and patients.”

Lang and Rayner (2007) said that:

“Part of the search for solutions must be the investigation of not just what the drivers of obesity over time have been but how they interact. Too many analyses of obesity are locked into disciplinary ‘boxes’ when, given the complexity and breadth of such drivers, it is likely that obesity requires a broader interdisciplinary analysis and a sustained,
society-wide response. By implication, ‘quick fixes’ or single-factor remedies are unlikely to work.”

So not only do we need new approaches in education, but we also need ways of incorporating all the new research and developments concerning obesity that are taking place on a global scale, and the findings from major reports such as the McKinsey Global Institute’s economic analysis (Dobbs et al, 2014), which showed that there are multiple potential interventions open to us, each of which appears to be cost-effective.

Towards a new literacy
The rate of information flow, coupled with advances in accessibility of that information, are challenging us to develop a new form of literacy that allows us to see the inter-relationships and impacts of change, so as to learn more about problems and potential solutions.

At The College of Contemporary Health (CCH), we aim to embrace new ways of thinking in order to achieve our mission to make healthcare professionals in the UK “the most obesity literate in the world.” DebateGraph is a tool that can assist us in this.

The CCH Obesity DebateGraph
DebateGraph is a free, web-based tool developed by Peter Baldwin, the former Australian Minister for Higher Education, and David Price, a UK-based researcher, as a way of dealing with complex policy topics. It is an innovative way of collating and visually presenting data that is being used around the world in many different fields, including education, health, conflict resolution, group facilitation, networked governance and policy dialogue. DebateGraph has been used by the White House Office of Science and Technology Policy (on open government), the UK Prime Minister’s Office (on media policy), CNN (on Christiane Amanpour’s global affairs series) and the Bill & Melinda Gates Foundation (on global health). At CCH, we are using it in our courses to enhance research skills and develop critical thinking, whilst also adding information to the dynamically evolving map of obesity.

DebateGraph enables people to collaboratively create and explore reasoned pathways through complex problems by:
1. Breaking down the subject under discussion into discrete ideas.
2. Figuring out the relationships between those ideas.
3. Expressing the ideas and relationships visually.
4. Reiterating steps 1–3 to improve the map as the understanding of all the participants develops.

Ideas are displayed as either thought bubbles or boxes, with arrows indicating the relationships between the ideas and bright colours signalling the types of ideas and relationships. For example, in Figure 2, a blue proposal (to improve obesity training for healthcare professionals) is supported by the green arguments that the existing training of healthcare professionals is inadequate with respect to obesity, which is in turn evidenced by the rarity with which GPs use interventions for weight management, the observed inadequacy of the knowledge of many healthcare professionals on obesity, the degree to which obesity is under-represented in training curricula, and the continuing insensitivity of some clinicians when dealing with obese patients. Red (opposing) arguments, which articulate the case against the proposal or position, can also appear.

As we broaden the focus, and switch into one of the many different types of views that DebateGraph enables (Figure 3), we see that the small strand of
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One of the proposals is the idea to improve obesity training for healthcare professionals. This proposal is backed up by a number of supporting arguments, as shown in Figure 2. The proposal is part of a wider discussion on improving obesity training in healthcare professionals, as shown in Figure 3.

As we zoom out further (Figure 4), we see that the proposal is just one of many considered in a similar fashion within the DebateGraph. The ideas on the map can be enriched with videos, images, charts, tables, detailed text, documents, files, comments and citations to journal articles, as well as being cross-connected to other relevant maps, including the Foresight Map, a process that CCH has been developing over the last year. DebateGraph breaks down this information into visual maps and allows you to see and explore clusters of inter-related maps that emerge automatically as you work on different topics.

In this way, the evolving CCH Obesity DebateGraph grows to represent a comprehensive and coherent visual representation of the obesity policy space – including the causes, impacts, proposed interventions, evidence, guidance and barriers to change – that can help all stakeholders explore and understand the space as a systemic whole, and which provides a dynamic, open substrate for dialogue, learning and action across the policy community.

Accessible to all

At the recent Canadian Obesity Summit in April, Ted Kyle, Vice President of the Obesity Action Coalition, presented data on how the public and healthcare professionals view the problem of obesity in the US and Canada (Kyle et al, 2015). The most common view of obesity among the American public was that it is a personal problem that stems from bad choices. However, among Canadians, especially French-speaking Canadians, the most common view was that it is a community problem of shared risk. Mr Kyle considered this an important finding, as research has shown that when people understand obesity as a problem of shared risks, they are more open to evidence-based solutions and less prone to express bias.
against people with the condition. This illustrates one of the key benefits of DebateGraph: the fact that it is open to all members of the community, who can add new ideas and information, and edit and rate existing ideas, using the buttons and links on the map. Email alerts are sent to keep everyone up to date as the map evolves, enabling all within the community to benefit from the thoughts of others, and helping the whole community to see the perspectives of others through their eyes, and as part of a larger whole. Each idea is also represented just once and in a form that is continuously open to challenge, support and refinement by all members of the community.

Seeing the bigger picture from multiple perspectives

Large-scale, multidimensional maps can grow collaboratively in this way from the first simple seed question until the map gathers all of the salient ideas and evidence distributed across multidisciplinary communities into a single, coherent, meaningful structure that can be explored thematically and/or from the perspectives of each of the different stakeholders. You will see that CCH, as an education institution, is one of the myriad of possible stakeholders (Figure 5).

Externalising and visualising the ideas in this way augments the individual and group ability to think through complex issues, and it helps readers and participants overcome the cognitive constraints of short-term memory, groupthink (the tendency for a group to avoid surfacing dissenting viewpoints in order to reduce conflict and arrive at an uncritical consensus) and homophily (the tendency for people to associate with others who share the same beliefs).

Summary

At first it may seem reductionist to distil the key points of research documents, but we do this so that they can be connected in a myriad of ways, just like the neuronal connections in your brain and as typified in mind mapping, the process developed by Tony Buzan. This is just a different approach to something one would do anyway when carrying out research, but DebateGraph can capture that and integrate it into a dynamic database.

As individuals, our views are coloured by our own experience, background, knowledge, prejudice and bias. The beauty of DebateGraph is that it can be owned by and grow with the community that
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“We need to look at the different views and opinions to see what is out there, letting go of the primacy of a particular perspective.”

DebateGraph is a fascinating concept with a huge amount of potential to be the definitive resource for obesity-related information, not only for healthcare professionals but also for commissioners, policy makers and patients alike. When it was first presented to me some time ago, I had the impression that it was for interested parties to debate issues on a particular subject, with arguments for and against. This alone would be helpful for students of the College of Contemporary Health, who first introduced it to me. However, since then, the potential for this tool has started to become more clear. Think – the Wikipedia of all things obesity-related. Information resources of all kinds, from expert opinions, randomised controlled trials, meta-analyses and systematic reviews to NICE guidance and public health policy, could feature within its map.

The Foresight Report of 2007 produced a map of all factors related to why we, as individuals or as a society, have become more obese, but this was at a fixed point in time, and it has not been reviewed since. DebateGraph has the potential to be a fluid and dynamic version of the Foresight Map that is continually being updated. Like Wikipedia, care would need to be taken by those reading into it to ensure the quality of the references, but we have to do this when we do literature searches already. To have a one-stop shop of resources that does not just involve single articles but any manner of related information will be ultimately invaluable.

My only criticism is the name. DebateGraph still conjures up the impression of a forum to argue for or against a particular point, which is just a fraction of its potential. Perhaps the obesity version needs to be called Obesipedia or, given that it provides something resembling a city map of all things related to obesity and adiposity, perhaps AdipoCity? Nonetheless, I recommend checking out this valuable new tool.

Matt Capehorn
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Figure 5. Mapping the obesity stakeholders. CCH is selected, which brings up more information.


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Online CPD activity

After working on the Obesity DebateGraph and seeing the benefits of the process as it begins to inform and guide our thinking around our curriculum development, CCH is opening the map publicly this summer, and we invite you to join us in exploring and adding to the insights and pathways it offers. The true value of the map lies in the journeys it helps to facilitate, whether your journey is as an individual, healthcare professional, researcher, educator, consultant, journalist or policy maker. By being available to all and accessible by all, DebateGraph can collate multiple perspectives and be used to engage in challenging conversations. It can then serve as a hub for the global community to develop clearer and more robust perspectives on the causes, consequences and, more importantly, progressive systemic solutions to obesity.

For a personal invitation to explore the map in advance of the public launch, please email: debategraph@contemporaryhealth.co.uk

The CPD element of this article consists of five multiple-choice questions and a link to DebateGraph so that users can familiarise themselves with the tool. To answer the questions and gain a certificate of participation, please follow the instructions at: www.ccheducation.co.uk/quizzes/cpd2

1. By 2030 it is predicted that what percentage of the world's population will be overweight or obese?
   A. 19%
   B. 35%
   C. 41%
   D. 90%

2. CCH have developed the Obesity DebateGraph:
   A. As a tool to collate all public health information in the UK
   B. To compare obesity research in Australia with that in the UK
   C. To show that obesity is a complicated condition
   D. As an innovative way of collating and visually presenting the latest data on obesity

3. CCH are using DebateGraph in their courses to:
   A. Assess knowledge on obesity
   B. Enhance research skills and develop critical thinking
   C. Measure a student's ability to debate
   D. Evaluate graphs to better understand obesity

4. According to research that was presented at the 2015 Canadian Obesity Summit, the most common view of obesity among the American public was:
   A. That obesity is a personal problem that stems from bad choices
   B. That there is nothing that can be done about obesity
   C. That obesity is not a problem in the US
   D. That obesity is more of an issue in Canada

5. A key benefit of the CCH Obesity DebateGraph is:
   A. It is open to anyone with an interest in obesity
   B. It is restricted to only doctors
   C. It canvases the opinion of doctors and nurses
   D. It is open to all healthcare professionals, but not to the public