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Building a logic model for a complex intervention: a worked example from the Well London CRCT

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“interventions without theory are blind; theory without evaluation is empty”

Introduction

There is a growing literature on the need for the use of theory in the design and evaluation of public health interventions. The revised 2008 MRC guidance on the evaluation of complex interventions stresses the importance of a theoretical understanding of how an intervention causes change and how outcomes are /are not achieved. Understanding the causal pathways includes identifying “active ingredients”, how their effectiveness might be modulated by person, place, time and other factors to capture an intervention’s “practical effectiveness”.

However, there is little practical guidance about just how to do this; advice is often to use an “appropriate” or “relevant” theory with no explication of what this means. Thus the means by which particular theories are selected often remains in what the philosopher John Dewey called the “twilight zone of enquiry” (Dewey 1916).



In designing the evaluation of Well London (WL) we wished to develop a theoretical framework in line with the guidance of the MRC and others. We found this a challenging task given the complexity of the intervention (see Phillips et al this conference) and the veritable forest of potentially relevant theories with no obvious way through the woods. This poster presents a brief outline of how we found a way to do this.

Approach

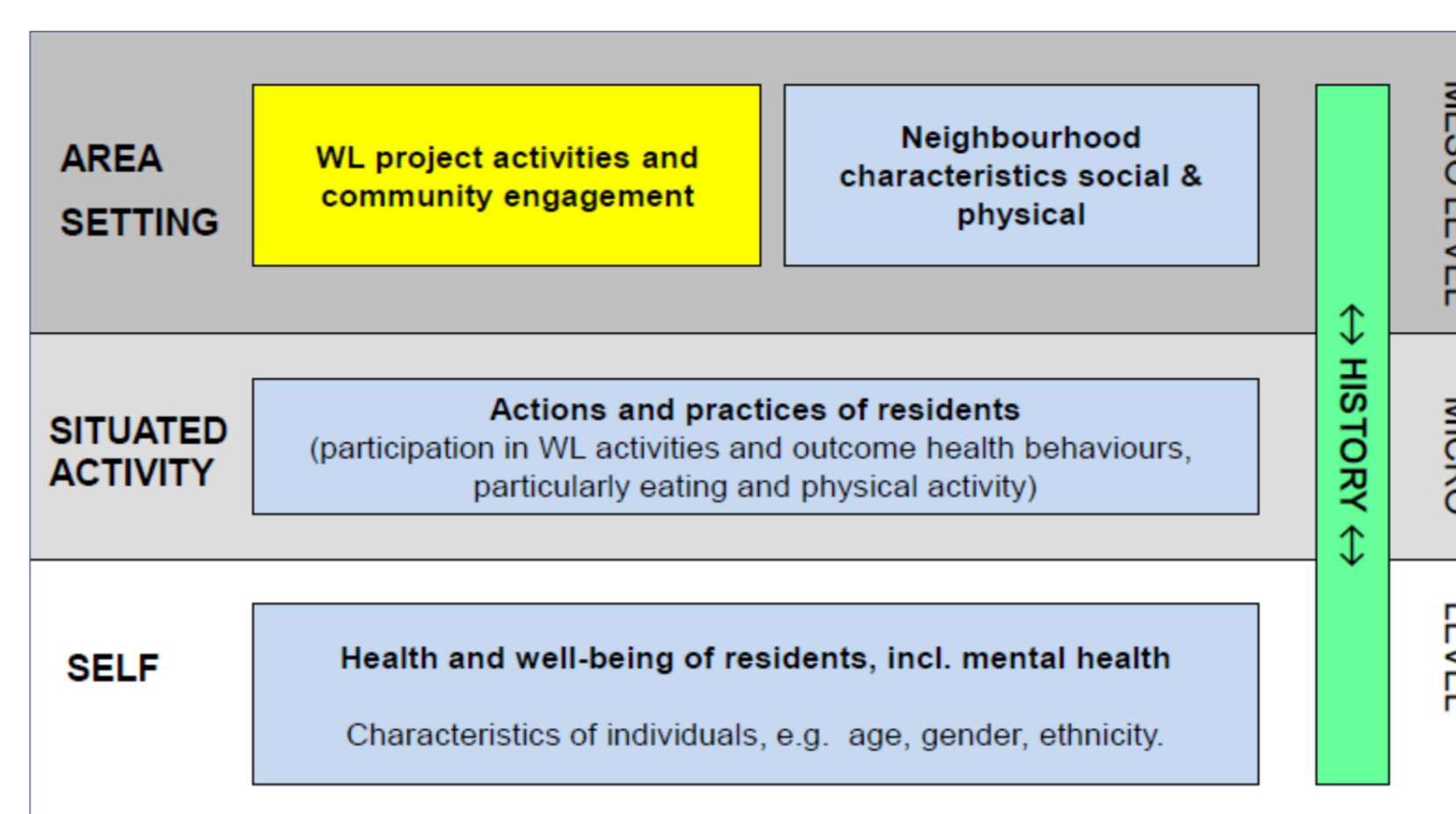
We reviewed existing guidance on using theory and developing logic models from various sources, including the MRC (2000, 2008), NICE (2007) and GSRU (Darnton, 2008). We integrated these using the approach recommended by Carpiano and Daley (2006):

1. Define an over-arching conceptual framework to identify relevant variables and the broad causal relationships between them;
2. Then select relevant theories to explain relationships between variables;
3. Finally, develop logic models to depict the anticipated causal pathways in terms of links between intervention activities and desired outcomes, including intermediary effects and processes.

Well London

The 3.5y WL project was designed to improve health outcomes in deprived areas of London through neighbourhood level interventions. The WL project partners delivered themed packages of intervention activities: The Arts Council UK, London Sustainability Exchange (LSX), South London and Maudsley NHS Mental Health Trust (SLaM), and Groundwork London. UEL led the community engagement that was a central strategy in both design and delivery.

The conceptual framework

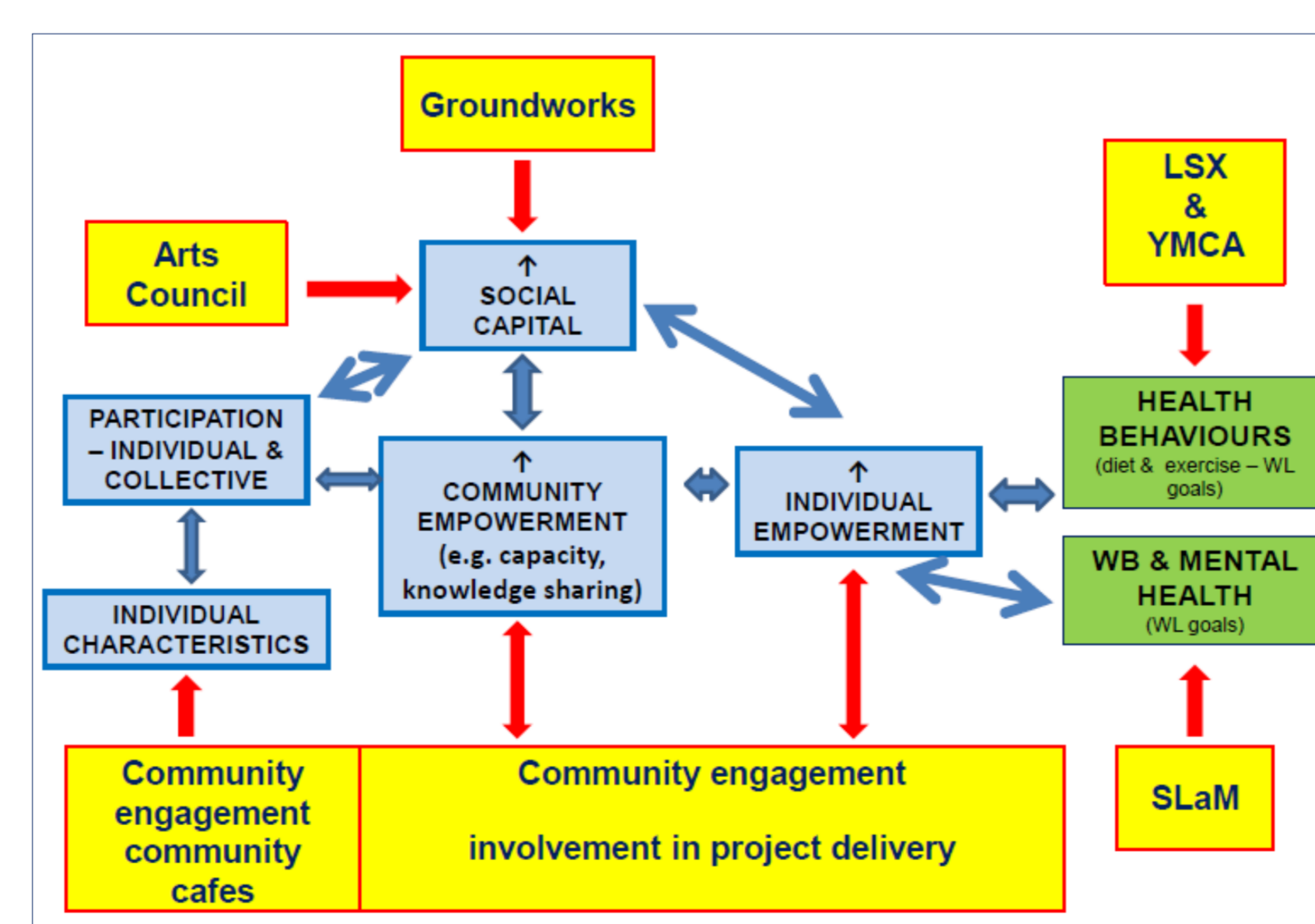


Using the conceptual framework we identified 3 areas of theory relevant to explain change: 1) community engagement and empowerment; 2) health and place; 3) wellbeing and pathways to health at the individual level. Logic models for each were developed.

The logic models

Community engagement

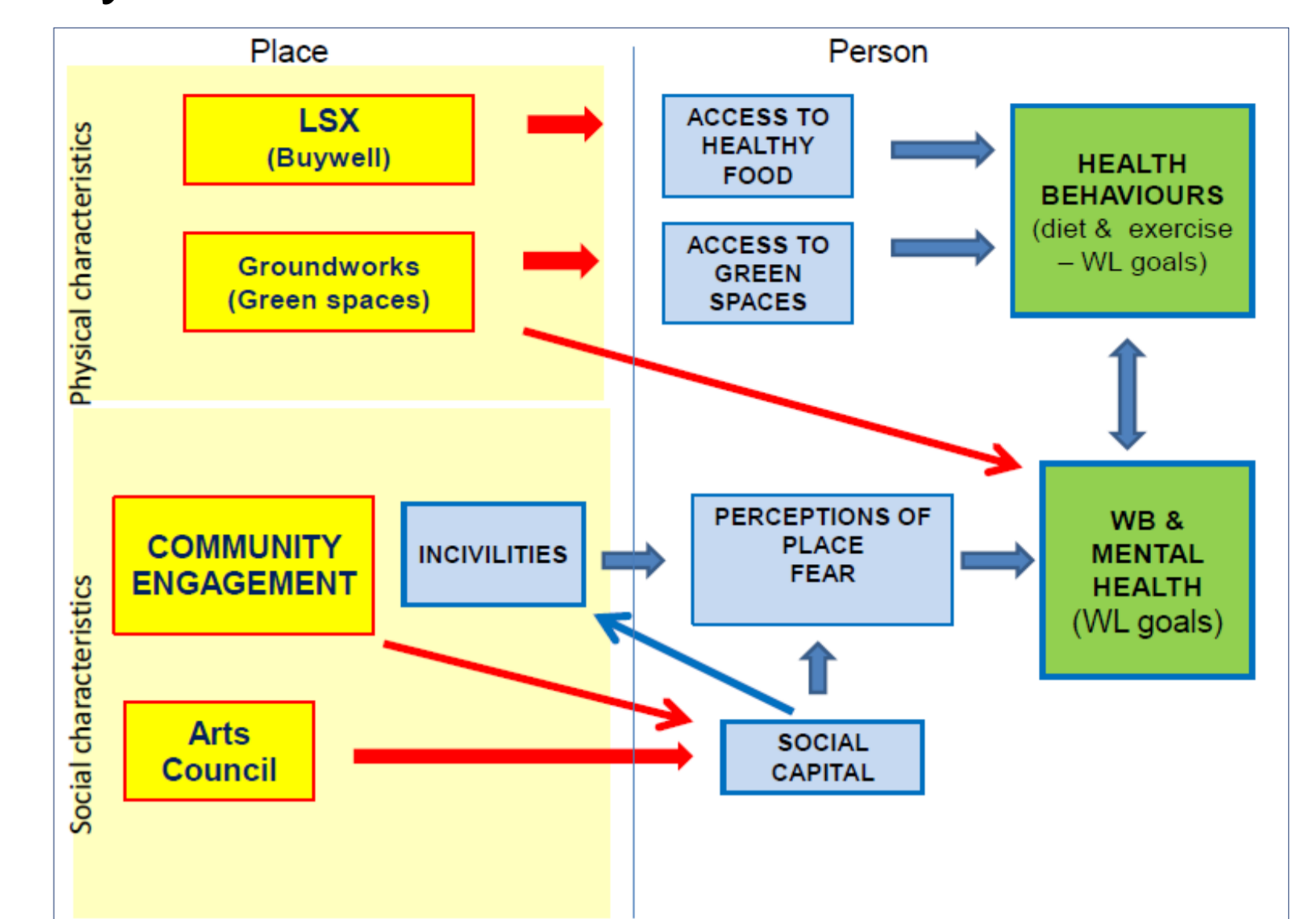
The literature on community engagement is vast and many questions remain regarding its precise role in achieving health improvements. Those pertinent to WL are: what are the factors that encourage people to participate; what are the intermediary processes and mediators by which health outcomes are achieved; and how do these interact between individual and collective levels.



Health and place

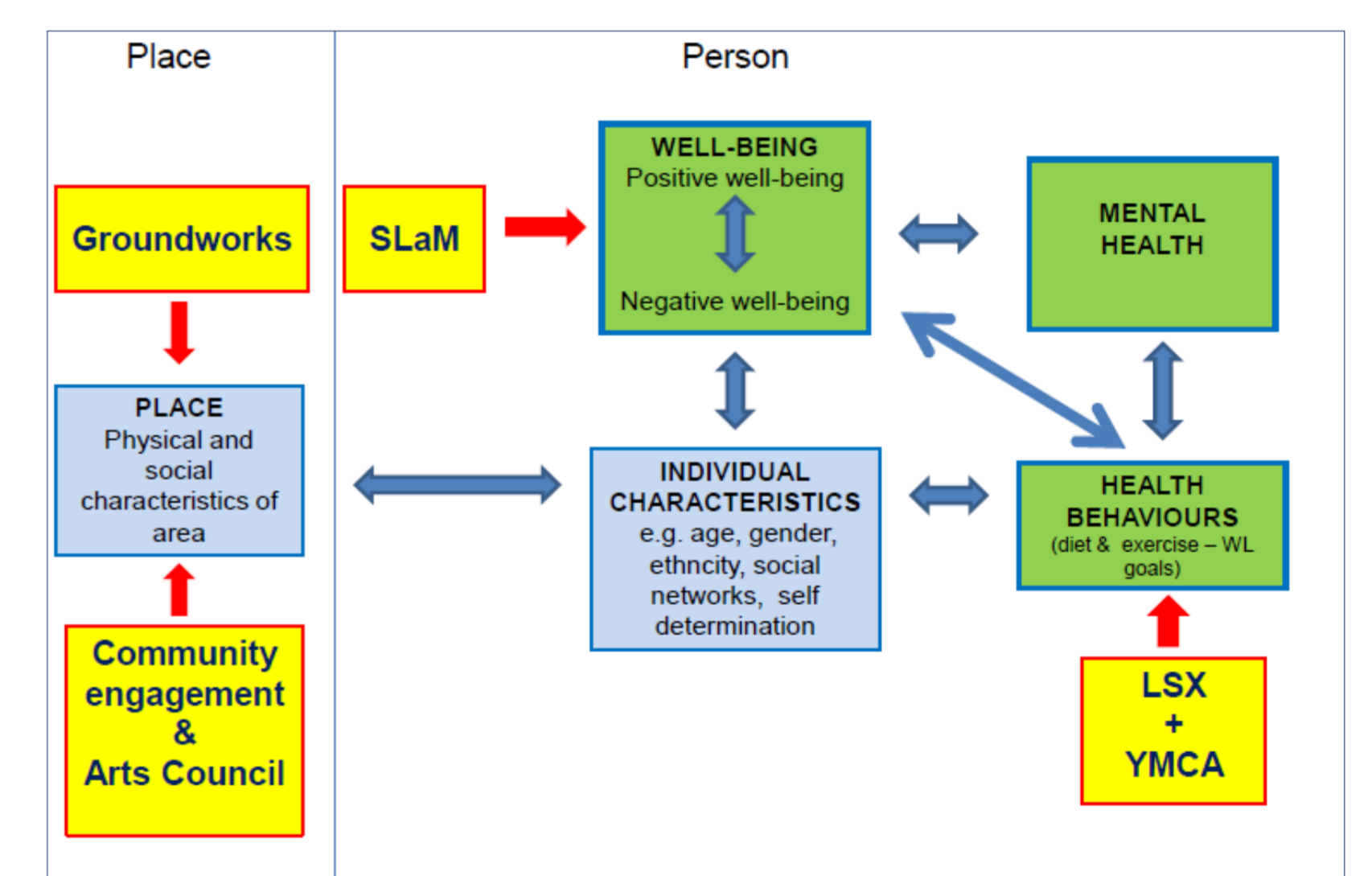
Since Hippocrates there has long been an interest in health and place, both physical and social.

In WL, possible pathways by which project activities may influence project goals are via enhanced social capital, reduction in incivilities and fear, enhancement of green spaces leading to enhanced perceptions of place, and improved access to healthy food and spaces for physical activity.



Well-being

Well-being (WB) is now considered an essential component of physical and mental health. WB is comprised of 2 main elements: positive eudemonic WB (e.g. engagement, meaning in life, feeling useful) and negative hedonic WB (e.g. stress, depression, anxiety). The key issue depicted in this model is that the promotion of positive WB as well as the reduction of negative WB is a vital precursor for improved mental health.



Discussion

Developing the logic models for such a complex intervention as WL was complex, involving the review and amalgamation of vast areas of literature and theory and working across different disciplines (epidemiology, psychology and sociology) which presented another challenge. We have not solved the philosophical difficulties implicit in attempting to bring together such different forms of enquiry, but the development of our integrative approach did give us an explicit procedure by which to select and use theories and develop logic models. These models are deductively derived and our next step is to examine the hypotheses depicted in them using our quantitative and qualitative data. Our aim is to test the hypotheses depicted and also, hopefully, to elaborate and/or revise them and so advance our empirical and theoretical understanding of causal pathways in complex interventions.