

## **Investing resources to address social factors affecting health: The essential role of social prescribing**

Anant Jani<sup>1\*</sup>, Marcello Bertotti<sup>2</sup>, Agnese Lazzari<sup>3</sup>, Chris Drinkwater<sup>4</sup>, Filippo Addarii<sup>5</sup>, Jon Conibear<sup>6</sup>, Muir Gray<sup>1</sup>

1. University of Oxford, Value Based Healthcare Programme - Dept of Primary Care  
Radcliffe Primary Care Building, Radcliffe Observatory Quarter, Woodstock Rd, Oxford,  
Oxfordshire, UK OX2 6GG
2. University of East London, London, UK
3. UCL Partners, London UK
4. Ways to Wellness, Newcastle, UK
5. Plus Value, London, UK
6. Oxford Centre for Triple Value Healthcare, Oxford, UK

\*Correspondences should be addressed to [anant.jani@phc.ox.ac.uk](mailto:anant.jani@phc.ox.ac.uk)

**Declaration of conflicting interests:** The Author(s) declare(s) that there are no conflicts of interest.

**Funding:** This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

**Guarantor:** Anant Jani is the Guarantor for the article.

**Contributorship:** Anant Jani, Marcello Bertotti, Agnese Lazzari and Muir Gray were involved in designing the outline and writing the manuscript; Chris Drinkwater, Filippo Addarii and Jon Conibear were involved in writing the manuscript.

*The task of the economy is to deliver and to enable prosperity [...] our ability to flourish: physically, psychologically and socially.<sup>1</sup>*

These insights from Tim Jackson chime well with the work of Wilkinson and Marmot who highlight that:

*Societies that enable all citizens to play a full and useful role in the social, economic and cultural life of their society will be healthier than those where people face insecurity, exclusion and deprivation.<sup>2</sup>*

The evidence around addressing social factors related to health is robust and we have known about the importance of tackling these issues for many decades. Despite this, most health and care systems invest most of their resources on biomedically oriented interventions at the expense of interventions that can address social factors related to health.<sup>3</sup> In this manuscript we give an overview of approaches that could be used to increase allocation of resources to social prescribing, a class of health and care interventions that can address several social factors affecting health.

### **Investing resources to promote population health**

*Investment embodies one of the most vital relationships in economics – namely, the relationship between the present and the future [...] Engaging in projects that last over time embodies our commitment to the future and is the basis for prosperity of any kind [...]*

*Investment is the vehicle through which we build, protect and maintain the assets on which tomorrow's prosperity depends.*<sup>1</sup>

All investment decisions made by those responsible for allocating health and care resources have an impact. Some of the impact is intended and some unintended; some positive, some negative (Figure 1).

	Impact	
	Positive	Negative
Intended		
Unintended (externalities)		

**Figure 1. Impacts of Investments**

Layered onto investment decisions are also considerations of opportunity cost and creation of value – resources are limited by definition and if we invest them on things that do not deliver the highest value possible, with value in healthcare defined as delivering the best patient and population level outcomes while optimising resource utilisation<sup>4</sup>, we are not fulfilling our duty as stewards of the resource:

*The stewardship concept demands that we constantly ask the question: Will the resource be in better shape after my stewardship?*<sup>5</sup>

It is not a foregone conclusion that the economy that exists today must exist in perpetuity; the economy and the investment decisions we make within it are things we must imagine, design, plan and build so they meet our society's needs. Within the context of health and care systems we have traditionally seen a disproportionate amount of resources, both

public/private and financial/non-financial resources, invested into the lifecycle of interventions that have their basis in the biomedical model. It is well established that over-reliance on the biomedical model, which focuses only on the biological roots of illness, prevents us from taking a holistic view of individuals and populations that accounts for lifestyle and wider social factors that are driving illness.<sup>7</sup>

Why have we allowed this to happen? Two underlying reasons are because of healthcare's overreliance on the biomedical model and our, oftentimes, misguided views on Return on Investment (ROI).

Firstly, the focus on just the biological aspects of illness begins upstream with research agencies who allocate far greater resources into basic science, translational and clinical/healthcare services research relative to understanding how to prevent disease, promote health and address social factors (for example, of the ~£2 billion distributed by the UK's two largest health funding agencies, public health and prevention only account for ~2% of the UK National Institute for Health Research's Research and Infrastructure budget<sup>8</sup> and ~4% of the UK Medical Research Council's budget<sup>9</sup>, respectively). There is much rhetorical weight given to statements like "an ounce of prevention is worth a pound of cure", but disease prevention, health promotion and addressing social factors is complicated and requires that we take account of qualitative and contextual factors which is a contrast to the prevailing reductionist biomedical approach. Further to this are considerations around timeframes to impact and attribution. Because the biomedical model often time focuses mostly on symptom treatment, timeframes to impact are shorter and attribution is much

more straightforward relative to helping an individual manage their condition or supporting them to prevent disease, improve their health and/or address social factors.

Secondly, there is the larger issue of ROI. The major focus of investments, whether public or private, has been to generate Financial ROI (F-ROI) and this drives investors to hold themselves accountable only to financial targets - indeed looking at the annual reports of two of UK largest health research funders attests to the importance of this.<sup>8,9</sup> For research funders, researchers, innovators, investors and healthcare payers, the prevailing ideology is that biomedical based interventions are the easiest means to a healthy FROI and savings. This misdirected pursuit of FROI leads to dangerous and unsustainable market distortions because of Intellectual Property Rights (IPR), Value Based Pricing (VBP) and financial engineering<sup>6</sup> all at the opportunity cost of addressing important issues related to social factors of illness.

### **Investing resources to promote population health: The essential role of social prescribing**

Social prescriptions provide “a way of linking patients in primary care with sources of support within the community to help improve their health and well-being.”<sup>10</sup> Social prescriptions can address mental and physical health through activities like sports and leisure/arts and can address social factors through activities more focused on social issues (housing, food, etc.), education or skills development.<sup>11</sup> If utilised properly, social prescriptions can deliver several benefits including addressing social factors, promoting self-care and improving management of long-term conditions, all while optimising resource utilisation and contributing to better patient experience, satisfaction and outcomes.<sup>4</sup>

Though there has been a push to support the use of social prescriptions in the English NHS through the Universal Personalised Care Plan,<sup>12</sup> the uptake and spread by commissioners, clinicians and patients has been limited and heterogenous as evidenced by a recent analysis that shows that in London alone, there were approximately 250,000 patients who could have benefited from a social prescription but didn't receive one – something that could have resulted in £90 million in savings to the NHS.<sup>13</sup>

A rate-limiting step in the more active use of social prescriptions is the availability of resources throughout the life cycle of social prescriptions, including research and evaluation to explore the design and delivery of more effective models as well as an assessment of their impact; private investment to facilitate the growth of social prescription providers and the creation of new technology to augment social prescriptions; and public/private/philanthropic funding models to support the social prescribing ecosystem.<sup>4</sup>

### Research & Evaluation

The evidence base around social prescriptions is steadily growing but is not yet very robust. This is a challenge that could be readily addressed if research agencies allocated more funding to support the design and assessment of social prescriptions. Further to this, research agencies will likely need to adopt more flexibility in the types of studies they fund because social prescriptions often need a process of continuous development, adjusting and testing. This could actually be advantageous because unlike pharmaceutical and biotech interventions, social prescriptions can be rapidly modified so they can be tested through

models like pragmatic control trials which are usually much less resource intensive, with regard to both time and money, than traditional randomised control trials.<sup>14</sup>

Another advantage for social prescriptions is their ability to be easily augmented through technology. Leveraging IT (Artificial Intelligence (AI), machine learning, Internet of Things (IoT) and living services strategies) and Big Data (including the integration of -omics data) could see the agile development of technology-augmented social prescriptions that could disrupt the paradigm of how health and care are delivered.<sup>14</sup>

#### Investment to grow innovations

There is a significant opportunity for private investment into social prescriptions, particularly the technologies which can augment them. Solow's work has shown that 80% of economic growth can be explained through improvements in the use of technology,<sup>6</sup> which provides a powerful justification for more public research funding going towards the development and use of IT-augmented social prescriptions as well as for a greater proportion of private equity funding in healthcare to be allocated to this domain.

#### Funding models to support the social prescribing ecosystem

The English NHS allocates approximately £16 billion annually for pharmaceuticals. Compare this to £44 million, a generous estimate of how much Clinical Commissioning Groups (CCGs) in England may have invested in social prescriptions from 2017-18 if we extrapolate the results of a survey of 55 CCGs.<sup>15</sup>

There are some obvious reasons for this massive 350-fold greater investment in pharmaceuticals relative to social prescriptions – pharmaceuticals are the incumbent, there is more evidence for them and they fit into workflows which have been designed around their use. But this does not mean that we should simply accept the status quo because social prescribing, as highlighted above, has the potential to address many health-related issues that pharmaceuticals and other biomedical interventions will never be able to address.

There are several funding models that could be used to support the social prescribing ecosystem but there is no one size fits all solution; the models used are very context-dependent. The table below gives an overview of some of the methods that have been used to fund the social prescribing ecosystem.

		Social Px Providers	Social Px Prescribers
FUNDING SOURCES	<i>Public</i>	-CCG funded social px providers -Local Authority funded social px providers -Combo CCG + LA co-funded -Personal Health Budgets*	-CCG-funded link workers -Local Authority funded link workers
	<i>Private</i> <i>Combo: public, private and/or philanthropic e.g. Social Impact Bond</i>	-Individual out of pocket -Crowdfunding*	-GP-practice funded link workers
	<i>Philanthropic</i>	-Charities providing social px to patients -Foundations/philanthropies sponsoring social px providers	-Foundations/philanthropies sponsoring link workers

**Table 1. Different funding models that could be used to support the social prescribing ecosystem** (Social Px = social prescriptions; \* indicate models which could theoretically be used to support the social prescribing ecosystem)

Below we give some examples of how some of these schemes have been put into practice:

### ***Public funding***

- The Rotherham CCG directly funds the voluntary sector, which has led to major benefits for the local authority in relation to public health and social care services.<sup>16</sup>
- The Newham CCG paid £4 per patient per class to providers to deliver a range of physical activity classes (gym sessions, Bollywood dance, Zumba, Quadro, yoga, Tai Chi, swimming, chair-based exercises, African dance, Line dance, Salsa, and Quadrille) in locations, like libraries, that were accessible to local residents.<sup>16</sup>

### ***Shared Investment***

- CCG + Local Authority: Exeter and East Riding in Yorkshire tested models that combine funding from CCGs and funding from community development, as well as adult and social care within local authorities.

### ***Combo Investment***

- Public + Private + Philanthropic: Ways to Wellness in Newcastle is a Social Impact Bond that has 22 Full Time Equivalents targeting 14,000 people with specific long-term conditions which has demonstrated positive balance and generating savings for the NHS.<sup>17</sup>

### **The way forward**

Our current models of investment for health and care services leave much to be desired as highlighted by rising inequalities and decreasing life expectancies in high income countries including the UK.<sup>4</sup> Social prescribing offer a promising solution to address many of the challenges we currently face and although recent commitments from the English NHS to increase investments in social prescribing are promising<sup>4</sup>, the scale of the challenge we face means that more thought, work, resources and risk-taking will be needed in the investments we make if we hope to address the unmet needs in our society and, more importantly, to tap into the potential we have as a wider health and care community to improve population health.

*Prosperity today means little if it undermines prosperity tomorrow. Investment is the vehicle through which we build, protect and maintain the assets on which tomorrow's prosperity depends.*<sup>1</sup>

## References

1. Jackson T. *Prosperity without growth*. New York: Routledge; 2011.
2. Social determinants of health: the solid facts. 2<sup>nd</sup> edition [Internet]. The WHO. [cited 2019 April 12]. Available from:  
[http://www.euro.who.int/\\_\\_data/assets/pdf\\_file/0005/98438/e81384.pdf](http://www.euro.who.int/__data/assets/pdf_file/0005/98438/e81384.pdf)
3. Gmeinder M, Morgan D and Mueller M. *How much do OECD countries spend on prevention?* OECD HealthWorking Papers, No. 101. 2017; OECD Publishing, Paris.  
<http://dx.doi.org/10.1787/f19e803c-en>

4. Jani A and Gray M. Making social prescriptions mainstream. JRSM. 2019 (in press).
5. Holmgren D. *Permaculture. Principles and pathways beyond sustainability*. Holmgren Design Services; 2002.
6. Mazzucato M. *The value of everything: Making and taking in the global economy*. Allen Lane; 2018.
7. Wade DT and Halligan PW. Do biomedical models of illness make for good healthcare systems? *BMJ*. 2004 12; 329(7479): 1398–1401.
8. NIHR annual report 2016/17. [Internet]. National Institutes of Health Research. [cited 2019 April 22]. Available from: <https://www.nihr.ac.uk/about-us/documents/NIHR%20ANNUAL%20REPORT%201617%20FINAL.pdf>.
9. Medical Research Council: Annual report and accounts 2017/18. [Internet]. Medical Research Council. [cited 2019 April 22]. Available from: <https://mrc.ukri.org/publications/browse/annual-report-and-accounts-2017-18/>.
10. Bickerdike L, Booth A, Wilson PM, Farley K, Wright K. Social prescribing: less rhetoric and more reality. A systematic review of the evidence. *BMJ Open*. 2017 07;7(4):e013384.
11. A review of the evidence assessing impact of social prescribing on healthcare demand and cost implications [Internet]. Westminster Research. [cited 2019 April 12]. Available from: <https://westminsterresearch.westminster.ac.uk/download/e18716e6c96cc93153baa8e757f8feb602fe99539fa281433535f89af85fb550/297582/review-of-evidence-assessing-impact-of-social-prescribing.pdf>.
12. Universal Personalised Care [Internet]. NHS England. [cited 2019 July 2]. Available from: <https://www.england.nhs.uk/personalisedcare/upc/comprehensive-model/>.

13. Interactive Dashboard for London Social Prescribing and Expert Patient Programmes  
[Internet]. i5 Health. [cited 2019 July 2]. Available from:  
<http://i5health.com/SPDashboard>.
14. Jani A, Pitini E, Jungmann S, Adamo G, Conibear J and Mistry P. A Social Prescriptions  
Formulary: Bringing social prescribing on par with pharmaceutical prescribing. JRSM.  
2019 (in press).
15. NHS England Social Prescribing: CCG mapping survey results. Unpublished report  
commissioned by NHS England. 2019. Available on request.
16. Bertotti M, Martinaityte L, Farr R. An evaluation of Newham community prescribing  
scheme: shareholders' views and experiences. Unpublished report commissioned by  
the Newham clinical commissioning group. 2014. Available on request.
17. Drinkwater C, Wildman J and Moffatt S. Social prescribing. BMJ. 2019 03; 364: l1285.