CONNECTING RESEARCH AND VENTURES TO IMPROVE MENTAL HEALTH

PROGRAMME LEARNING AND INSIGHTS

BIG SOCIETY CAPITAL

wellcome

BGV / Bethnal Green Ventures

zinc

> **This project has acted as a hugely valuable pilot to develop an initial digital intervention on our platform and has enabled us to undertake research that has a direct impact on our ability to support people who are struggling with their mental health.**
>
> **TALKLIFE**

EXECUTIVE SUMMARY

A significant proportion of the UK population experience mental ill health, and there is an unmet need for mental health services and preventative solutions, particularly among vulnerable and disadvantaged groups. Despite an increasing array of online and in-person interventions, there are barriers to the adoption and scaling of innovative solutions. Mental health research funding receives 25 times less per person than cancer research, with only 3.9% going towards prevention (MQ, *UK Mental Health Research Funding 2014-2017*).

The Research-to-Venture Mental Health Programme was designed to enable collaboration across the worlds of research, social impact and early stage venture development – with the shared goal of ensuring mental health products and services are aligned with the real needs of individuals. To achieve this, the pilot tested ways to support user-centred research, embed existing evidence and generate new knowledge within organisations that aim to improve people's mental health. By providing insights into the process of research/venture collaboration, and the barriers to the adoption and scaling of innovative solutions, the programme contributes knowledge on how to help catalyse, support and scale mental health preventative solutions.

The programme was funded by the Wellcome Trust and brought together the expertise of Big Society Capital in social impact investing, Bethnal Green Ventures in venture acceleration, and Zinc in venture creation. Over 12 months the pilot supported 16 organisations (Fig 1) – providing funding to 12 ventures seeking to improve people's mental health through a range of (largely digital) products and services. These ventures are empowering people to better manage their mental health, and bringing continuity of care at key points of transition – tackling issues including perinatal and childhood mental health, workplace solutions for employee wellbeing, and peer support platforms around mindful drinking and youth self-harm prevention.

SUMMARY OF INSIGHTS

1. Successful research/venture collaboration has the potential to support solutions that are people-centred and grounded in evidence
2. There are systemic barriers to the adoption and scaling of innovative solutions, with pathways to generating appropriate levels of evidence often long, complex and costly
3. User engagement and user testing, in particular with disadvantaged groups, can be challenging for early-stage ventures
4. Early-stage social businesses face a funding gap between having a partly proven solution and being ready to scale their impact
5. Together with core funding, timely research funding helps to shape business models and offerings, by embedding rigorous research practice at critical development stages
6. The nature of partnerships matters and lends brand power for social enterprises to formalise relationships and leverage further development and funding opportunities
7. For funders, partnering with tech-for-good and social innovation experts can add value to traditional funding models, by effectively engaging with the right businesses

SUMMARY OF RECOMMENDATIONS

For key stakeholders in mental health prevention (NHS and third sector)

1. Catalyse and develop partnerships that better integrate research, social innovation and impact, with opportunities for co-design with experts and users
2. Shape incentives around the access to, and practice of, appropriate researcher and user engagement – particularly around evidence standards and evidence-building pathways
3. Signpost to existing solutions that safely harness the opportunity provided by digital interventions

For funders and support providers

4. Consider funding commercial social ventures where the impact of the product on people's mental health is inherent
5. Provide flexible finance to address the gaps in the funding ecosystem, including dedicated research funding, at different stages of development
6. Provide tailored support and tools for business models that 'do good' and engage with disadvantaged and vulnerable groups

For the tech-for-good and venture development ecosystem (business-builders, incubators and accelerators)

7. Consider the role and value added of research in growth pathways, and demonstrate this to funders and the research community

For the research community

8. Consider the value added from collaborating with social ventures, including opportunities for data generation, fast feedback loops and the experience of conducting research in creative, fast-paced environments

PROGRAMME GOALS AND KEY OUTCOMES

The programme was designed out of a shared view that there are systemic barriers to the adoption and scaling of innovative solutions in the mental health prevention space, particularly around generating appropriate levels of evidence in order to support the growth of mission-led businesses working to improve people's mental health. By providing grants (of £5k to £40k) to 12 early stage social ventures (Fig 1) to undertake research projects, the 12-month programme set out to:

• Explore how engagement with researchers and users adds value to the process of developing venture ideas that seek to improve people's mental health

• Build evidence and learning about approaches to scaling early stage organisations creating an impact in mental health, to help test and explore the best funding models that can support the development of business models and products at an early stage

• Understand where and how the Wellcome Trust (and other funders) can add value within existing alternative finance mechanisms and at what stage

STREAM 1	STREAM 2	STREAM 3
BIG SOCIETY CAPITAL	zinc	BGV / Bethnal Green Ventures
Understanding the barriers and opportunities for scale within charitable organisations developing innovative services to address people's mental health needs (interviews and workshop with 4 Wellcome Trust grantholders)	Co-creating mental health ventures at initial idea stage, and exploring the potential of embedding research within ventures at idea stage (grant funding of £5k to 6 idea stage ventures and £30k to 3 early stage ventures to undertake research projects)	Providing research funding and support at later development stage (grant funding of £40k to 3 ventures to undertake research projects)

SUPPORTED ORGANISATIONS

	MISSION 1	MISSION 2		
MANCHESTER CAMERATA	BETTERSPACE	Bellevie / [logo]	TalkLife	CLUB SODA
ms Shift.ms	adia	Studio X / canary		
CLOD ENSEMBLE	Goozby	PRIME / tandem		Mind Moose
involve				

Fig 1
Programme objectives and supported organisations

Innovation in mental health prevention	**6** early-stage ventures (mostly pre-revenue) employing 39 full-time staff (up from 32)	**15+** major research partners
perinatal children and schools midlife men's mental health care-givers workplace mental health digital habits transport poverty solution youth self-harm prevention peer-support for mindful drinking	**6** idea-stage ventures	**20+** consulted experts in social science, clinical, data, digital practice fields
	c134k end-users (up from c94,000)	**c500** Research days 50% by external research partners
		c27k users engaged in research

Fig 2
Key impact themes and programme indicators

PROGRAMME PARTNERS

The collaboration enabled **Wellcome** to test new and innovative ways of funding and partnerships, as it reimagines its funding model to meet the ambitions of the Public Engagement strategy. For Wellcome, effective engagement is people-centred, improves trust in science and leads to better research. By backing social entrepreneurs to see what works, the programme provides insights into how social enterprises can connect the public with research.

For Big Society Capital (BSC), this programme aligns with its strategic focus on socially-motivated investment to enable early action and prevention – within which mental health is a priority area. Through this programme, BSC was interested in understanding the development pathways of mental health social enterprises and social ventures that may benefit from investment, and the types of partnership and structure that could best support this type of investment.

Zinc is committed to translating and generating research at venture creation stage. This programme of work builds on Zinc's science-led approach to venture building, and is directly aligned with Zinc's first mission: to improve the mental and emotional health of women and girls. It allowed Zinc and its ventures to develop, foster and formalise relationships with researchers and academic partners, to ground the ventures' thinking and testing in an evidence base that can meaningfully impact on their direction and maximise their social impact, and to build collaborative research opportunities that allow for the testing of new hypotheses and generation of new knowledge.

For **Bethnal Green Ventures** (BGV), this programme aligns with its work to support and scale tech-for-good ventures, in this case by helping them formally understand and demonstrate the effectiveness of their solutions through evidence and academic research. From a broader perspective, this helped BGV understand how connecting research with tech-for-good startups can help identify barriers and improve their growth, in terms of product development, fundraising and social impact.

- ■ Total end-user base (start)
- ■ Total end-user base (end)
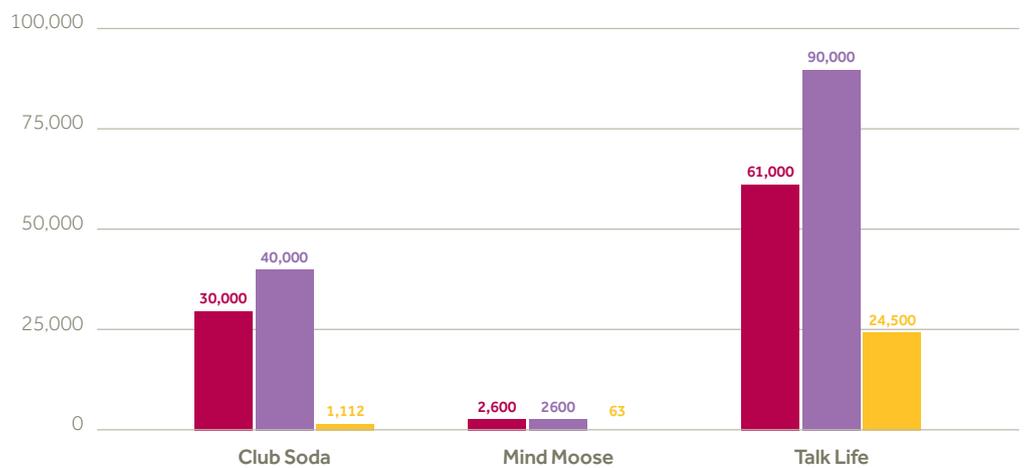- ■ Users engaged in research

Fig 3
User growth and engagement for BGV ventures

- ■ Total end-user base (start)
- ■ Total end-user base (end)
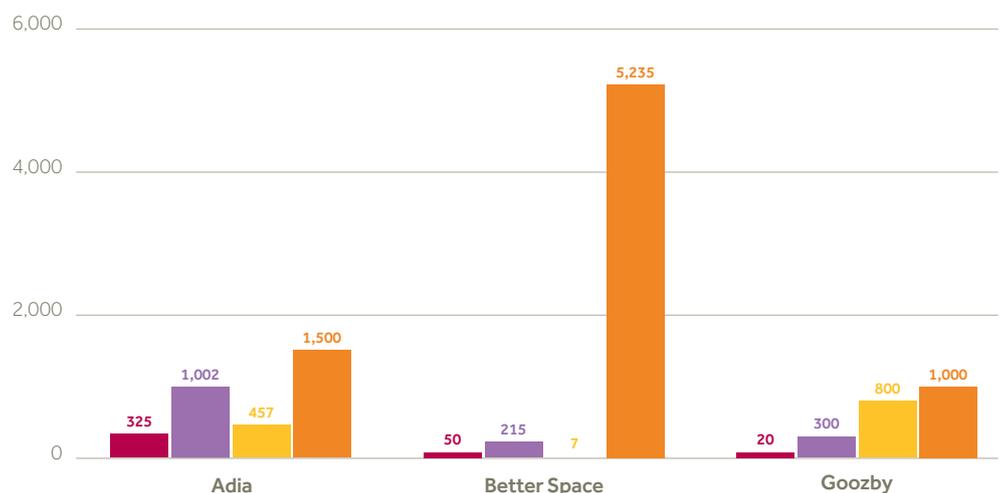- ■ Users engaged in research
- ■ Target end-user base 2019

Fig 4
User growth and engagement for Zinc ventures (Mission 1)

SUPPORTED ORGANISATIONS

"For Wellcome, effective engagement is people-centred, improves trust in science and leads to better research. By backing social entrepreneurs to see what works, the programme provides insights into how social enterprises can connect the public with research.

WELLCOME TRUST

CLOD ENSEMBLE (EST 1995)

Clod Ensemble delivers an interdisciplinary performance programme engaging the public with medicine and healthcare. The Performing Medicine programme offers training to medical students and healthcare professionals using art techniques.

Research Project:
Clod Ensemble's entire programme is underpinned by rigorous periods of research and development. It is an iterative process of devising work in the studio, exploring themes through desk research and discussing ideas with artists, scientists, academics and other experts.

Key Challenges:
• Articulating the programme's wider impact with 20 years of evaluation data
• Access to expert support to sustain/scale Performing Medicine while preserving the quality of delivery

CLOD ENSEMBLE

INVOLVE (MH:2K) (EST 2003)

Led by Involve, MH:2K is a youth-led citizen researcher project empowering young people to explore mental health research, influencing research priorities and decision-making in the public sector.

Research Project:
Developing and implementing the MH:2K Oldham pilot, and testing it across other areas to build a network of local and national champions who will sustain the model for national impact.

Key Challenges:
• Being focused on project delivery with limited capacity for long-term strategy development
• Access to diversified support to enable the replication of MH:2K and to assess longer-term impact

involve

MANCHESTER CAMERATA (EST 1972)

Camerata in the Community creates music-led experiences that promote social change for young and older people, and pioneering research in music-led dementia therapy.

Research Project:
Developing music-based interventions focusing on early-onset dementia and the mental health of older people, using research-led practice in collaboration with universities and NHS partners.

Key Challenges:
• Better integrating services, eg dementia programme has the most potential to scale, and can attract funding and research partnerships, however it represents only c30% of overall activity

MANCHESTER CAMERATA

SHIFT.MS (EST 2009)

An online peer-led social network for people with multiple sclerosis, delivering MS Reporters, a video format of citizen reporting in health, using peer-driven collective learning and patient-led access to expert knowledge.

Research Project:
Embedding MS Reporters into core service delivery, and scaling/widening its focus to work across other health conditions (epilepsy, early-onset dementia, mental health).

Key Challenges:
• Scaling MS Reporters into other health conditions, building the right partnerships and ensuring content remains patient-led
• Access to support in developing a sustainable funding model

Shift.ms

CLUB SODA

Peer support platform for people seeking to manage and change their alcohol consumption and improve their mental and physical health.

Research Project:
Develop and test the evidence base for their work, to measure and enhance people's self-efficacy and enable long-term behavioural change.

Research Partners:
Clever Together; OSCA social impact lab

Key Research Outputs:
• Review of 17 health behaviour change apps and programmes
• User journeys, core mechanics and rationale for new programme
• Report on behaviour change goal-setting
• Book publication (DK Life, Dec 2019)

User Reach and Engagement:
New programme aimed at hospitality industry workers who tend to be low waged, part time and underserved
• Online evaluation with Club Soda members
• Storytelling workshop for hospitality industry workers

What Changed:
• Shift in focus of new programme design
• New technological solution deployed to better support peer-to-peer community
• Supported decision making around introduction of paid membership
• New research collaboration opportunities with London South Bank University (Sim DH), Oxford Brookes and drinks businesses

Emerging Impact Outcomes:
• Data on people's motivations and goal-seeking behaviours
• Findings from online evaluation workshop (n=280): for 57% social connection and interaction was the most important factor in enabling behaviour change with many pointing to ClubSoda's peer community support as the most important part

TALKLIFE

Peer-to-peer digital platform that combines social connection with AI (machine learning) to support young people's mental health, and help prevent self-harm.

Research Project:
Pilot to assess a digital intervention to increase the likelihood of someone engaging with others when struggling with suicidal thoughts and behaviours.

Research Partner:
Nock Lab, Harvard Psychology Department

Key Research Outputs:
• Pilot design and implementation
• Research report (forthcoming)

User Reach and Engagement:
Reach young people at risk who otherwise might be unable to access support
• Pilot intervention through product
• Project engaged with 24.5k users whose first posting mentioned suicide

What Changed:
• Research findings have direct impact on ability to support people and to innovate
• Shared desire with Harvard to pursue broader programme of intervention work around help seeking behaviour

Emerging Impact Outcomes:
• TalkLife's Impact framework measures social impact of TalkLife across key wellbeing indicators

MIND MOOSE

Interactive online programme for children aged 7-12 to support mental health and wellbeing prevention and early intervention.

Research Project:
Assess the effectiveness of the Mind Moose programme on the mental and emotional wellbeing of children, and on the ability of teachers to support children in their care.

Research Partner:
Anna Freud National Centre for Children and Families

Key Research Outputs:
• Research design and ethical approval
• Impact study with 2 schools
• Qualitative evaluation with 4 schools

User Reach and Engagement:
Target audience is children via schools (3/4 in DfE category areas 5&6) and experiencing issues (and not receiving CAMHS support)
• Pre/post surveys with 20 children and their teachers
• Parent workshops
• One-to-one support with 2 children and families

What Changed:
• Impact evaluation skills/capacity
• Better understanding of schools' and children's needs
• Referrals to 2 schools and potential for online scaling of personalised support

Emerging Impact Outcomes:
• Child Impact Rating Scale and qualitative data indicate impact of product (as per impact report)

ADIA

Providing preconception mental health support for women.

Research Project:
Understand the impact of proactive support interventions during the preconception period on the mental and emotional health of women.

Research Partners:
UCL; King's College London

Key Research Outputs:
• Literature review
• Database & data models for personalised interventions combining evaluation and engagement data
• Research report & dissemination

User Reach and Engagement:
Demographic segment largely women in their 30s, and trial planned at Imperial College Healthcare NHS Trust
• Observational study with sub-sample of existing users (baseline and 3-month follow up)
• User interviews, focus groups

What changed:
• Study design approach & metrics shifted to non-randomised longitudinal intervention (vs. effectiveness study)
• User engagement data informed the research methodology
• Findings guided innovation
• Identified future areas for research

Emerging Impact Outcomes:
• Embedded impact and engagement metrics in the product on-boarding process and engagement analytics
• Data on mental health outcomes based on perceived stress, perceived support and knowledge

BETTERSPACE

Intelligent platform that provides personalised suggestions on c1,000 resources to protect and improve employee mental health, from hiking to meditation apps, wild swimming to volunteering.

Research Project:
To design an evidence and quality assurance (QA) protocol for the mental health solutions available through the platform, particularly evidence of health outcomes.

Research Partners:
Helix Data Innovation (Lucie Burgess); Gregor Henderson; and 9 expert panel members (UCL, Queen Mary, University of Southampton, MindTech/University of Nottingham, MedCity, Association of Clinical Psychologists, NIHR, clinical psychologist)

Key Research Outputs:
• Narrative review of existing evidence and QA frameworks
• Health benefit/risk assessment framework, Evidence & QA protocol
• Final report and communications

User Reach and Engagement:
Current focus is on large employers/SMEs; in future, aiming for wider accessibility (goal to help 10M people a year by 2028)
• Employer workshops and interviews to define the protocol
• Outreach to major health system stakeholders – NHS Digital, Public Health England, NICE

What Changed:
• Understand priority evidence and quality areas for key stakeholders
• Gives confidence in the platform to employers and informs product development
• Helps users make an informed choice about mental health products/services
• Helped secure further business partnerships and support

Emerging Impact Outcomes:
• Critical component that contributes to BetterSpace's 'universal evidencing system' USP
• With wide dissemination, could underpin transformational change from recovery-driven to preventive mental health system

GOOZBY (HUMANKIND TECHNOLOGIES)

Empowering children and young people to build healthy digital habits through a digital buddy that rewards them for healthy digital behaviours.

Research Project:
Better understand how tailoring the product to age and gender can impact on phone use behaviour and long-term health outcomes (especially sleep) for young people.

Research Partners:
Computer Science & Digital Media, Kingston; Public Health/Behaviour Change Analytics SCAMP, Imperial

Key Research Outputs:
• Collaborative workshops with universities to share insights
• Students trained on key software
• Product features tailored to youth demographic
• Design of database infrastructure

User Reach and Engagement:
Target audience is 8 to 15 year-olds, and engagement strategies also include reaching marginalised communities
• Youth focus groups through Kidzania partnership (Westfield shopping centre)
• User testing and baseline surveys with 800 end-users
• Pilot of prototype app with 300 youth

What Changed:
• Refined core research question
• User R&D integrated into interface
• Access to new users; trust with parents
• Potential collaborations with NSPCC, Internet Matters, safeguarding leads in Camden/Surrey, and NICE data labs
• Partners' interest for further research collaboration, publishing and co-bidding

Emerging Impact Outcomes:
• Findings indicate a clear need for an intervention giving individual control and agency over device use
• Research techniques involving self-reporting outside the constraints of a school or parental environment (Goozby data) is more effective than within (SCAMP data)
• Next research phase to include more sleep dimensions and socio-demographic data, also working with schools

adia

BETTERSPACE

Goozby

BELLEVIE

Employment network to support the care industry and carers' mental health.

Research Project:
Survey, in partnership with NACAS charity, to test assumptions around care workers' pain-points and run product testing.

Research Partners:
National Association of Care & Support Workers; Care Research

Key Research Outputs:
• Survey design/growing dataset
• User testing with Oxfordshire care team and analysis report
• Dissemination at Professional Care Workers' Day (4 Sep), campaigns

User Reach and Engagement:
The majority of care workers are not unionised and harder to reach, and little is known of their mental health. Partner NACAS is founded and led by care workers
• 330+ professionals surveyed

What Changed:
• Concept validation and prioritisation
• Insights are shaping features and direction of services

Emerging Impact Outcomes:
• The survey data provides evidence of the size and nature of the problem (eg 84% of respondents experienced or felt close to burn-out) and potential determinants thereof

CANARY

Support platform to tackle workplace sexual harassment and drive evidenced interventions across the industry.

Research Project:
Pilot design and rollout to test assumptions around barriers to change within industry, and to inform product analytics.

Research Partner:
Sabah Boufkhed, King's College London

Key Research Outputs:
• Replicable research assets
• Database (initial 4000 data points)
• Published report and recommendations

User Reach and Engagement:
Aim to tackle workplace sexual harassment beyond London bank/tech sector, and study included factory in Haverhill
• c150 users engaged in survey and product design
• Pilot with employer (130+ staff)

What Changed:
• Rich insights on company culture that informed survey design
• Clear next R&D steps
• Continued engagement with client

Emerging Impact Outcomes:
• Quantitative data on harassment and qualitative data on people's feelings and attitudes

MOBILISE

Improving mental health support for unpaid (non-professional) care-givers.

Research Project:
Primary research (carers and health professionals) and desk research for online product development.

Research Partners:
Newcastle University; Carers Trust; >4 carers centres

Key Research Outputs:
• Literature review of existing services
• Qualitative analysis from interviews
• Published report co-authored with Carers Trust

User Reach and Engagement:
Unpaid/family carers identified by the government/NHS as an underserved group
• Interviewed 20 users and 15 staff at carers centres

What Changed:
• Identified proven interventions to incorporate into online delivery
• Relationship building with Carers Trust and carers centres
• Potential partnership with Sheffield or University of York for database of solutions using machine learning
• Report shared with UK carers centres to help improve services

Emerging Impact Outcomes:
• Qualitative data relating to triggers of stress and anxiety for carers, and principles of effective intervention development

PRIME

Social enterprise and social activities community platform for midlife (40-60) men.

Research Project:
Understanding target audience and psychosocial barriers/motivators to increase service user engagement.

Research Partners:
Alpha Beta Digital; LSE Social & Cultural Psychology; Leeds Beckett; University of Bristol; Glasgow Institute of Health & Wellbeing; local community engagement partners

Key Research Outputs:
• Literature review (target audience)
• 2 pilots in Rochdale and Lambeth.
• User database
• Report of findings

User Reach and Engagement:
Pilots took place in areas with high deprivation/health inequalities, and socio-economic/ethnic diversity; and with immigrants and LGBT.
• Local outreach via community organisers
• Focus groups and 24 interviews
• Marketing testing targeted 10k men

What Changed:
• Research uncovered unmet needs/underserved groups, and psychosocial barriers/motivators
• Research process informed offering
• Agreement for future research

Emerging Impact Outcomes:
• Participants reported positive impact of a programme such as PRIME
• Good level of engagement but lower membership conversion suggests the need for longer-term/deeper approach

STUDIO X

Digital media platform that delivers entertaining, interactive video content with embedded principles from psychological science, designed to improve the wellbeing of underserved audiences.

Research Project:
Create, implement and evaluate a pilot for 'Wakey!' show, focusing on translating CBT techniques into a breakfast show, delivered via smartphone, designed to get audiences out of bed, to improve self-efficacy and increase life satisfaction.

Research Partners:
Anna Clifford (MSc student, UCL); Dr Iain Jordan (Oxford University Hospitals NHS Trust)

Key Research Outputs:
• Synthesis and critical review of evidence for strategies used
• Detailed outline of product content
• Developing a training manual for content presentation

User Reach and Engagement:
Focus on lower 45% socio-economic demographic (C2DE)
• 450 pilot participants
• 7 post-pilot interviews
• 15k people reached on pilot social media and 8k interactions
• 70% of participants watched 50% of shows or more

What Changed:
• Validated some key assumptions
• 65% of pilot sample would be likely to download a free version of the app (and 29% a paid version)

Emerging Impact Outcomes:
• 70% reported finding it easier to get out of bed
• 67% reported an increase in self-efficacy
• 53% reported an increase in positive mood scores

TANDEM

Marketplace solution tackling transport poverty in towns and smaller cities, improving wellbeing through access to employment, healthcare and other services.

Research Project:
Skelmersdale pilot of ridesharing prototype partnering with local employers, and study to support selection of first permanent site.

Research Partner:
Glasgow University Urban Big Data Centre

Key Research Outputs:
• Reusable research assets
• Developing transport poverty index
• Literature review to support development of own ridesharing algorithm (planned)

User Reach and Engagement:
Benefits underserved users by being more affordable/accessible than alternatives; pilot engaged elderly and lower-income people
• 53 pilot end-users
• Of which 28 also in focus groups and travel diary studies

What Changed:
• Project helped to size the problem, better understand target audience and validate business case
• Partnering with RCA Intelligent Mobility Design Centre
• Discussions around a major future collaboration with Glasgow University

Emerging Impact Outcomes:
• Qualitative data on the experiences and challenges of people around travel and transport in small towns and associated impact (eg on access to employment and other services)

PROGRAMME LEARNINGS & INSIGHTS

CLUB SODA

"Findings emerging from the service design research have been incorporated into our thinking about the shape of the programme and how best it can support people to change their behaviour... They have encouraged us to more firmly identify our approach as one that tackles psychological and social factors around drinking behaviour."

ADIA

"As a result of the study design meeting [with our academic and clinical advisors] we changed our study design methodology and the metrics we were tracking, so that they were more closely aligned to what the intervention is seeking to change."

1. Successful research/venture collaboration has the potential to support solutions that are people-centred and grounded in evidence

The research funding helped the ventures more formally access leading research teams and co-design rigorous and data-led approaches to test their solutions. Involving research earlier in their development enabled them to run fast testing on what (they thought) works, to better understand what works and how it works and to improve their offering — making it possible to innovate based on an evidence-based narrative.

For researchers, this meant having access to (live) real-world datasets that differ from those generated through academic research. It also allowed the possibility to contextualise research within certain practice fields (eg behavioural and data science), and to engage in user testing with fast feedback loops on products and services already in the hands of a user base. It helped overcome limitations in research methodologies. For example, TalkLife's approach helped address the issue of 'help-negation' in suicide-prevention research (which refers to people who need it not seeking help, and therefore has major implications for effective therapeutic interventions).
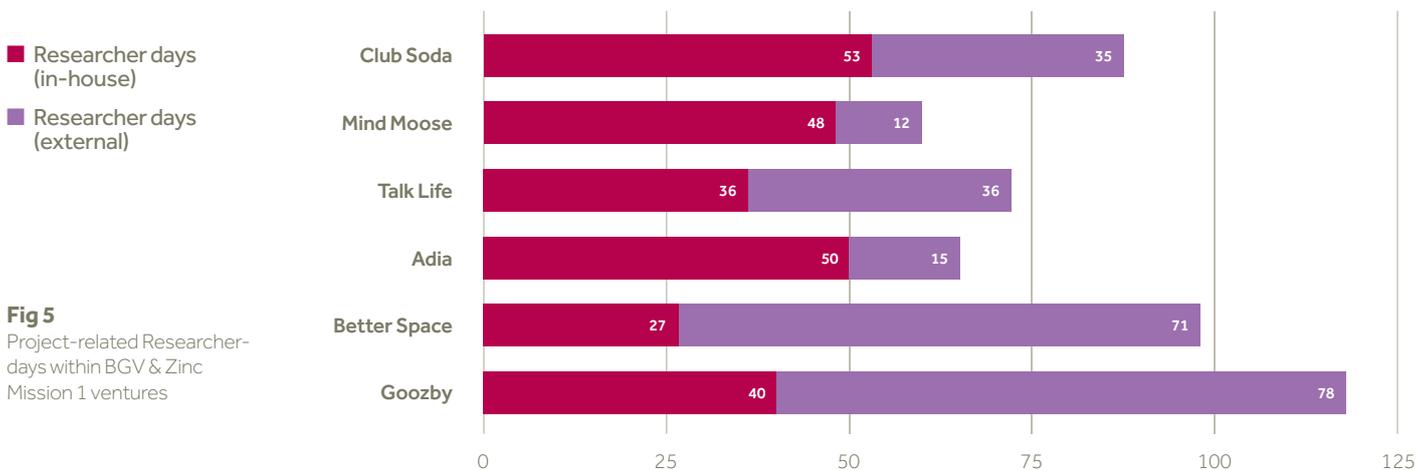

■ Researcher days (in-house)
■ Researcher days (external)

Venture	Researcher days (in-house)	Researcher days (external)
Club Soda	53	35
Mind Moose	48	12
Talk Life	36	36
Adia	50	15
Better Space	27	71
Goozby	40	78

Fig 5
Project-related Researcher-days within BGV & Zinc Mission 1 ventures

> "Our research partners were keen to have a live project for their students to work with, and to have access to data and users in a non-university setting...The method of self-reporting data by users was interesting particularly to Imperial's SCAMP team as there is no current access to live unbiased young people's device behaviour...Particular interest was in the new software analytics tools we used, and we were able to give access and help train university professors and students.

GOOZBY

The linear approach, and relatively long timelines, of traditional Randomised Controlled Trials (RCTs) are often ill-suited to innovation development cycles. Programme ventures identified and explored alternative approaches that are both rigorous and personalised — demonstrating what works for whom in mental health prevention, and how their digital products and services are having tangible and meaningful improvements in the offline world.

2. There are systemic barriers to the adoption and scaling of innovative solutions, with pathways to generating appropriate levels of evidence often long, complex and costly

Unlike the 'wellness' ecosystem, mental health prevention and treatment is seen as a high-risk area by funders and commissioners, therefore requiring businesses to evidence the safety and effectiveness of their interventions. Bringing rigorous research practice into early-stage ventures at critical development points is part of the solution.

Nevertheless, as reported by others in the tech-for-good and mental health ecosystem, RCTs and industry guidance or standards of evidence – such as those from the National Institute for Health and Care Excellence (NICE) – remain out of reach for many early-stage enterprises, particularly without the support of well-resourced experts.

The research projects helped the ventures better understand the areas of evidence and standards that are important to their stakeholders, and better address challenges such as:

- finding effective ways of framing and translating research to conduct good user testing;
- navigating research protocols and ethics approvals;
- identifying and measuring outcome indicators for mental health; and
- defining appropriate and cost-effective evidence-based and user-centred methodologies.

> **Undertaking this research has helped us develop our product by helping us understand the areas of evidence and quality assurance which are important to our key stakeholders (employees, employers, suppliers). The outcomes have led to a set of resources which is underpinned by evidence and a range of other factors such as usability and data protection.**

BETTERSPACE

3. User engagement and user testing, in particular with disadvantaged groups, can be challenging for early-stage ventures

For social ventures, consistent user engagement and testing, and operating with the trust of their user communities, makes sense in terms of ethos, brand-building, finding product-market fit, and in building products and services designed for impact. The programme helped them iterate and refine their user testing methodologies, through the product/service, as well as through the research process itself. Approaches included pilots and larger-scale, non-intrusive user testing embedded in the product, as well as participatory quantitative and qualitative methods such as surveys and workshops. For Goozby this involved designing a young people-friendly and ethical-by-design approach to interviewing and data collecting.

The programme surfaced challenges around identifying and accessing the right groups and sample sizes for user testing, particularly within restricted timeframes. For example, Mind Moose grappled to align school implementation and ethical approval timelines. In some cases ventures worked with sub-samples from their existing user base, while for others, the research was an opportunity to reach out to new target groups and grow their customer base (Fig 3&4).

A shared objective for the programme partners concerns combatting health inequalities and addressing the needs of underserved, disadvantaged and vulnerable groups. The pilot was a way to explore challenges and opportunities for this in mental health prevention, given the extent of solutions catering for 'the worried well'. The programme ventures can be described as purpose-led – their founders often have had firsthand experience of the issues they are tackling, and they aspire to engage underserved groups. They are able to reach people who might otherwise not access support, given the high threshold for health services, and also seek to reduce the burden on the NHS. Their business models are designed with that in mind. They offer accessible solutions (often free at the point of use for the basic offering), and leverage on the scaling opportunities provided by technology. More is needed, however, to make it easier for businesses to connect and engage with underserved groups, so that we can ensure solutions are also designed for and with them.

ENGAGING UNDERSERVED GROUPS

TALKLIFE

"TalkLife reaches young people who are battling with their mental health and who otherwise might be unable to access support. We provide support in a way that overcomes barriers to traditional support services."

CLUB SODA

"The programme we are developing is aimed at people working in the hospitality sector. Traditionally this group is low-waged and almost two-thirds work part-time. We heard through our storytelling workshop how poorly served people in this sector are."

MIND MOOSE

"Most of the schools we have worked with are in the DfE category 5-6 (where children are making the least progress and have the poorest access to high quality schools)…Schools have referred children to the research who are experiencing issues with their mental/emotional health and are not currently receiving support from CAMHS (often owing to them being on the waiting list or not meeting the threshold). At least 2 of the children we worked with on a one-to-one basis had received support in the past but were no longer able to access it, and the school felt they needed additional help than their staff were able to give."

BETTERSPACE

"While BetterSpace is currently focusing on employees in large enterprises…our long-term aim is to provide a consumer facing version, with both free and paid-for resources. This will have social impact with low-income employed groups and the unemployed. It will also reduce the burden on the NHS as employers bear the cost of protecting the mental health of their employees."

GOOZBY

"Throughout our research and in conjunction with Camden borough we have been able to deliver digital wellbeing workshops that reached marginal communities (requested by safeguarding leads in inner city London) and have received requests to offer Goozby to different communities including looked-after children and virtual schools."

ADIA

"We have run focus groups with a wide range of segments, and by making access free and online, have been able to engage underserved populations…We are in the process of setting up a trial within the fertility and gynaecology clinics at Imperial College NHS Trust. This will allow us to reach a wider socio-economic profile of users."

4. Early-stage social ventures face a funding gap between having a partly proven solution and being ready to scale their impact

There is little provision within traditional funding models for the middle stage between early-stage solution and scale-up of delivery and impact. This is partly due to commercial businesses not being eligible under grant programmes, while being too early (pre-revenue) or small for venture capital/impact investors. In the context of mental health innovation, the funding gap exists for products/services whose effectiveness is yet to be fully demonstrated through large-scale research. The pilot addressed this gap at a critical stage for the ventures, by providing flexible funding adapted to the nature of early development and design cycles, during which research priorities can shift and evolve rapidly.

" **This has been a truly impactful project that has enabled us to conduct research in an area that is both underserved and difficult to obtain funding for. We believe the results will have a profound effect on the provision of services for women's reproductive health.** "

ADIA

BETTERSPACE

"This project is integral to the growth of BetterSpace. Employers and employees using BetterSpace need confidence that mental health interventions available through the platform are effective, safe and trusted. The funding enabled us to invest in evidence-based development that we might not otherwise have had funds to prioritise, and provided wide ranging impact to our business through the wider network and ecosystem of research professionals."

Looking at how the grant money was spent (Fig 6.) reveals that about 40% went to actual researcher time, with the rest going to implementation aspects – indicating the need for combined research and capacity development funding. The financial support also worked differently depending on development stage and business model (Table 1).

■ Project management
■ Research support
■ Intervention/ user testing costs
■ Development costs
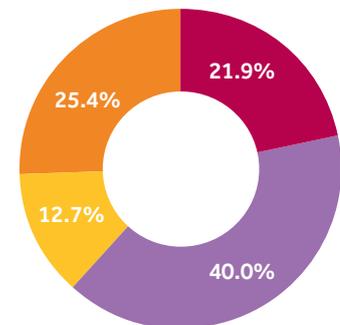

21.9%
40.0%
12.7%
25.4%

Fig 6
Ventures' use of grant funding received

Development stage/impact pathway	Focus of research projects
Idea stage	Primary research; implementation and evaluation of pilots to test key assumptions
Early-stage and/or shallower scaling pathways with potential for deep impact	Study designs and targeted user testing around prototype or core product functionalities
Later-stage (existing and tested solution) and/or potential for broader scaling pathways	Clear idea of research question(s) and of research partner(s) with the aim to refine service design and impact; typically large-scale user-testing

Table 1
Additionality of research funding at different stages of development

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5. Together with core funding, timely research funding helps to shape business models and offerings, by embedding rigorous research practice at critical development stages

For early-stage businesses, there is pressure to focus on business and customer growth. Complexities around evidence building pathways also make it difficult for businesses to identify clear revenue generation streams, with the NHS commissioning process seen as particularly challenging to access (and more focused on better access to services).

By allowing the ventures to work with research at a new level, the programme helped accelerate work that had been slow to progress or was still inaccessible. Although it is impossible to make attribution claims about the ventures' business growth over the 12-month period, there is evidence that the support has placed them in a better position for growing their impact. Being able to test, understand and evaluate what works and how, enabled them to generate new knowledge and improve their products and services. This in turn helped to guide more confident decision-making around their business model. The funding also created space for more strategic planning, exploring alternative pathways for revenue generation, and understanding the associated resource and skill needs.

> **The research has had a profoundly positive impact on our product, business, and research partnerships. The insights derived now form a cornerstone for our future product development and also competitive advantage and innovation as a business.**
>
> **ADIA**

6. The nature of partnerships matters and lends brand power for social enterprises to formalise research relationships and to leverage further development opportunities

Wellcome's involvement enabled the ventures to formalise research relationships. For some this meant consolidating longer-term collaboration with a lead research organisation, and for others testing a commissioning approach. Collaboration dynamics also depended on whether the ventures had any research expertise in-house. Interestingly, some ventures' projects also connected researchers who had not previously worked together. The programme also opened up possibilities for future research, and for co-bidding for funding with research partners.

The pilot surfaced expected tensions between research and venture work imperatives and mindsets – such as around timelines and customer growth pressures – and provided an opportunity to explore ways of aligning priorities. Younger ventures in particular found it challenging to access the right research partners, and more is needed to better connect both ecosystems.

The brand impact from Wellcome and its social innovation partners, together with the confidence gained through evidence-building, also helped the ventures leverage further development opportunities with non-research/commercial partners, funders and investors.

> **The project has opened doors and given access to opportunities for collaboration that would not have been possible as an SME and bridged the gap between technology and research. These are long-term collaborations that will further essential research in this important area of young people's actual device usage and impact. The project has opened up the machine learning opportunity that our data can contribute to.**
>
> **GOOZBY**

7. For funders, partnering with tech-for-good and social innovation experts can add value to traditional funding models, by effectively engaging with the right businesses

Funder-plus models are beneficial for grantees, providing tailored support and ensuring organisations are well equipped to deploy the funds effectively. The programme successfully tested an alternative model of backing mission-led commercial entities, by delegating the non-financial support component to delivery partners Bethnal Green Ventures and Zinc. Alongside their venture creation/acceleration expertise, BGV and Zinc brought a pool of early businesses ready to undertake and to benefit from rigorous research. The pilot also leveraged on Big Society Capital's role in social investment, and further exploration is needed in order to assess the real potential and suitability of social investment structures to address this specific area.

CLUB SODA

"The process of iterating the service design has taken longer than expected, in part because of the significant rethinking that has needed to occur as findings emerged from the research process."

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RECOMMENDATIONS

FOR KEY STAKEHOLDERS IN MENTAL HEALTH PREVENTION (NHS AND THIRD SECTOR):

1

Catalyse and develop partnerships that better integrate research, social innovation and impact, with opportunities for co-design with experts and users

Key stakeholders and funders in mental health research, advocacy and policy, have the convening power to catalyse partnerships around a shared vision for developing and co-designing innovative solutions that improve people's mental health. Taking an ecosystem approach which connects the worlds of research, social innovation and early-stage venture development, is more likely to lead to products and services that are grounded in evidence, people-centred, engaging to use, integrated with health services and care providers, and economically viable. De-risking the innovation process by engaging diverse but aligned partners, can support solutions with the potential to scale, as well as solutions that have shallower scaling pathways yet can achieve profound impact.

> **De-risking the innovation process by engaging diverse but aligned partners, can support solutions with the potential to scale, as well as solutions that can achieve profound impact.**

2

Shape incentives around the access to, and practice of appropriate researcher and user engagement – particularly around evidence standards and evidence-building pathways

More needs to be done to improve incentives for the research and venture ecosystems to work together, and there are two key opportunity spaces:

- Develop platforms and engagement pathways enabling ventures and researchers to effectively engage

There are clear advantages to supporting a model that organically connects research with ventures, outside the more common model of 'venture spinout' from research. Part of this is around catalysing and empowering a mental health research community which is equipped and energised to work with social entrepreneurs, and in the digital intervention space. It also means ensuring innovators are aware of, and able to access, these networks. There already exist initiatives on which to build, such as DigitalHealth.London's Evidence Generator Registry of Experts.

- Develop platforms and engagement pathways enabling ventures and researchers to effectively engage with users and people with lived experience

Improving access to good user-testing opportunities is a key part of building mental health products and services that are aligned with people's real needs. This process can be resource- and time-intensive for

early-stage businesses, particularly when reaching out to new target users. There are stakeholders engaging with this issue and developing initiatives, such as MQ on taking part in research, Snook's Pattern Library for digital mental health services, and Voice (Newcastle University) who are aiming to capture the public's experience in the ageing space. In the context of the multiplicity of wellbeing and mental health apps that cater to those who can afford them (the 'worried well'), it is also particularly important to ensure that user design and research engage with underserved and disadvantaged communities.

3

Signpost to existing solutions that safely harness the opportunity provided by digital interventions

Developing new mental health solutions is only part of the solution. Given the multiplicity of undocumented mental health digital products, and the risk of harm to users, more could be done to provide better signposting to existing safe and tested interventions and resources (as well as to new ones). Existing signposting tends to be limited and poorly populated. For example the NHS Apps Library lists only 20 apps (at the time of writing). More can also be invested in intelligent and dynamic signposting to personalised resources and solutions. Mental health charities, with the appropriate support, could play a role in this space.

FOR FUNDERS AND SUPPORT PROVIDERS:

4.

Consider funding commercial ventures where the impact of the product on people's mental health is inherent

The nature of business models and impact narratives will determine the growth pathways of social ventures, and their potential to scale and/or to reach underserved communities. Funders and support providers should therefore consider where business-led social innovations can have an impact, and the type of support mechanisms they can benefit from. This can be facilitated by working with partners at different stages of venture development, giving ventures the opportunity to share their experience, and integrating evidence-building pathways into funding models (such as helping businesses access user-engagement and research networks, and vice-versa; and incentivising academic/industry collaborations through specific funding calls).

5.

Provide flexible finance to address the gaps in the funding ecosystem, including dedicated research funding, at different stages of development

Ventures face a financing gap between idea and scale-up stages. More specifically, there is a lack of dedicated research funding to help them formalise research relationships and measure the impact of their products and services through rigorous research. Ventures have different research needs at different stages of development. Their early-stage nature means their products/ services evolve in rapid design and development cycles, so that traditional funding models (where the intervention being tested is 'fixed') are not appropriate. In combination with core/capacity development funding, funders should consider providing flexible research funding and work with partners able to deliver adapted support at each development milestone.

6.

Provide tailored support and tools for business models that 'do good' and engage with disadvantaged and vulnerable groups

The barriers to adoption and scaling of mental health innovations apply across early-stage ventures, and are likely to be even more challenging for those targeting underserved groups. The role of funders and support providers can be twofold: (i) design support mechanisms that make it possible for mission-led higher-growth ventures to sustain their mission at scale; (ii) support organisations developing innovations that focus on disadvantaged and underserved communities, where it may take more time to scale. Designing solutions for and with those groups can be facilitated by partnering with leading community engagement practitioners, and working with social innovation organisations, who are developing the frameworks, tools and methodologies for defining, evaluating and managing impact.

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FOR THE TECH-FOR-GOOD AND VENTURE DEVELOPMENT ECOSYSTEM (BUSINESS-BUILDERS, INCUBATORS, ACCELERATORS)

FOR THE RESEARCH COMMUNITY

7

Consider the role and value added of research in growth pathways, and demonstrate this to funders and the research community

8

Consider the value added from collaborating with social ventures, including opportunities for data generation, fast feedback loops and the experience of conducting research in creative, fast-paced environments

Despite significant emphasis within the venture world on the role that research can play in development pathways, its practice and application are very variable in terms of levels of depth, rigour and objectivity. There is scope to better assess the opportunity (and need) for research across different stages of growth, as well as the value brought by establishing academic partnerships, and to articulate this to the funding and research communities, so that it is more purposefully reflected in engagement and funding strategies.

Working with ventures and digital innovation opens up huge opportunities for mental health research, in terms of insights derived from data generation through real-world, live and large datasets, and possibilities for applied research at scale and with fast feedback loops. Increased collaboration can help further test and refine evidence standards, outcome metrics, and evidence-building pathways that are adapted to innovation design cycles and meet clinical standards. Although there isn't a one-size-fits-all venture/research partnership model, there are examples of successful collaborations, and there could be clear benefits from surfacing those to the broader research community and funders. This could help decision-makers improve incentives for researchers, energise the field of mental health research, and ensure it is connected to real-world needs.

> **Working with ventures and digital innovation opens up huge opportunities for mental health research, and can help ensure it is connected to real-world needs.**

> **Engagement with research has increased our understanding, capacity, expertise and confidence, and allowed us to create strong research collaborations. The research has been very helpful not only for showing that Mind Moose does make a difference to children's mental health and wellbeing, but for us to understand what our schools are looking for and consider how we can incorporate this into our future plans.**
>
> **MIND MOOSE**

CONCLUSION & LOOKING AHEAD

> **Given the proliferation of digital health solutions, there is a need for a deliberate collaborative approach that joins up the worlds of research, venture development and social innovation.**

Insights and learning from the programme point to the value of, and need for, an approach which enables and embeds people-centred and rigorous research within early-stage business models in mental health prevention. The venture ecosystem has to a large extent bought into the importance of actively engaging in 'human-centred' practices, and there are some examples of high quality user research being conducted in, and with, start-ups. However there is also huge variability in the depth, quality, objectivity and robustness of this research. Given the proliferation of digital health solutions, there is a need for a deliberate collaborative approach that proposes something different and joins up the worlds of research, venture development and social innovation. Much of this resides in the nature of partnerships and support mechanisms, which funders, support providers and other mental health stakeholders can promote. Some possibilities for stages of intervention and directions of travel are proposed here and would benefit from further exploration (Fig 7).
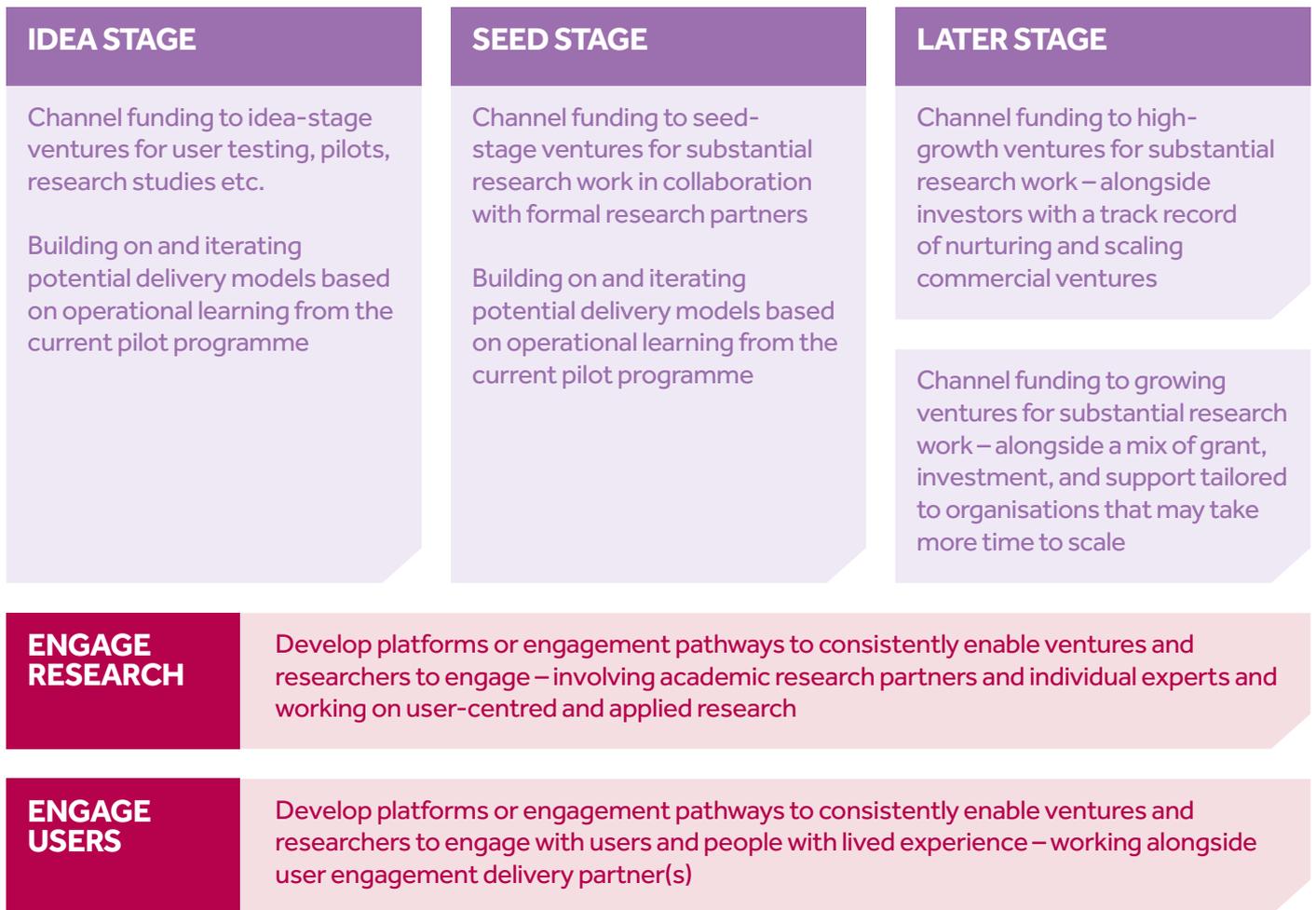
IDEA STAGE

Channel funding to idea-stage ventures for user testing, pilots, research studies etc.

Building on and iterating potential delivery models based on operational learning from the current pilot programme

SEED STAGE

Channel funding to seed-stage ventures for substantial research work in collaboration with formal research partners

Building on and iterating potential delivery models based on operational learning from the current pilot programme

LATER STAGE

Channel funding to high-growth ventures for substantial research work – alongside investors with a track record of nurturing and scaling commercial ventures

Channel funding to growing ventures for substantial research work – alongside a mix of grant, investment, and support tailored to organisations that may take more time to scale

ENGAGE RESEARCH

Develop platforms or engagement pathways to consistently enable ventures and researchers to engage – involving academic research partners and individual experts and working on user-centred and applied research

ENGAGE USERS

Develop platforms or engagement pathways to consistently enable ventures and researchers to engage with users and people with lived experience – working alongside user engagement delivery partner(s)

Fig 7
Looking ahead: a few ideas for exploration