

Dr Brock, Wilfred Owen, and ergotherapy

Owen's physician Brock took a different approach to treating shell shock to some other medics of the time, writes **Neil McLennan**

The end of 2020 marks the 100th anniversary of the posthumous publication of Wilfred Owen's war poems. Many of them were written in late 1917 when he was a "shell shock patient" in Edinburgh's Craiglockhart War Hospital. Without Craiglockhart and the care of Edinburgh doctor, Arthur John Brock, we may never have read Owen's words on "the pity of war." A century on, Brock's "ergotherapy" may have resonance and applicability as the covid-19 pandemic takes its toll on many people's mental health.

In 1917 Owen saw action in the Somme area of the Western Front. He became a casualty, having fallen into a shell hole. Recovering from concussion he was later injured by a trench mortar and reportedly spent days unconscious. On regaining consciousness, he found himself surrounded by the remains of a fellow officer. Diagnosed as suffering from "war neuroses," he was transferred to one of the two reception centres for shell shock, then moved to

Craiglockhart, one of Britain's six shell shock hospitals for officers. There he was placed under the care of Brock.

Brock believed in "purging" what caused the shock before a programme of "re-education." That programme involved activity—because "ergophobia demands ergotherapy"; ergophobia is a fear of work and ergotherapy was the "treatment of disease by muscular exercise." Activity was both physical exercise and active artistic engagement, stimulating body and mind.

Patients were encouraged to function again in real life, active, and engaging contexts. Various re-education activities took place: outdoor field trips; model making; work experience, such as leading Scout troops, boys' clubs, or school classes; and organising and taking part in arts productions.

Productive activity served both the patient and beneficiaries. Brock stated, "Each man must work individually—like an artist—and further, he must strive to relate his work to those of his fellows." Brock paired patients



for support and socialisation. His approaches were unlike the more disciplinary approaches taken by some other medics of the time.

Owen's first activity for Brock was to write an essay. Soon he was writing poems. In late 1917 he wrote or updated over a quarter of his total known poems and fragments. Among them were some of his most powerful works, including "Anthem for Doomed Youth" and "Dulce Et Decorum Est." The content came from the war, however the catalyst for their production was Brock's innovative treatment. This was as important to Owen as the influence of his fellow Craiglockhart patient, Siegfried Sassoon.

Brock's recognition

There are only two accounts solely dedicated to Owen's recovery in Edinburgh, and both are fictional. Brock is featured, although not as a main character. Sassoon has, on the other hand, remained central to Owen's story, with Brock's influence hidden. Brock's role was, however, the subject of a 2003 paper in the *Journal of the Royal College of Physicians of Edinburgh*, as well as an account—entitled *Between Galen, Geddes, and the Gael: Arthur Brock, modernity, and medical humanism in early twentieth century Scotland*—of his medical humanism. Since then, new research and a public education programme have highlighted the impact that ergotherapy had on Owen's convalescence, his writing, and his recovery.

As well as the first world war, Owen witnessed the devastation wrought by the 1918 influenza pandemic. He noted that a third

Activity, the outdoors, and social interaction all aided Owen in being certified fit by a medical board

of his battalion were "smitten" with it. Makeshift hospitals in gymnasium halls were filled with cases, with only the worst affected getting beds. Writing to his mother, he instructed her to "STAND BACK FROM THE PAGE! and disinfect yourself."

Ergotherapy assisted those isolated from support and dislocated from their environment. Activity, the outdoors, and social interaction all aided Owen in being certified fit by a medical board. On leaving Craiglockhart, he wrote, "I am beginning to have aching sensations at being rooted up from this pleasant region." "Rooted up" suggests a link with plants and recognises the nourishment provided by their environment.

Brock's success was the ultimate irony—recovery meant Owen returned to the front line. He was shot and killed in November 1918, a week before the war ended. Today, the irony and dilemma is that isolation protects people from covid-19 but creates other problems. Ergotherapy may be a useful approach in reconnecting humankind with their environs, society, and self.

Brock's legacy will be inspiring Owen, however his fuller contribution was humanising healthcare during an inhumane period of history.

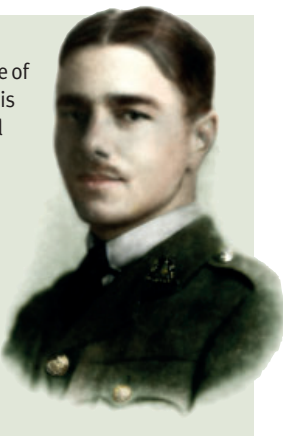
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Conscious

Ergotherapy helped Owen recover to write some of the most significant lines of the 20th century. His poem *Conscious* has a keen eye for the medical environment around a patient:

*His fingers wake, and flutter; up the bed
His eyes come open with a pull of will,
Helped by the yellow mayflowers by his head.
The blind-cord draws across the window-sill...
What a smooth floor the ward has! What a rug!
Who is talking somewhere out of sight?
Three flies are creeping round the shiny jug...
"Nurse! Doctor!"—"Yes, all right, all right."*



The doctors who time forgot

After SARS-CoV-2 belatedly highlighted the work of the virologist June Almeida, who first imaged a human coronavirus in the 1960s, historians reveal more of medicine's forgotten figures

Neville Clare (1946-2015)

Clare was a health activist who advocated for people with the genetic condition sickle cell disease (SCD), a haemoglobin disorder found mostly in people descended from Africa and south Asia.



Born in Jamaica, he came to Britain aged 11 and had a form of SCD diagnosed in 1967, but his doctors had little understanding of his illness. Embedded in the radical politics and Black consciousness movements of the 1960s and '70s, Clare founded the Organisation for Sickle Cell Anaemia Research (OSCAR) in London in 1975—the UK's first voluntary organisation dedicated to the condition.

Clare spoke at community meetings and symposiums around Britain, hoping to counter the stigma surrounding sickle cell disease

OSCAR worked to raise awareness about SCD in Black communities, and support people with SCD. This work was highly challenging when right wing groups such as the National Front used SCD in virulent racist propaganda,

and Clare spoke at community meetings and medical symposiums around Britain, hoping to counter the stigma surrounding SCD.

Other branches of OSCAR were subsequently established in Sandwell, Nottingham, Dudley, Bristol, Reading, Croydon, and Leicester, many still existing today and representing the interests of people with SCD to local services. Clare's work was a blueprint for local SCD support groups, and he remained a passionate advocate for people with the condition until his death in 2015.

NOMINATED BY

Grace Redhead—postdoctoral researcher, Centre for the History of Medicine, University of Warwick



Matthew Baillie (1761–1823)

As a prominent physician who was a founder member and second president of the Medical and Chirurgical Society (now the Royal Society of Medicine), as well as being physician extraordinary to George III and memorialised in Westminster Abbey, Baillie might not seem an obvious candidate for this list. But not only has he been thoroughly overshadowed by his uncles, John and William Hunter of the Hunterian museums, his fundamental importance to the history of pathology has largely been forgotten.

His most important and popular work, *The Morbid Anatomy of Some of the Most Important Parts of the Human Body* (1793), and its related illustrations, transformed the study of disease in Britain. Disease had been studied through cases, but Baillie promoted an anatomical approach underpinned by collecting pathological specimens on a large scale.

The careful study and

His fundamental importance to the history of pathology has largely been forgotten

description of the structures and textures of how the body was changed by disease, and their illustration, boomed in early 19th century Britain: morbid anatomies of the brain, the stomach and bowels, the liver, uterus, and serous and mucous membranes were all published in Britain by 1840.

Admirers included Edward Jenner, who contributed specimens to Baillie's collection, and René Laennec, who sent Baillie a copy of his book on the stethoscope along with a gushing note. Moreover, his work clearly influenced that of more famous pathologists such as Thomas Hodgkin and Richard Bright. So, although not unremembered, Baillie is certainly misremembered, and he ought to have a more prominent place in the history of British medicine.

NOMINATED BY

Richard T Bellis—senior research associate, Bristol Medical School, University of Bristol



Phyllis Kerridge (1901-1940)

Kerridge was a British chemist and physiologist whose scientific research significantly transformed medical perceptions of disability. A leader in her field, an inventor, and a physician, she inspired further work in telephony, audiometry, and physiology—breaking gender barriers and fostering collaborations around the world.

Kerridge campaigned for better hearing aid provision and social reform, working with social organisations to lower the cost of hearing devices to make them more accessible for all users. She spent her career establishing quantitative studies on hearing acuity, laying the groundwork for laboratory practice and clinical acumen for audiometric tests that would eventually become standard post-war practice. Her survey on hearing acuity



in children in London County Council schools did much to assess the importance of preventive deafness—a topic that was steadily gaining urgency in medical deafness, especially given the high numbers of war deafened ex-servicemen relying on state welfare.

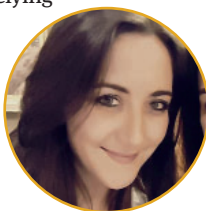
She even collaborated with the General Post Office to

improve its telephones for deaf people.

Kerridge was critical in perfecting the design of the Bragg-Paul pulsator, an artificial respirator: she made the device workable, replicable, and usable by children. She promoted and advertised the device to hospitals and argued with the Ministry of Health that the Pulsator should be implemented as standard hospital technology. She pressured the minister of health to incorporate artificial respirators in all English hospitals to combat polio and diphtheria outbreaks and to save the lives of patients in respiratory distress.

NOMINATED BY

Coreen McGuire (left)—lecturer, University of Durham; Jaipreet Virdi—assistant professor, University of Delaware



Edith Brown (1864-1956)

Founder of the first medical school for women in South East Asia, Brown's own training at the London School of Medicine for Women was sponsored by the Baptist Mission Society. Just weeks after she qualified in 1891 she was bound for India.

At a time when routes for women into professional medicine were hugely restricted, Brown set out to train doctors, nurses, and midwives from India's Christian communities. To that end, in 1894 she established the North India School of Medicine for Christian Women in Ludhiana, Punjab, with 16 students. Significantly, the enterprise attracted broad support from far beyond the Christian community. Since instruction was given in multiple languages, entry was also possible for students from a wide range of social and economic backgrounds. By 1899 Brown herself published a midwifery textbook, *Daigiri Ke Asul*, in Urdu. This became a standard

reference text throughout India, and she continued in her role as principal of the school until her retirement in 1942. By then the school had awarded diplomas to 411 doctors, 143 nurses, 168 dispensers, and more than 1000 midwives.

The school still operates today as the Christian Medical College and Hospital in Ludhiana, a remarkable legacy of medical training and treatment. In a period of Indian history so tainted by British imperialism, it's no small feat that Brown's Christian medical college was welcomed so comprehensively across broad social and religious divisions. Although she was recognised with a damehood in 1932, her important contributions are now largely forgotten.



NOMINATED BY

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Tolani Asuni (1924-2011)

As a pioneer of psychiatry in Africa, Asuni was always overshadowed by the international recognition accorded his fellow Nigerian contemporary, Thomas Adeoye Lambo. Yet Asuni's work in many ways had a more practical and wider reaching impact on the discipline across the African continent.

Asuni broke new ground in research on mental health. He was one of Africa's first suicidologists, also providing empirical data on homicide that helped shape the continent's development of criminology. In the early 1970s, he was a rare voice internationally in warning that refugees' mental health would soon become a major public health issue in Africa.

Always concerned with direct change, he championed reducing the stigma against people who attempt suicide, rehabilitation services for mentally ill homeless people, and national research and training programmes for people affected by substance misuse. Finally, Asuni will have shaped the minds of countless undergraduate and postgraduate medical students: his *Mental Health and Disease in Africa* (1975), co-written with Charles Swift, was the only regionally focused textbook on psychiatry for over 30 years.

NOMINATED BY

Oyedemi Ayonrinde (right)—associate professor, Queen's University, Canada
Yolana Pringle—senior lecturer, University of Roehampton



How a practice mobilised a hidden army against covid

When the national lockdown was declared in March, staff at a medical centre in Harrow, north London, called on patient volunteers to assist the support of vulnerable peers

Chris Jenner, Carly Szasz, Jacqui Martin

With the onset of lockdown, our senior management team (lead GPs, nurse practitioner, and management support) started to link vulnerable patients with volunteers. Elliott Hall Medical Centre serves 11 250 people in Harrow, Middlesex, including one of the largest populations of older people in the area. The practice had a “supportive care register” of patients who were considered vulnerable to difficulties related to lockdown, such as in obtaining medications or food provisions.

We sent a text message to all patients aged 18-65 who would not normally be eligible for an annual flu vaccination, and invited volunteers to help support vulnerable patients in the practice. We chose this cohort as they were not themselves self-isolating and were likely to be at relatively low risk of complications if they contracted covid-19.

The response was heartening. We received 268 offers of assistance, including several from medical students. The students proved invaluable. They phoned 1099 patients who were self-isolating or who had self-identified as vulnerable, and asked what help was needed. Two hundred and fifty two patients requested help, owing to a combination of complex health and social needs.

From the list of 268 patient volunteers, clinicians in the senior management team identified 10 potential lead patients who became known as “locality stewards.” These were individuals known to have the skills and experience to implement the volunteer-to-patient matching project.

KEY MESSAGES

- Volunteering offers significant benefits across the community
- Think creatively: everyone can be invited and included
- A crisis can motivate people to go above and beyond, and can unlock discretionary effort
- Involving medical students taps a “hidden army” of resources

We received 268 offers of assistance, including from medical students

The first vulnerable patient was supported within five days of the project’s inception. The locality stewards paired 180 vulnerable patients with a volunteer. The students took the lead in documenting the pairing scheme and responded to emails from stewards and volunteers. They were also the first point of contact for patients who phoned the practice asking for social support or advice about shielding status. When they had concerns, the students escalated these to senior practice staff.

Seven months later, 40 patients were still receiving regular weekly help from patient volunteers, mainly with shopping and obtaining medication. The project has given us valuable insight into the unmet needs in our practice community, and has shown us the solidarity and resourcefulness within our community of patients.

Laura Herman, volunteer locality steward

The advantage of our programme was the speed at which we were able to link the patients and volunteers. This has helped develop new friendships at a local level. Everybody involved was made to feel valued and part of the community.

My first action involved calling all the patients on my list. I knew all of them had a level of need, but I had no personal details. I was conscious of the need to respect people’s wishes for autonomy and independence. Some accepted help readily; others deemed it unnecessary. All, however, agreed to my initially calling them once a week and this helped foster trust.

As the weeks progressed my role focused on ensuring the volunteers were coping and were well supported. The surgery provided lanyards so they could access supermarkets with NHS workers. A medication delivery service was set up between several pharmacies to reduce the need for numerous collections.



Josh Bekhor, 4th year medical student, GKT School of Medical Education

Participating in the volunteering programme was immensely rewarding. It is rare that medics from different medical schools interact, and it gave us the opportunity to learn from each other about how to tackle new tasks.

There is value in having fresh eyes within an established GP practice. It enabled us to contribute in a fast-paced project and bring new ideas to the team. Medical students are also in a good position to develop quality improvement projects.

My experience at Elliott Hall also helped me address personal challenges. There were several vulnerable patients that became dependent on my contact with them, and in turn, I was very concerned for these patients. I learnt a lot about how healthcare professionals must protect their own health and personal space in the course of their work.

Hearing the gratitude in the voices of some who we helped has been motivating and inspiring. Becoming a GP is now top of my list of potential future medical jobs.

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Carly Szasz, GP partner, Elliott Hall Medical Centre, Harrow, Middlesex

Jacqui Martin, chair of Elliott Hall Medical Centre Patients’ Association

Laura Herman, volunteer locality steward, EHMC Patient Heroes Project

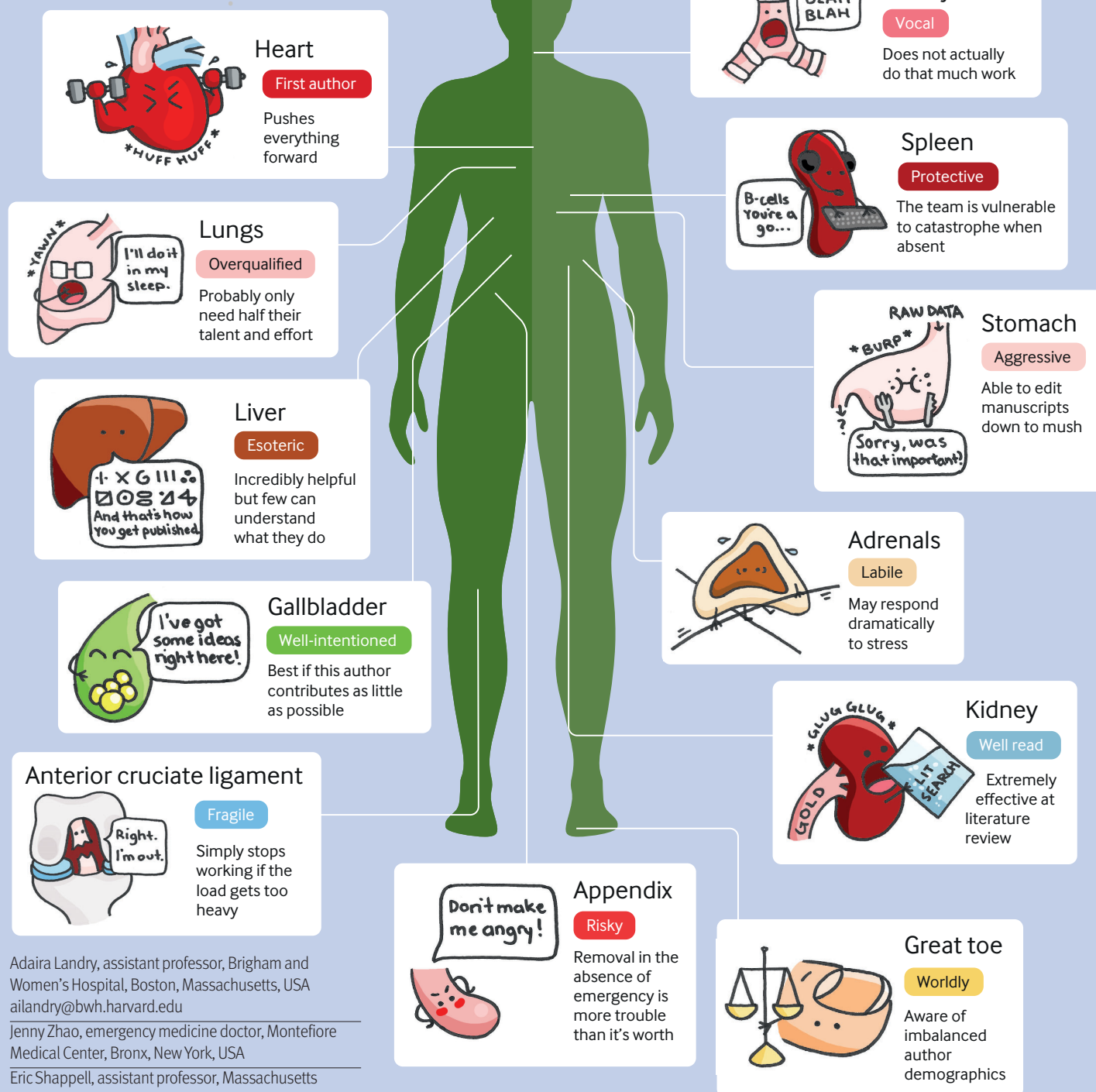
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Authorship anatomy: A guide for scholars

The process of manuscript writing, peer review, and publication is complex and intimidating to many. One political aspect of the manuscript submission process is the determination of author inclusion, order, and function.

The ICMJE has a list of criteria that must be met to qualify for authorship, however this resource is not designed to provide information to scholars regarding the type and amount of support that authors provide. We provide an anatomic framework for scholars to contextualise authorship roles and provide guidance on authorship function.



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Inspired by chance: valuing patients' informal contributions to research

Serendipitous patient involvement in studies that influences the research agenda should be better recognised and acknowledged, argue **Sebastian Crutch and colleagues**

Public involvement is increasingly considered a required part of health research. Typically defined as research being carried out “with” or “by” members of the public rather than “to,” “about,” or “for” them,¹ public involvement is different from engagement (provision and dissemination of information and knowledge about research) and participation (taking part in a research study). Typical activities include identifying research priorities,² choosing and co-designing outcome measures,³ advisory group membership, reviewing research materials, and carrying out the research.

Several major journals and funders have adopted strategies for enabling patients and the public to shape their aims and ways of working. Some also require researchers to make explicit statements about how—and importantly when—that involvement in the research process has occurred (eg, *The BMJ*'s patient and public partnership campaign⁴). Other recent steps to improve standard practice include guidelines for researchers and the public,^{5,6} the development of public involvement standards,⁷ and suggested reporting guidelines (GRIPP2) for public involvement in research.⁸

However, formal frameworks may not always capture the richness and variety of informal contributions to research that occur serendipitously, retrospectively, or independently. These informal contributions may originate in everyday conversations and interactions between researchers and people living with health conditions, including those with cognitive impairments that may make formal meetings and documents less appropriate.

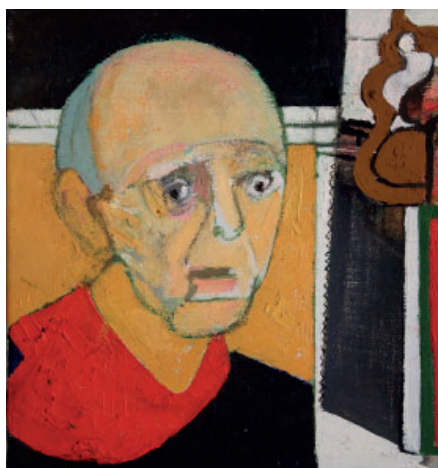


Fig 1 | William Utermohlen, self portrait with saw 1997, Boïcos Collection (Courtesy of Chris Boïcos Fine Arts, Paris)

Open ended conversations can provide an opportunity to reflect on and question the status quo

Inspiring new research and challenging assumptions

When people with lived experience of dementia share their questions, experiences, and uncertainties, it may not be with any express intent to contribute to research. But these insights often have the effect of inspiring research by generating new ideas or hypotheses in the mind of the listener (or someone else with whom the gist of the conversation is later shared), challenging existing assumptions about their condition, or posing questions that can be investigated through academic research. Such conversations may take place during clinical interviews, at support group meetings, by letter or email, or over a cup of tea between

research assessments. Critically, these inspiring contributions may occur at any time, not just conveniently during the planning phase of a project, and they might lead to new research activity immediately or sometime later. One of the most striking examples of this we have known led to the discovery of the first gene for Alzheimer's (box).

Open ended conversations with people with experience of a condition can also provide an opportunity to reflect on and question the status quo, and to challenge assumptions and standard practice. At a posterior cortical atrophy (PCA) support group meeting in London in 2009, one member (coauthor Simon Rosser) raised a simple but critical point that the use of different terminology for the condition (PCA, visual variant Alzheimer's disease, biparietal Alzheimer's disease, Benson's syndrome) resulted in a lack of understanding among patients, carers, and professionals. His comment sparked the formation of an international working party and the first multicentre research diagnostic criteria for PCA.¹⁵

The sharing of inspirational experiences is not limited to the spoken or written word, as we discovered when we had the privilege of working with William Utermohlen, a renowned artist primarily of portraits and murals. In 1995, he was diagnosed with Alzheimer's disease, and over the following five years created a series of self-portraits that altered strikingly in their style and representation of perceptual form and spatial relationship (fig 1).¹⁶ His work continues to communicate something about both the experience of living with a dementia and the biology of Alzheimer's disease that is more powerful than any brain scan, blood test, or scientific graph.

Family connections

Carol Jennings' father was diagnosed with Alzheimer's disease in his mid-50s. Subsequently an aunt and uncle began to experience symptoms, and she recalled her grandfather having similar problems. Describing events in 2010, Carol said: “I put two and two together and thought there's something funny going on here. This is the same family, developing the same symptoms, at a similar age ... I made a family tree, I found out lots of names and I thought this was interesting to someone who could do something about it.”

Carol sent this information to MR's team and had an important role in the ensuing research, gathering together her whole family on the paternal side for blood tests. This research led to the discovery of the first gene for Alzheimer's disease.¹⁴

Context setting and training

Another informal contribution to research made by people with lived experience of dementia is enabling others to understand more of the context, place, and manner in which they live, or support someone to live, with their condition. Sometimes this takes the form of permitting researchers to observe the person in different scenarios,



Fig 2

MARK THOMAS

Participants in an NHS and Alzheimer's Society dancing scheme for people with dementia which, before the pandemic, took place around the country

be it at home, while participating in an arts activity, or during clinical assessment. On other occasions the sharing may be more direct—through testimonies, giving talks, participating in demonstrations, or making audio and video recordings.

During the Created Out of Mind dementia residency, team members benefited greatly from the opportunity to observe dementia and arts practices. Seeing the effects of improvisatory music on people with advanced dementias participating in the Music for Life programme run by Wigmore Hall directly shaped the team's research priorities and objectives (fig 2).

Project design and development

Shaping research design and development by participating in focus groups and advisory panels is an established component of public involvement.¹⁹ In recent years, co-production, referring to service providers and users working together to reach a collective outcome, has increased, particularly in translational research.²⁰

In some cases, even formal involvement in co-design is founded on a much broader set of experiences shared between the person with lived experience and the researcher. Testimonies of researchers²¹ suggest that important ideas shaping research often emerge when people with a lived experience naturally and informally adopt an investigative or reflective stance in response to the challenges they face, which sometimes

The effects of improvisatory music on Music for Life participants directly shaped the team's research

involves applying their previous professional skills to a problem area.

Two proponents of this kind of involvement in the co-design process are Pam and Richard Southerden, who have brought their experience of working in the IT industry to bear on technologies to support people living with dementia since Pam's diagnosis with PCA in July 2015. Working with neuropsychologist Aida Suarez Gonzalez and developer Ashley Peacock, they have influenced the design of reading app ReadClear.²² They have also collaborated with computer scientist Nick Firth and social scientist Emma Harding to explore the potential utility of Amazon Echo voice controlled devices in the homes of people with dementia related visual impairment.²³

Extra benefits from formal participation

Involvement is typically distinguished from the many contributions people with dementia and their supporters make through participation (eg, enrolling in research, providing information relating to a participant, supporting the participation of another person by accompanying them). However, the benefits of participation often exceed the scientific objectives of the study.

In some cases, participation leads, intentionally or not, to research contributions which go beyond the data acquired. For example, during a verbal memory test held as part of a drug trial, one participant with PCA made a surprising observation. Presented with the first in a series of printed words to read and remember—SAND—she commented, "I can see an 'S' and I can see a 'D' but I can't see the letters in the middle." Her sharing of this hitherto unconsidered difficulty led to the design of experimental tests of spaced and unspaced letter identification (fig 3), the discovery

of excessive visual crowding (difficulty identifying objects in clutter) in PCA,²⁴ and the design of reading aids for people with dementia related visual impairment.

Just as formal involvement has been found to benefit both researchers and volunteers,^{19 25} so informal contributions can be valuable. After reading a draft of the current article, Simon Rosser, whose wife had PCA, put into words what she felt: "The things that you are talking about, patient participation in research, patient groups such as the support group, particularly where the condition is not capable of being cured or treated in any meaningful way, is that the patient feels they are making a contribution and that they are doing something. Turning a natural feeling of helplessness in these situations into one where the patient is helping and feels that they are doing so gives the patient an enormous psychological boost."

Creating opportunities

The examples of informal research contributions here all relate to the dementias but have equivalents in many other areas of healthcare. All the examples have had a big effect on the research programme, but they are serendipitous and not predictable. Various strategies can increase opportunity for informal input into research (box 2, see bmj.com), but these should be regarded as complementary not alternative to more established formal involvement and the structures, processes, and definitions that support it.

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	Letter flankers	Shape flankers	Number flankers
Condensed	ZNH	▽N◁	5N6
Spaced	Z N H	▽ N ▷	5 N 6

Fig 3 | Flanked letter identification tests for visual crowding. Participants are asked to identify a central target letter surrounded by flanking letters, symbols, or numbers (adapted from Yong et al²⁴). People with excessive visual crowding can perceive the target letter reliably only when the flankers are spaced out (bottom line)