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JOURNAL OF

holistic healthcare

Re-imagining healthcare

Women's health

Breast cancer journey
Breast screening?
Birth doulas
Vaginal health
Fiona Hamilton
Rewiring to pleasure
Women doctors' suicide
Frontline NHS
Self care – herbs
A remarkable woman
Research
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About the BHMA

In the heady days of 1983 while the Greenham Common Women's Camp was being born, a group of doctors formed the British Holistic Medical Association (BHMA). They too were full of idealism. They wanted to halt the relentless slide of mainstream healthcare towards industrialised monoculture. They wanted medicine to understand the world in all its fuzzy complexity, and to embrace health and healing; healing that involves body, mind and spirit. They wanted to free medicine from the grip of old institutions, from over-reliance on drugs and to explore the potential of other therapies. They wanted practitioners to care for themselves, understanding that practitioners who cannot care for their own bodies and feelings will be so much less able to care for others.

The motto, 'Physician heal thyself' is a rallying call for the healing of individuals and communities; a reminder to all humankind that we cannot rely on those in power to solve all our problems. And this motto is even more relevant now than it was in 1983. Since then, the BHMA has worked to promote holism in medicine, evolving to embrace new challenges, particularly the over-arching issue of sustainability of vital NHS human and social capital, as well as ecological and economic systems, and to understand how they are intertwined .

The BHMA now stands for five linked and overlapping dimensions of holistic healthcare:

Whole person medicine

Whole person healthcare seeks to understand the complex influences – from the genome to the ozone layer – that build up or break down the body–mind: what promotes vitality adaptation and repair, what undermines them? Practitioners are interested not just in the biochemistry and pathology of disease but in the lived body, emotions and beliefs, experiences and relationships, the impact of the family, community and the physical environment. As well as treating illness and disease, whole person medicine aims to create resilience and wellbeing. Its practitioners strive to work compassionately while recognising that they too have limitations and vulnerabilities of their own.

Self-care

All practitioners need to be aware that the medical and nursing professions are at higher risk of poor mental health and burnout. Difficult and demanding work, sometimes in toxic organisations, can foster defensive cynicism, 'presenteeism' or burnout. Healthcare workers have to understand the origins of health, and must learn to attend to their wellbeing. Certain core skills can help us, yet our resilience will often depend greatly on support from family and colleagues, and on the culture of the organisations in which we work.

Humane care

Compassion must become a core value for healthcare and be affirmed and fully supported as an essential marker of good practice through policy, training and good management. We have a historical duty to pay special attention to deprived and excluded groups, especially those who are poor, mentally ill, disabled and elderly. Planning compassionate healthcare organisations calls for social and economic creativity. More literally, the wider use of the arts and artistic therapies can help create more humane healing spaces and may elevate the clinical encounter so that the art of healthcare can take its place alongside appropriately applied medical science.

Integrating complementary therapies

Because holistic healthcare is patient-centred and concerned about patient choice, it must be open to the possibility that forms of treatment other than conventional medicine might benefit a patient. It is not unscientific to consider that certain complementary therapies might be integrated into mainstream practice. There is already some evidence to support its use in the care and management of relapsing long-term illness and chronic disease where pharmaceutics have relatively little to offer. A collaborative approach based on mutual respect informed by critical openness and honest evaluation of outcomes should encourage more widespread co-operation between 'orthodox' and complementary clinicians.

Sustainability

Climate change is the biggest threat to the health of human and the other-than-human species on planet Earth. The science is clear enough: what builds health and wellbeing is better diet, more exercise, less loneliness, more access to green spaces, breathing clean air and drinking uncontaminated water. If the seeds of mental ill-health are often planted in an over-stressed childhood, this is less likely in supportive communities where life feels meaningful. Wars are bad for people, and disastrous for the biosphere. In so many ways what is good for the planet is good for people too.

Medical science now has very effective ways of rescuing people from end-stage disease. But if healthcare is to become sustainable it must begin to do more than just repair bodies and minds damaged by an unsustainable culture. Holistic healthcare practitioners can help people lead healthier lives, and take the lead in developing more sustainable communities, creating more appropriate models of healthcare, and living more sustainable ways of life. If the earth is to sustain us, inaction is not a choice.

"The Journal of Holistic Healthcare… a great resource for the integration-minded, and what a bargain!"
Dr Michael Dixon

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Being a woman in the modern age

Concepts of femininity are in a state of flux. What it means to be a woman is a subject open for debate. The widely publicised statement made by Germaine Greer, that trans-women were not 'real women' received much criticism; but does she have a point – can a biologically born man who transitions in adulthood really understand the female lived experience?

The journey a woman takes – from womb to infancy, through childhood and adolescence to sexual awakening and into adulthood and beyond – is unique and powerfully gendered; this extends far beyond that concerned with the female form. While the conditioning imprinted by society through its daily interaction with those identified as female is surely undeniable, the impact of a woman's experience of being embodied as female cannot be ignored. This embodied gender identity comes to the fore at liminal phases of life – menstruation, childbirth and menopause – but at other times too: when negotiating career and motherhood, or confronting the 'biological clock', and even in the daily negotiations of flirtation and hair removal, workplace roles or door opening and carrying heavy bags.

In celebration of this aspect of being alive as a human we have created this issue of the *JHH*, dedicated to women and their health. Men will get their turn in the next issue! We look at natural childbirth with the help of doulas and the return to a more connected and joyful experience of sexuality. Both these articles expound a need for women to feel safe, connected and embodied in present experience, and the importance of being far from the adrenalised stress response that is so easily activated.

Through the lens of women's health many of the BHMA's core themes are addressed. Women fall foul of 'too much medicine' as Antonia Wrigley lucidly outlines in her treatise on breast cancer screening. She states that a return to core clinical skills such as examining patients is as effective as screening and suggests moving forward to a more preventive approach, which looks at pre-existing metabolic imbalances and the need to address key lifestyle changes. This surely is where we should be aiming more medical resources. Nutritional and lifestyle changes are also recommended to improve depression in women according to Kelly Brogan's book, reviewed in this issue.

William House explores issues around gender fluidity and the normalisation of a once taboo subject. Our research section tells of the alternative management of menopause showing promise for both fennel and acupunture. The piece on the vaginal microbiome and bacterial vaginosis is reminiscent of Eve Ensler's monologues in its call for the issue of vaginal health to be more talked about, celebrated and researched. Catherine Zollman, Medical Director at Bristol's pioneering Penny Brohn Centre, describes some core issues in women's breast cancer journeys and the techniques used to help them live well during this time; the central tenet is an individualised and flexible approach.

David Zigmond eloquently highlights the dehumanising effects of industrialised healthcare and how a woman's mental health recovery depended on the healing power of relationship, continuity of care and simply being given space and time to be heard and to heal. Mental health is further explored in Alys Cole-King *et al*'s salient article on female doctor suicide, the rate of which is higher than the national average, and the iceberg of mental distress this represents. Solutions must come both from ground upwards resilience training and top down global system change.

So much of women's health is dictated by the inequalities within society because of race, gender, wealth and education. Panning out to an international perspective they are even more acutely felt. But are things continuing to change and improve? It's said in Indian mysticism that the age of women is dawning and we will move into a new paradigm of being, beyond a politicised and 'war-based' society. The next incarnation of Vishnu, after Krishna and Buddha, is said to be Kalki, a woman on a white horse. Perhaps as Germaine Greer said, 'equality is a profoundly conservative goal for women'. As a society we need to move beyond this lowly aspiration to a new more empowered and feminised way of relating.

Returning to her 'real woman' statement; the use of 'real' here sounds pejorative and implies some kind of fictitious fixed identity or club that one should belong to. While indeed both being born and living as a woman – labelled as 'cis' in gender speak terms – is a singular experience, there is also a wider truth to womanhood. What emerges from the *JHH*'s exploration of women's health is the idea that femininity and woman-ness have a multiplicity of forms and can be identified in numerous ways. We must take each woman poised in her personalised narrative and treat her as an individual, but remember that her relationship to woman-ness is a central component of this tale.

Dying – a transition

This October workshop in London, sponsored by the Conscious Ageing Trust will be a first-time workshop in England for Monika Renz. The experiential workshop is intended for everyone with an active interest in dying well, as well as those especially working in spiritual and psychological end-of-life care. It will aim to enhance participants' sensitivity, ability to reflect on care and presence, and connect with deeper levels of being.

Bookings: 07811 948811, max@consciousageing.org, www.diealog.co.uk. £140 (£125 early bird available until end of July).

Food – the future medicine

This year's College of Medicine conference (14 September) on food and health will be reviewing new developments on the influence of the microbiome in mental health and ways to optimise the health of children. Conference hot topics will include meat, some meat or different meat; is there a place for intermittent fasting; eating more raw food; and should bread be eliminated from our diet? There will be a demonstration on how to prepare and cook healthy food and a presentation on what we can learn from India and China. The conference will explore how to detect, treat and prevent poor nutrition in the community and hospital and hear about a London GP food co-op aiming to bring better food to local people. Last year tickets soon sold out. Book at www.collegeofmedicine.org.uk/events/#!event/2017/9/14/food-the-future-medicine-2017

New director at Penny Brohn Centre

Former BHMA trustee Dr Catherine Zollman has become Medical Director at Penny Brohn Centre UK. As clinical lead at Penny Brohn Centre (PBC) since 2005, as well as in her work as an NHS GP, Catherine has been working tirelessly to raise awareness of the benefits of whole person care. At PBC people living with a cancer diagnosis can explore areas such as diet, exercise, relationships and managing stress and the possible benefits of complementary therapies and self-care before, during and after NHS cancer treatment As a charity PBC provides free courses, one-to-one therapies, groups, a treatment support clinic and national helpline. www.pennybrohn.org.uk

2nd symposium on medical student wellbeing and resilience

This year's symposium for invited medical teachers will be jointly hosted by the unit for study of doctors' and medical students' mental health and wellbeing, Swansea University, Westminster Centre for Resilience, and the Point of Care Foundation, and will build on our previous work looking at provision of support for medical students relating to mental and physical health. Our aim is to understand what is currently happening across the UK. We would like the meeting to explore what progress has been made since last year's symposium, which looked at provision of support for medical students and emerging curriculum development, and to continue mapping the current state of UK developments in the field. There will be reflections on ongoing work in the various centres and opportunity to build networks based on positive practice. There will be a full report in the next issue of *JHH*.

BHMA-SMN conference 18 November

Transformational innovation in health: a gathering of change-makers will bring together some of the UK's most active and creative clinicians. David Reilly and Bill Sharpe will give the keynote addresses. All the panelist and table hosts have at some point written articles for the *JHH* about their projects. Topics will include transforming community health, making space for staff renewal, healing and therapeutic transformation, change and the three horizons model, transforming the healthcare system, reconnecting with the wild, and changing attitudes to birth, death and dying. University of Westminster, 18 November. Booking at https://explore.scimednet.org/index.php/events/

Unnecessary operations?

As Professor Andy Carr, an orthopaedic surgeon at Oxford University Hospitals recently pointed out (*The Guardian* 11 June 2017) many surgical procedures are risky and unnecessary. So the correct thing would be to stop doing operations if we don't know whether or not there is a strong placebo component. Very few medical trials have compared surgery with a 'sham' operation however: only a handful of randomised placebo controlled trials for some elective procedures (arthroscopy for knee osteoarthritis, spinal cement injections for vertebral fractures, and gastric balloon operations). The problem, as Professor Michael Baum is supposed to have said, is that in medicine, at least half of what we do is useless, but we don't know which half. How then, without controlled trials are we ever to be sure how safe or effective any surgical procedure is? But would anyone you know be likely to sign up for random allocation to a sham operation?

Resilience and realistic hope for women with breast cancer –

I'm a person with a life, not a patient with a prognosis

Catherine Zollman

Fellow in Integrative Medicine (University of Arizona); Medical Director, Penny Brohn UK; Macmillan GP, Bristol

I first became interested in holistic approaches to health as a medical student lucky enough to join the BHMA in its early days. I trained initially in medical oncology and immediately saw the potential of an approach that combined lifestyle support, conventional treatment and complementary therapies, even though the term integrative oncology hadn't yet been invented. I now work as medical director at Penny Brohn UK, one of the leading charitable providers of integrative support for people with cancer, while maintaining my NHS GP work and my role as a Macmillan GP with a special interest in cancer with the Bristol Clinical Commissioning Group.

'Is there anything I can do to help myself?' is a question that women diagnosed with breast cancer frequently ask their hospital teams, but the answers can sometimes be confusing and disempowering. At Penny Brohn UK, we treat all our clients as people, rather than as 'cancer patients' and we use an individualised, whole person approach to help people increase their wellbeing, support their bodies' innate ability to repair and restore itself, and build overall resilience in a time of crisis. The results can sometimes be profound.

It's Monday morning. We are sitting in a spacious room with a bay window looking out over the beautifully tended gardens of Penny Brohn UK's national centre on the outskirts of Bristol. I'm in the weekly treatment support clinic with a group of people, all affected by cancer in some way.

Asha is new to the group and sitting slightly apart. She wears a colourful scarf around her head. She is half way through a course of chemotherapy for primary breast cancer, which will be followed by surgery and then radiotherapy. She's been told that she will be eligible for breast reconstruction and that she'll be on hormone therapy for at least five years. If all goes well, one year after her radiotherapy is finished, she's been told that she'll be discharged to follow-up by her GP as part of her low-risk stratified pathway, but that the hospital team will be there if she has any concerns. Diana has triple negative breast cancer, which was treated with curative intent three years ago, but two weeks ago, at a routine follow-up scan, was found to have spread with two small lesions in her lungs and one in her liver. She is still waiting to hear what treatment is being proposed but is bracing for another round of chemotherapy. She looks strained but determined. Next to her, her husband Oliver looks nervous and subdued. Joan comes in late with news that her latest tests show that the third line chemotherapy she's been having as part of a trial for widespread metastatic breast cancer in her bones and lungs has not worked and that she's being taken off the trial. To look at her, you wouldn't know she had cancer – attractively dressed, suntanned from being in the garden, even the usual sparkle in her eye as she greets the others warmly and sits down.

All three women have been diagnosed with breast cancer, but all are now facing very different challenges. Each brings a very different set of resources and attributes which could either help or hinder them, yet they all want to feel that they have some control over what the future will bring – the alternative means helplessness, hopelessness and maybe despair.

So we spend our morning discussing and practising evidence- informed methods which people can use to build their resilience (Thompson, 2011) to help them cope better with cancer treatment and increase their chances of living as well as possible for as long as possible. We cover many topics including physical activity, good nutrition, stress management, mindfulness, mobilising the support of others, and people share the ideas and experiences that have given them greater wellbeing and helped them to meet the challenges of the whole cancer experience. Although I am the only doctor in the room, I feel that my expertise is more than matched by the acquired knowledge and lived experience of the others in the room, whether they are going through cancer treatment themselves, or whether they are a close supporter of someone who is.

The body is hard wired to destroy cancer cells

I start by introducing the group to the fact that healthy bodies constantly produce abnormal cells with the potential to develop into cancer cells through everyday cell division and replication. Even those who are quite 'health literate' are sometimes unaware of this fact and that, in normal life, a healthy immune system can detect and destroy these cells before they have a chance to develop into established cancers. We then go on to explore some of the factors which increase the chances of developing more abnormal cells than a normal immune system can cope with: genetics, infections, increasing age, carcinogens such as tobacco, alcohol, asbestos, obesity (DeVita *et al*, 2014) this is familiar territory for most people. Then we move on to discuss lifestyle factors, such as stress, sleep deprivation, overwork, poor nutrition, lack of physical activity, depression, lack of connection to people or things that matter, which can suppress our immune systems, and prevent them from detecting cancer cells as efficiently as usual (McDonald *et al*, 2013). Suddenly it becomes clearer – alongside surgery, radiotherapy, chemotherapy and hormone treatment there IS something else that can influence the growth of cancer cells in the body – the immune system – and this is something that individuals DO have some control over.

They know that there have been times in their lives when they've felt more resilient and more resistant to infections, and that there have been other times when they've felt run down and vulnerable to every circulating cold. They also know from experience some of the circumstances in their lives that have lead to these different scenarios, but they've never connected this with the development of long-term health conditions before. So the conversations around nutrition, physical activity etc start to make more sense – we are trying to ensure that the immune system, and the body as a whole, has the best conditions to operate most effectively. Suddenly there are lots of areas that people can work on that may make a difference to the course of their cancer experience – and whether that simply helps them feel more in control, or results in the reduction of side effects and an improvement in quality of life, or whether it eventually contributes to reducing the risk of recurrence or progression (There is some preliminary research suggesting this can happen (Ornish *et al*, 2005; Stagl *et al*, 2015; Thomas *et al*, 2016) – the only 'side effects' are likely to be positive, as people are guided to 'listen to their own bodies' and choose those individual strategies which they, themselves, experience as enhancing their wellbeing and building their overall resilience.

Asha has been referred by her nurse specialist because, despite her good prognosis, she appears to be getting more and more depressed as her treatment progresses. Her nurse wants her to find some support from others who have been in similar situations. Asha is pre-occupied by the fact that she's been told she may never be able to have children, something which, on top of the cancer, she does not know how to communicate to her family and community. Her grief is palpable but she listens as the others talk. For her, focussing on the things she does have some control over like maintaining her physical fitness, being able to express her fears and anxieties among a group of people who can truly empathise, and maybe accessing some professional support through counselling, might be the first, key, resilience-building steps that help her to talk more openly to her family and friends. Helping her develop flexible thinking – 'what's the best that could happen? what's the worst that could happen? and is there anything I can do to make the best outcome a bit more likely?' – may help her live more comfortably with the 'possibility' rather than her assumed 'certainty' of future infertility.

Diana and Oliver gravitate towards Joan during the tea break. Her vitality and obvious sense of wellbeing, even though her physical condition has been pronounced 'poor' by her doctors, is clearly encouraging them – what is her secret? She lists a number of things: her garden, her grandchildren, her enjoyment of fresh vegetables and fruit grown by her husband, and her clarity around her decision that she does not want any further aggressive treatment, at least for now. There is a sense that 'progression of cancer' is only one way of assessing health and illness, and that somehow Joan seems to be living better than many of her friends who haven't got cancer. She has a sense of appreciation of each passing moment, and of each connection that she makes, that makes being in her presence a very rich experience. Joan tells me later that she wasn't sure whether she should attend today's session as she thought that news of her growing, treatment-resistant cancer might depress or upset others in the group, but she feels uplifted and touched, that she has actually been a source of inspiration for others. Oliver, in particular, thanked her for her words, and told her that, paradoxically, he now feels more able to support Diana through her upcoming chemotherapy. He's not a gardener, but he's going to listen to Diana, and make sure that she has access to the things, which she feels will bring her strength and comfort through her treatment.

Taking back control

What all these people have in common is the emerging sense that they are able to take back some agency over their lives, and in doing so, have an effect on the way their cancer journey progresses. Of course the irony is that they have always had control over their lives, but a diagnosis of cancer is often a 'de-activating' event, which threatens the very core of our being, and frequently reduces even the most empowered individuals to a state of fear and child-like passivity, because of the implied associations with our mortality, the high-tech, often aggressive, treatments and the complex biological processes involved as experts take over.

Finding the opportunity within the crisis of cancer

But the flipside of this is that a diagnosis of cancer can also provide a unique 'teachable opportunity' where people find their lives and future plans so disrupted, that making significant lifestyle changes often meets with a lot less internal and external resistance than at other points in their lives, and sometimes becomes an important part of making sense out of the experience. So while it often ends up being a 'de-activating' and depressing event, a cancer diagnosis has the potential to become a profoundly 'activating' and transformative experience if dealt with in a way, which has personal resilience-building at its heart (Ejbye and Holman, 2016). Penny Brohn, one of the co-founders of the charity, and someone with lived experience of being a breast cancer patient, frequently used the analogy of the Chinese script for the term 'crisis', which is made up of two symbols, one being the Chinese character for 'danger' and the other being the character for 'opportunity'. 'A crisis is a terrible thing to waste', she used to say.

Picking the low-hanging, tasty fruit

Some people have an intuitive sense that they need to look after themselves holistically by paying attention to their psychological and emotional needs, as well as physically getting through the treatment, in order to maximise their chances of living as well as possible for as long as possible. For others, the scientific explanation of the links between mind, emotions, diet, activity, sleep etc and the immune system, and the connection between the immune system and cancer provide a helpful, motivating rationale for engaging in self-management. Understanding that resilience (and immune system health as part of that) is multi-dimensional, and that everyone can build their resilience by finding ways of drawing on their own individual strengths and resources, is a further enabler. People realise that matching their goals to their personal resources, preferences and situation, gives them the best chance of success. At Penny Brohn UK we talk about 'picking the low-hanging, tasty fruit' and going for quick, enjoyable, easy wins initially, to build confidence and feelings of self-efficacy – this may involve doing five minutes of relaxation daily, making time to take the dog for a walk, confiding in a friend, finding a better work/life balance or thinking about ways to eat one more portion of vegetables per day.

An individual flexible approach

Recognising that there is a wide range of options when it comes to supporting resilience is the basis of the Bristol Whole Life Approach (www.pennybrohn.org.uk/services). It gives people choice, and allows them to express their individuality, which, in turn, enables them to focus on the things which give them joy, meaning and strength. This can be a very helpful antidote to the feeling of 'being on a conveyor belt in a sausage factory' that some people experience when going through hospital treatment. It is a flexible approach, which requires individual tailoring for maximum benefit – a contrast, and therefore a very useful complement to, the highly protocolised and standardised cancer treatment regimes that most people undergo in hospital.

Avoiding guilt and self-blame and recognising that we can't control everything

Whilst feeling 'activated' and confident to self-manage some aspects of health is a positive experience for most people, there is also a possibility that hearing about the influence of lifestyle on cancer will leave some people feeling over-responsible for their own condition, resulting in guilt and self-blame, or sometimes a feeling that they ought to be able to 'cure themselves' without any medical intervention or monitoring. This is taking self-efficacy too far – and is one of the only truly negative, potential yet usually avoidable, 'side effects' of taking a proactive holistic approach. With the careful explanation that cancer is a multi-factorial process, and that not all of these factors are under our individual human control, we can help people understand that what they are trying to do is optimise their underlying physiology – to do the best they can, with the things they can influence. In the vast majority of cases,

this will have a significant positive impact on quality of life and wellbeing. Sometimes (this is harder to quantify) it will have a significant beneficial effect on risk of cancer recurrence or progression (Ornish *et al*, 2005; Stagl *et al*, 2015; Thomas *et al*, 2016) but sometimes, the disease develops a momentum of its own and becomes unresponsive to human intervention – whether that is medical treatment or self-management attempts to support the immune system and restore the body's underlying balance. Avoiding guilt and over-responsibility, but still remaining open to the possible benefits of meaningful self-help is a fine balance to achieve – they are two edges of the 'sword' of empowerment. However, with appropriate support and guidance and the right framing at the start, people using Penny Brohn's services are generally helped to find and maintain this position of realistic hopefulness.

Realistic hopefulness vs false hopelessness

And realistic hopefulness seems a real key to living well, with and beyond a cancer diagnosis. In this world of increasingly available statistics, people sometimes feel that they become, and are treated as, 'average cancer patients' with a prognostic label around their necks – they stop being a person and become a patient with a shortened life expectancy. Often, as doctors we feel that one of our key responsibilities is to protect our patients with poorer prognoses, from unrealistic hopefulness or 'false hope', and in doing so, we run the risk of giving them 'false hopelessness', a term I first heard during a lecture given by the late author (Servan Schreiber, 2011) and neuro-psychiatrist, Dr David Servan Schreiber, who had himself been diagnosed with an aggressive brain tumour. False hopelessness, he argued, can actually be 'nocebic', ie it can act as a powerful negative placebo, reducing quality of life, and even negatively affecting cancer outcomes. Patients, even if their self-management steps have resulted in an improvement in functional status, or a reduction in their risk factors like smoking, obesity and physical inactivity – things which are known to improve prognosis across the board – report being constantly reminded by their oncologists that their cancers will definitely 'get them' in the end. Reference is rarely, if ever, made to the small number of well-documented cases of complete or prolonged remission from advanced disease that medics label as 'statistical outliers' with unexpected, 'spontaneous' remissions (Turner, 2015). In reality, most of the cases involved feel their remissions are far from 'spontaneous' and have a lot to do with the lifestyle changes they have made, although causation is obviously impossible to verify objectively. Although there are several oncologists around the country who don't conform to this stereotype, medical attention and multi-disciplinary team (MDT) decision-making is typically focussed on the behaviour of the cancer cells (the 'seed'), rather than on the whole person in whom those cancer cells are growing (the 'soil'), which is an area where, I would assert, there is always something helpful that can be done. How can we, as health professionals caring for people affected by cancer, make sure we 'do no harm' in the way we communicate around the question of hope?

Joy of living as the most sustainable motivator

Asha, Diana and Joan are all living with a cancer diagnosis, but they have learned that this need not become their defining feature. All humans live with the paradox of having to prepare for the future without knowing what is around the next corner, nor when they will die, and a cancer diagnosis just brings this into sharper relief. Asha, Diana, Oliver and Joan, are being helped to focus on the fact that they are all people with lives to be lived, and that cancer is only a part of this, and are being supported to prioritise and develop the things that bring more balance and joy into their lives, which will help each of them towards greater resilience. Each in their own way, will then be a bit more prepared and resourced for handling new, or ongoing, challenges, and they will have done what they can to increase their likelihood of living as well as possible for as long as possible. And this approach is likely to be the most effective way of supporting people to live well in the long term, because, for most people, although fear of dying can provide useful initial impetus, joy of living is a much more powerful and sustainable motivator.

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Breast cancer screening – an informed choice?

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As an NHS GP I have been following the overdiagnosis movement over the last few years. I also have a growing (and somewhat conflicting) interest in lifestyle and functional medicine. Having recently finished my GP training I am well versed in evidence based medicine and informed choice, both of which are noble ideals that I agree with in principle. In practice, however, it can be extremely difficult to deliver. On the one hand the 'evidence' is far from robust, and on the other not all patients have the resources or motivation to take control of their own health and make what can be complex decisions.

The advice women are given about the pros and cons of breast screening can be misinformed, and distorted by vested interest and bias. Women need to feel empowered to take control of their own health with reliable information and choice. Detecting signs of disease early is a good thing as long as investigations are not harmful and treatment options are likely to improve health and wellbeing. Because diet and exercise can reduce cancer risk, a 'diagnosis' or scare can be an opportunity for change to a healthier lifestyle.

'The central idea of early disease detection and treatment is essentially simple. However, the path to its successful achievement (on the one hand, bringing to treatment those with previously undetected disease, and, on the other, avoiding harm to those persons not in need of treatment) is far from simple though sometimes it may appear deceptively easy.'
Andermann *et al* (2008)

Introduction

Screening makes sense to health professionals and patients/laypeople alike. It intuitively feels like a good thing to do. If we catch something early we should be able to fix it before it causes problems. It saves lives, which is surely worth the minimal harms and the cost. Well yes; but only if it is a truly effective screening test and appropriately used.

A perfect screening test would positively identify everyone who has early disease, without falsely identifying anyone who is unlikely to get the disease. But identifying this precise group is only going to be worth the effort if there are treatments available which are more effective in the early stages of the disease than they would be later on. Also, the test itself should not cause any harm.

These issues not only make decisions about screening far from straightforward, but also ensure that evaluating screening programmes will be difficult.

Synthesis of emerging screening criteria proposed over the past 40 years

- The screening programme should respond to a recognised need.
- The objectives of screening should be defined at the outset.
- There should be a defined target population.
- There should be scientific evidence of screening programme effectiveness.
- The programme should integrate education, testing, clinical services and programme management.
- There should be quality assurance, with mechanisms to minimise potential risks of screening.
- The programme should ensure informed choice, confidentiality and respect for autonomy.
- The programme should promote equity and access to screening for the entire target population.
- Programme evaluation should be planned from the outset.
- The overall benefits of screening should outweigh the harm.

(Andermann *et al* 2008)

The complications of diagnosis

False positives
False positive results identify people as having the disease when actually they don't. Unnecessary further investigation, treatment and worry will inevitably follow.

False negatives
False negatives are screening results that fail to pick up people who do have the disease. This may delay a proper clinical diagnosis as the patient, wrongly reassured may not seek medical advice when subsequently she notices warning symptoms.

Overdiagnosis
Overdiagnosis occurs when doctors diagnose and treat people with early disease that would have resolved naturally or never caused a significant problem. Over-diagnosis leads to unnecessary treatment and causes needless concern for the people it labels. It will also, by including in its number well people, make a screening programme look more effective than it really is.

Lead time bias
As you can see in Figure 1, in a typical example of the natural history of cancer, the length of time between the onset of the cancer and death are the same. However, because screening in this case makes the diagnosis earlier the survival time seems to be longer.

Length time bias
A faster growing and more aggressive type of cancer is more likely to be picked up clinically without screening. On the other hand a slower growing tumour, which is less likely to lead to early death, in a screened population is more likely to be picked up on screening before it is clinically detectable. Once again perceived survival time will appear longer in those who are screened.

Selection bias
People who perceive themselves to be at higher risk are more likely to seek screening. This selection bias could go either way but on the whole if screening attracts the 'worried well', or people who look after their health, the direction of the bias will tend to make screening look more effective than it is.

Publication bias
Publication bias is the result of more positive trials being submitted to journals for publication than negative trials. This may or may not be deliberate.

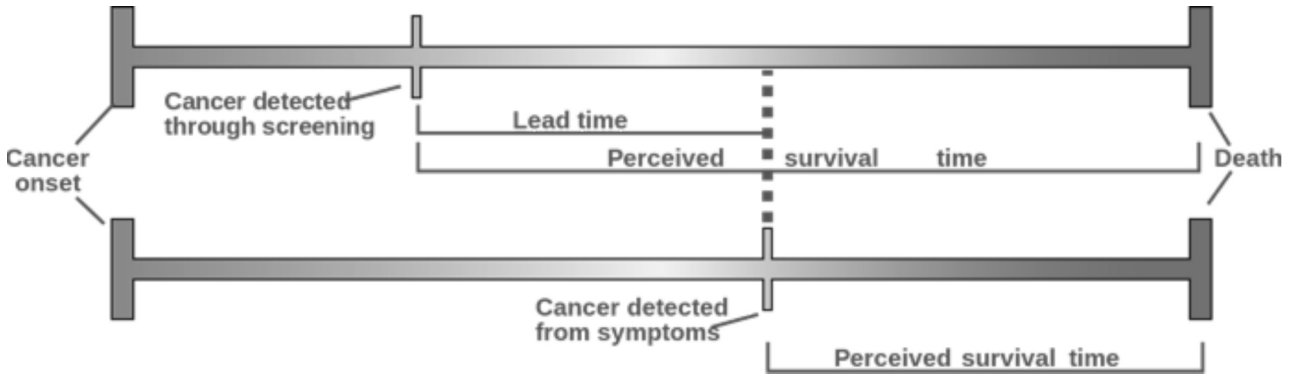
Mammography breast screening

Mammography was first introduced in the late 1970s to those deemed to be at high risk of breast cancer. It quickly turned into a mass screening programme, which in the UK is offered every three years to all women between the ages of 50 and 70. In England this age range is being extended to 47 to 73. Mammography screening is recommended in most western countries though age ranges and screening intervals vary. Why, then, did the Swiss Medical Board, after examining the data a few years ago, recommend against mammography screening and advise that programmes should be phased out?

The leaflet *NHS Breast Screening: helping you decide* states 'The NHS offers breast screening to save lives from breast cancer' […but] 'screening does have some risks. Some women who have screening will be diagnosed and treated for breast cancer that would never otherwise have been found, or caused them harm.' It acknowledges that there 'is a debate about how many lives are saved by breast screening and how many women are diagnosed with cancer that would never have become life-threatening' (NHS, 2015). It then goes on to give 'best estimates' based on the Independent Breast Screening Review (Independent UK Panel on Breast Cancer Screening, 2012) which estimates that one life is 'saved' for every 200 women screened (every three years between the ages of 50 and 70) but that three are overdiagnosed.

However the Nordic Cochrane Centre leaflet *Screening for Breast Cancer with Mammography*

Figure 1: Lead time bias leads to longer perceived survival with screening, even if the course of the disease is not altered



From https://en.wikipedia.org/wiki/Screening_(medicine)

(2008,2012) gives quite different numbers. After analysis of the trial data up to 2008 it estimated that for every 2,000 women attending screening over a 10 year period, 1 would avoid dying from breast cancer while 10 would be overdiagnosed and 200 would have a false alarm (false positive) result. In the 2012 edition it added that 'since these trials were performed, treatment of breast cancer has improved considerably. More recent studies suggest that mammography screening may no longer be effective in reducing the risk of dying from breast cancer.' It also explains that treatment of healthy women (ie those over-diagnosed) increases their risk of dying eg from heart disease and cancers. It concludes that it 'no longer seems beneficial to attend for breast cancer screening' (Nordic Cochrane Centre, 2012).

More recently the 2015 paper *Benefits and Harms of Mammography* presents similar numbers based on randomised trial data and more recent observational studies. The authors extrapolated data to a population of 1,000 women invited to biennial mammography screening for 20 years from the age of 50. Using 2007 UK population data they estimated two to three breast cancer deaths in this population would be prevented, but all-cause mortality would remain the same (Loberg *et al*, 2015).

Particular problems with mammography

Mammography involves pressing the breast between two plates to spread out the breast tissue. This pressure can cause significant pain. It can also potentially cause a cancer to rupture making spread of the cancer cells into the blood stream more likely.

Mammography also uses radiation. X-rays are well known to increase the incidence of cancer so the test itself may make a future breast cancer more likely, especially in those already at high risk.

Mammography is up to 98% sensitive in women with fatty breast tissue; however this drops as low as 48% in the very dense breast. Unfortunately high-density breast tissue is associated with a higher risk for breast cancer and more aggressive cancers. Once again we can see that this introduces a bias that makes screening look more effective than it is.

Overdiagnosis: overtreatment and harm in screening mammography

Ductal carcinoma in situ (DCIS) was a rare diagnosis before the introduction of screening but now accounts for about 20% of screen detected breast cancers. Its natural history is still poorly understood with many never becoming invasive cancer, yet 30% of DCIS is treated with mastectomy. The charge of overdiagnosis of DCIS is self-evident. However there is also evidence that without screening one-third of all invasive breast cancers (in the age group 50 to 69 years) would not have been detected in the patient's lifetime (Zahl *et al*, 2004).

Women who are overdiagnosed will have cancer treatment, which might include surgery, chemotherapy, radiotherapy and anti-oestrogen therapy. All these treatments incur costs, risks and potential harms. For example radiotherapy increases the risk of death from cardiovascular disease (CVD). Professor Michael Baum, a celebrated British surgeon, withdrew from routine screening in 1997 when the overdiagnosis issue became apparent. He has suggested that radiotherapy increases coronary heart disease risk by 30% (after 10 years). More recently Darby et al have suggested that the 'increase [in CVD risk] is proportional to the mean dose to the heart, begins within a few years after exposure, and continues for at least 20 years.' (Darby *et al*, 2013).

False positives

Across Europe the risk of a false positive for a woman undergoing biennial screening from age 50 to 69 is approximately 20%. A 2012 meta-analysis found that in the UK 2.3% of women with a false positive result had undergone a lumpectomy (Independent UK Panel on Breast Cancer Screening, 2012). These numbers are higher in the US with up to 50% experiencing a false positive at some point. After six months only 64% were given the all clear and it is only after two years that all women who had been given a false positive had been cleared (Loberg *et al* 2015).

Scares from false positive results can damage wellbeing for years and can also change healthcare-seeking behaviour; many people will use healthcare services more, though some will lose trust in the healthcare system (Loberg *et al* 2015).

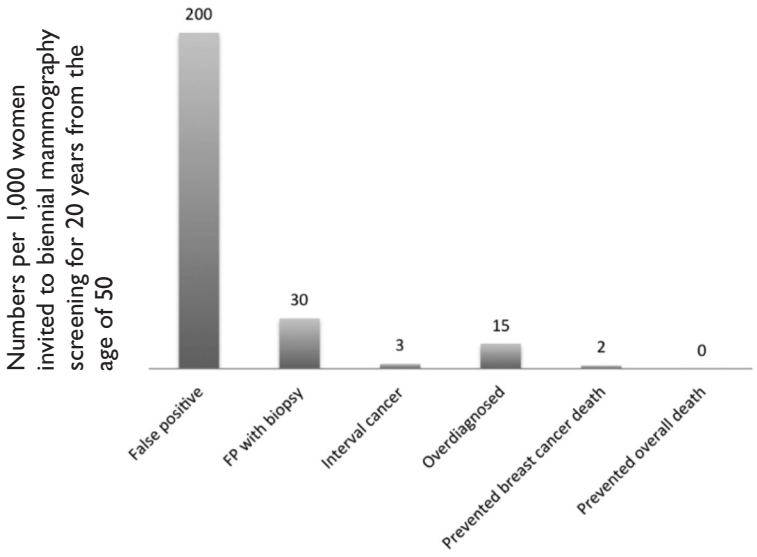
False negative tests and interval cancers

An interval cancer is one detected between screening rounds. It could have been present but undetected at the last screening or it could be new and rapidly growing. As many as a third of breast cancers found at screening are in this category (Løberg *et al* 2015). More sensitive techniques such as digital mammography, though they would reduce false negatives, would in all probability increase the rate of false positives and overdiagnosis.

Why these differences in expert opinion?

Besides all the difficulties in interpreting screening data, I believe a major part of the answer to this question lies in publication bias. A 2007 review of the literature declared that 'scientific articles tend to emphasise the major benefits of mammography screening over its major harms. This imbalance is related to the authors' affiliation' – the institutions they work for (Karsten Juhl Jørgensen *et al*, 2007). Others state: 'Articles in specialty journals were more likely to explicitly reject results from the Cochrane reviews, and less likely to accept the results and methods, than articles in general medical journals. Several specialty

Figure 2: Benefits and harms of mammography



(Løberg *et al*, 2015)

journals are published by interest groups and some authors have vested interests in mammography screening' (Kristine Rasmussen *et al*, 2013). In general, trials with negative results are twice as likely to remain unreported as those with positive results. This makes navigating the so-called 'evidence' extremely difficult, and can make a mockery of 'evidence based medicine'. To find out more about this please do look at www.alltrials.net, which is calling for all trials, past and present, to be reported.

Making an informed choice

A 2003 survey of more than 4,000 women across four countries, including the UK, found that most women believed screening at least halved breast cancer mortality and that 10 years of screening would prevent at least 10 breast cancer deaths per 1,000 women (Domenighetti , 2003). Although screening information for women has improved it still overestimates benefits and underestimates the harms.

It is important that women have access to unbiased information to enable them to make an informed choice. Yet even when women are best-informed about overdiagnosis it does not always decrease their willingness to take part in breast screening (Waller *et al*, 2013). Public awareness of breast cancer and the fact that it is so common makes women fearful. And this high perception of risk must influence the decision that so many women make to continue screening despite being aware of these issues. There is some evidence to support this. One study looked at young women's intention to screen in two scenarios: one a cervical cancer screening programme and the other a hypothetical non-cancer screening programme, with or without information on overdiagnosis. When overdiagnosis information was presented in the non-cancer scenario their perception of the risk of disease reduced. But in the cancer scenario information on overdiagnosis made no difference to the way they judged their risk of disease. In other words, negative emotion significantly predicted intention in the cancer group but not in the non-cancer group (Phillips *et al*, 2014).

Alternatives to mammography mass screening

Breast self-examination

'About 80% of breast cancers not discovered by mammography are discovered by women themselves, but this is most often as part of daily living, showering, getting dressed, etc, not as part of a systematic, regular breast self-examination (BSE). In one study, only 7.6% of breast cancer patients who had practiced BSE on a regular basis actually found their breast cancers while performing BSE. Thus, it is unclear whether BSE helps women in discovering breast cancer. Some people feel that the deliberate searching makes women overly anxious about breast cancer and unnecessarily fearful about every lump that they find'

(National Cancer Coalition, 2011).

Clinical breast examination

A physical examination by an experienced professional can be a very effective tool in picking up significant breast cancers. A Canadian study found that in women aged 50 to 59, the addition of annual mammography screening to physical examination had no impact on breast cancer mortality (Miller *et al*, 2000).

Digital mammography

Digital mammography, which uses a lower dose of radiation, is increasingly used over film mammography. It also allows images to be enhanced and manipulated, so potentially picking up subtler changes. Nonetheless it still involves compressing the breast between two screens.

Ultrasound

Ultrasound is usually used alongside mammography in breast clinics. It is safe and user-friendly and can detect cancer at comparable rates to mammography for tumours larger than 1cm. It is, however, operator dependent – some sonographers are more skilled than others – which is a definite drawback in screening programmes.

Thermography

Because thermal imaging uses a special camera to measure the temperature at the surface of the breast, it is

completely safe and non-invasive. Early functional changes such as increased blood flow and inflammation may be present several years before changes appear on a mammogram. Thermography is said to be 90% sensitive for detecting a cancer. It can identify changes even in women with dense breast tissue, though may be less reliable at picking up deeper cancers. A high false positive rate and overdiagnosis could be downsides and, though offered privately in the UK, it is generally not considered a reliable screening tool.

Targeted screening

Another approach to consider is a return to screening only those at higher risk of breast cancer, eg those with a family history and other risk factors such as obesity. This would save money and reduce overdiagnosis and false positive rates.

A different approach – healthier living

> '*Every human being is the author of his own health or disease*'.
> Buddha

I believe we need to rethink prevention and management of early signs of disease. For example some scientists and practitioners of functional and lifestyle medicine have become interested in the *correctable* metabolic processes that underlie many chronic diseases from cardiovascular disease to cancer. Insulin resistance (IR – the hormone insulin becoming less effective) and hyperinsulinaemia (unusually high levels of circulating insulin) constitute one important root cause. The level of inflammation in the body, the health of the immune system and the diversity of the microbiome (eg the gut bacteria) are also extremely important and intimately linked.

The mainstream medical community recognises that obesity is associated with a higher risk of breast cancer and that weight loss can reduce that risk. There is obviously a large overlap between obesity and hyperinsulinaemia and IR, but as some slim people have similar interrelated metabolic problems, it may be that it is an underlying metabolic factor, rather than obesity itself that raises the risk. For instance we know that higher insulin levels are associated with a worse prognosis in early breast cancer and probably influence the prognosis of metastatic breast cancer (Gennari *et al*, 2014).

Hyperinsulinaemia and IR are not usually tested for directly, but it is related to the metabolic syndrome, which is estimated to be present in up to 25% of the UK adult population. Diagnostic criteria for the metabolic syndrome include three or more of the following: increased waist circumference; raised blood pressure; raised blood glucose and triglyceride levels and low HDL (good) cholesterol.

The charity Prevent Breast Cancer funds research into diet and lifestyle. Its most recent approach is to use two days of a low carb, low calorie diet and five days of a healthy Mediterranean diet. Their trials have found their two-day diet 'is better than daily diets for weight loss and for lowering levels of the hormone insulin' (Prevent Breast Cancer, 2017).

There are many versions of this sort of diet, based on real foods, high in a variety of vegetables, low in carbohydrates especially wheat and sugar, high in healthy fats but avoiding processed seed oils which are pro-inflammatory. http://dietdoctor.com is one resource that I use with my patients. Some versions involve some degree of fasting, whether going several days without food or merely greatly reducing calorie intake for a couple of days a week or only eating within a six- to eight-hour window each day. All of these can be effective in normalising metabolism.

Stress reduction and exercise are also incredibly important, and, along with dietary changes, can help reduce hyperinsulinaemia and IR, as well as helping to reduce inflammation in the body, improve the health of the immune system and the microbiome.

Women need to feel empowered to take control of their own health. This starts by being given information and by having meaningful choice. I believe picking up signs of disease early can be helpful if the investigation itself is not harmful and the treatment options are going to improve health and empower the patient. A cancer 'diagnosis' or scare could be an opportunity for change to a healthier lifestyle. However, for this to become an affordable reality for the majority we need a paradigm shift in medicine and the NHS.

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What really happens during birth and how can a doula help?

Sophie Brigstocke

Doula; Doula course facilitator and breastfeeding supporter

My introduction to birth physiology came on a nurturing birth doula course a couple of years after the birth of my two children. In supporting many families during birth I have seen first hand how impactful environment and those involved in birth can be. Becoming a nurturing birth course facilitator in 2012, and now running the company, with Florence Etienne-Jackson, I am privileged to talk about birthing hormones with new doulas as well as pregnant mothers.

What do we really know about birth? How are people affected by media representations of birth? How do the hormones of labour work and how are they inhibited? What choices do women have and how can a doula support them in their decision-making? What does continuity of care mean? Does a woman's birth experience really matter? And what impact does birth have on the new baby?

How many lightbulb moments can you remember in your life? Those moments when suddenly everything slots into place, those jigsaw pieces re-arrange themselves and you see the whole picture for the first time. I see the same 'eureka' moment happening time and time again – with the individual women and families I work with to the groups of new doulas I teach, and I am both excited to see the moment happening and saddened that the awareness wasn't there before. The moment I am talking about is around birth physiology – the understanding of how hormones work in labour and how they can be disturbed.

If I ask a random group of people to describe what happens during birth then the most common responses involve contractions, waters breaking, dilation and pushing out a baby. With the amount of fearmongering stories that people like to tell, and our media's obsession with drama, there will often be vivid and horrifying descriptions – of women screaming, lying on their backs with their feet in stirrups, begging for pain relief, of torture-like instruments being wielded by white-clad strangers, lots of blood, a rush to the operating theatre, of life and death situations. Just writing about it makes me feel nauseous and fearful. However, it is incredibly rare in these conversations that anyone ever considers what is behind the physical sensations of birth. So, if we take a moment to look at what a woman's body is doing during labour we can gain enormous clarity.

The prime hormone of labour is oxytocin. The hormone of love. Produced in the hypothalamus, the mammalian part of the human brain, it produces strong, effective contractions of the uterus – in the earlier part of labour contracting the muscles of the uterus upwards to draw open the cervix – and in the later stages causing effective downward surges, helping to push the baby down and out of the birth canal. Endorphins, also produced in the same area of the brain, are released alongside oxytocin and are responsible for providing natural pain relief – nature's friends working side by side – one generating strong physical feelings, the other any necessary relief. So, in theory all should be well. A woman will feel strong sensations but her body will provide a natural antidote. However, many women report feeling overwhelmed, in pain and/or out of control. So, what is happening and why is the body not able to deal more effectively with 'pain'?

French obstetrician, Michel Odent describes oxytocin as a 'shy' hormone. And this is where a lot of the problems lie. Oxytocin requires certain conditions for it to be produced, and is very easy to switch off. If we consider one of the other instances in our lives when we produce oxytocin, it is perhaps easier to see how impactful a change of situation can be. Picture yourself staying with your loved one in a beautiful hotel – a romantic setting where you have perhaps just eaten a delicious meal by candlelight, maybe enjoying a glass of champagne, and have moved from dining room to bedroom where you and your partner are alone to caress one another, undress and start to make love. The atmosphere is loving, warm and intimate. Suddenly, the fire alarm goes off – really loud sirens sounding, bright lights come on in the room and hotel staff rush in to shepherd you out to safety in the cold street. It's not surprising that those warm, loving, pre-orgasmic feelings instantly disappear! It would also be surprising if the mood could be recreated in a hurry. Adrenalin, an oxytocin-killer, flooded the body when the fire alarm went off. It caused all levels of oxytocin to plummet, and endorphins too. During birth, adrenalin has a place, but only in the later stages – usually a hit of adrenalin is released just prior to the pushing phase, giving the mother an energy surge and impetus to clear the final hurdle. Any adrenalin released in the earlier stages of labour is generally detrimental.

> What is happening and why is the body not able to deal more effectively with 'pain'?

So, what are the main factors that impact oxytocin production and release? If we consider a mammal birthing – a cat bringing her kittens into the world for example – the likelihood is that she will choose a nesting place – somewhere dark, warm and quiet. In my childhood home it was always the back of my Mum's wardrobe, and once we realised that was where she wanted to be we would put in a box, lined with old towels, for her to cosy and settle herself in. In our hotel scenario the environmental factors that changed were light, noise and temperature. Women need that same sense of a nesting place – somewhere comfortable and private, warm and dimly lit. In addition to those environmental factors, which affect all birthing mammals, the human female has a couple of additional challenges. The human brain has a significantly larger neo-cortex than other mammals – the thinking part of the brain, the part that helps us to develop language skills, rationalise, discuss and debate, appreciate the arts etc. During labour if a woman is stimulated in the neo-cortex it draws the focus away from the mammalian part of the brain, the hypothalamus, which is where those all-important birthing hormones are produced. We need for women to be able to let go, shut off the world around them and access their primal state – the instinctive mammalian part of themselves. Fielding questions, having people talking to them, worrying about who is going to win the next general election, is all an unnecessary distraction, which can have an impact on those crucial birthing hormones. Similarly, the feeling of being observed can cause a woman to switch off – birth is generally a private event. If we return to our labouring cat, she is likely to stall birthing her kittens until she feels unobserved, safe and private, which is very disappointing for an excited child wanting to witness her first birth! But observation is more than being watched by people. In the hospital setting it can also include physical examinations – having your tummy palpated or a vaginal examination to establish dilation – or foetal monitoring. Women generally want to be mobile, active, able to get in to whatever position feels comfortable for her without being told what to do or being limited in any way.

> Women need to be able to let go, shut off the world around them and access their primal state

Bearing all of this in mind the questions we all need to consider when preparing for birth are, where and with whom? Given that we know that oxytocin production is likely to be impacted by our environment *and* the people around us surely we need to think far more carefully about what we would like for our birth experience than which brand of buggy to choose. As a doula I work with a wide range of women and families, all with unique circumstances impacting their choices and options. For some, once we have discussed birth physiology, the idea of a home birth becomes hugely appealing. Home is that couple's most familiar environment – their safe space, somewhere the labouring mum knows well and can move about in without restriction. Her bathtub is clean, her kitchen contains all the foodstuffs she finds most appealing, her bed is large, inviting, comfortable. There are spaces for her partner, midwives, doula to retreat to if she wants solitude and peace. For some, the idea of birthing at home doesn't suit, so the challenge is to create a 'nest' in a different setting – the hospital, birthing unit or maternity centre. Medical issues may dictate a more interventionist approach, and while a woman may be more limited in what she can do we are reminded by the brilliant charity Birthrights (www.birthrights.org.uk) that women have choice and that her experience of birth is most commonly affected by whether she felt she was given options and the power to decide.

Continuity of care is a phrase being used a great deal in the birth world at the moment. In Baroness Cumberledge's National Maternity Review 2016 she

identified lack of continuity of care as one of the key factors affecting women's experience of birth in the UK. It is certainly a huge challenge – more recent research done by the NCT and WI (www.thewi.org.uk/media-centre/latest-press-releases-and-statements/wi-and-nct-report-finds-women-unsupported-and-midwives-pushed-to-their-limits) shows that 88% of women have not previously met the midwife who supports them during labour. This is a distressingly high statistic when we consider that familiarity breeds reassurance and calm, and is therefore oxytocin-friendly. Pioneer sites across the UK are being encouraged to look at Baroness Cumberledge's findings and come up with innovative ways to address them; on a team that I am working on heads of midwifery are combining forces to share knowledge and ideas so that the general experience of women can be improved. But, given the limitations of our NHS and the shortage of midwives across the UK, this is not going to be resolved quickly or entirely satisfactorily.

> Experience of birth is most commonly affected by whether she felt she was given options and the power to decide

For me this is where the doula comes into her element. Hired independently by a woman or couple during pregnancy the birth doula can provide such support that there is a deeply established and positive relationship in place long before labour begins. A doula becomes aware of her client's individual needs, expectations, hopes and fears. She is able to ask her clients those all-important questions about where they feel most comfortable birthing, who they want to be there, what might have a positive or negative impact on them. She can signpost evidence-based information and research to help them come to decisions that feel right for them. She can empower, inform, challenge and nurture. The doula works with the couple and for them, but is able to liaise with the health care providers in a positive way, acting as advocate if necessary, helping to alert midwives or others to essential information about the couple, and provide practical support to the midwifery team when applicable.

Creative Commons, *Mother and newborn sleeping*, by footloosiety

> The doula works with the couple and for them, but is able to liaise with the health care providers

The doula is non-medical – she certainly is not going to make decisions on behalf of the mother, nor give her judgement or opinion, but she is able to facilitate positive discussion and provide evidence. But, ultimately, if we return to the original topic of this article, the doula understands, believes and respects birth physiology. She is able to hold the space for a labouring woman and her birth partners – she will help create and maintain that essential birth nest, the environment that will help a mother let go and enter her primal state. She will be a calm presence, aware of what is going on, gently giving reassurance to those at the birth to reduce any stress levels that may impact the labouring mother.

A doula's role doesn't rest with birth. There is a wealth of evidence to support how doulas reduce the number of interventions during labour, the need for pharmacological pain relief, caesareans, episiotomies, even duration of labour. Significantly more women who are doula-supported breastfeed successfully and for longer. And these statistics are important because what happens during pregnancy and birth has a bearing on the future of that mother and baby. A mother's mental wellbeing is impacted by the type of birth she has, and this, obviously, has a direct effect on the growing baby, the human baby who is programmed for connection, and whose brain is still developing and growing. If a baby is mothered by a woman who is depressed, in pain, traumatised or unwell they are less likely to get the necessary connection, feeding and bonding that they need to develop into a healthy adult. It is challenging stuff. It is my belief that doula support during pregnancy, birth and in the first few essential weeks of parenting is hugely and significantly beneficial to families and the wider community. I feel excited about the positive impact that doulas can bring as awareness of the doula role increases, more women and families choose doula support, conversations happen to look at how doulas can support our challenged NHS, relationships develop, grow and build. My long-term desire is that every woman should be able to access doula support regardless of financial circumstances. There is plenty being done to encourage that, so let's keep the ball rolling!

Nurturing Birth (www.nurturingbirth.co.uk) provides doula preparation courses, doula mentoring and the nurturing birth directory where parents can find support they need for pregnancy, birth, the postnatal period, infant feeding and beyond. To list as a complementary practitioner on the nurturing birth directory visit www.nurturingbirthdirectory.com.

Sophie Brigstocke recently won Doula of the Year at the 2017 annual MaMa Conference.

The superhero in your vagina

Kendall Powell
Freelance science writer

I have been a freelance science writer for the past 14 years after having trained in cell and molecular biology. I am particularly drawn to stories about women's health and reproductive biology. I've written about why epidurals are safe for mom and baby for the *Los Angeles Times* and about the practice of female genital cutting for *Nature Human Behaviour*. While interviewing a vaginal mucus researcher for another assignment, he asked, 'Did you know that bacterial vaginosis affects nearly one-third of US women?' I knew I needed to tell this story of a common bacterial imbalance that leads to life-threatening risks for women and their children.

While it's healthy to have a variety of bacteria in our guts, there's one place where a single dominant type is best: the vagina. Kendall Powell meets the researchers trying to make the world healthier, one vagina at a time.

The aisle is marked with a little red sign that says 'Feminine treatments'. Squeezed between the urinary incontinence pads and treatments for yeast infections, there is a wall of bottles and packages in every pastel shade imaginable. Feminine deodorant sprays, freshening wipes, washes for your 'intimate area'.

Vaginal odour might be the last taboo for the modern woman. I've actually driven to the SuperTarget two towns away from where I live so as to not run into anyone I know while scrutinising the various products that exist for cleansing, deodorising and rebalancing the pH of your vagina (I still bumped into another PTA mom in a neighbouring aisle).

The companies behind these products know that many women are looking for ways to counter embarrassing and debilitating symptoms such as vaginal odour and discharge. The culprit is often bacterial vaginosis, the most common vaginal infection you've probably never heard of. Nearly one-third of US women of reproductive age have it at any given time. The sad truth is that these sprays, soaps and wipes will not fix the problem. They will – in many cases – actually make it worse.

But while women try to mask embarrassing smells, a more sinister truth also remains under cover: the bacteria responsible are putting millions of women, and their unborn babies, at risk from serious health problems. All of which is making researchers look anew at the most private part of a woman's body, to understand what it means to have a healthy – some prefer 'optimal' – vagina and why that is so important for wider health.

Compared with those of other mammals, the human vagina is unique. As warm, moist canals exposed to all sorts of things including penises, babies and dirt, most mammalian vaginas harbour a diverse mix of bacteria. However, for many women, one or another species of *lactobacillus* has become the dominant bacterial resident.

Lactobacillus bacteria pump out lactic acid, which keeps the vaginal environment at a low, acidic pH that kills or discourages other bacteria, yeast and viruses from thriving. There are even hints that certain *lactobacillus* species reinforce the mucus in the vagina that acts as a natural barrier to invaders.

Although no one knows for sure, researchers speculate that human vaginas gained their *lactobacillus* protectors around 10,000–12,000 years ago when humans began fermenting milk and eating foods like yoghurt and cheese, which are full of the bacteria.

Certain *lactobacillus* may have expanded their territory to colonise

the vagina – travelling the short distance from the anus to the vaginal opening. There, they found their perfect environment, a low-oxygen chamber that, during a woman's reproductive years, has an abundant supply of the sugars lactobacillus feed upon.

> Compared with those of other mammals, the human vagina is unique

For the most part, we've been happily cohabitating ever since, but it's a delicate balancing act. Normal intrusions to the vaginal environment, such as semen (which causes vaginal pH to rise) or menstruation, can reduce numbers of *lactobacillus* and allow other microbes, including those associated with bacterial vaginosis (BV), to flourish.

Mary's BV started just a few weeks after she had her hormonal intrauterine device inserted.

Like many women, Mary, 37, was recommended the device for birth control by her doctor after she had her first child. After a few weeks, she noticed some worrying symptoms: increased vaginal discharge and a fishy smell. Mary thought she had a yeast infection and took over-the-counter medications, but when it didn't clear up she headed back to her gynaecologist's office.

Her doctor explained that BV is a disturbance of the natural balance of bacteria that live inside the vagina. Sex with someone new, having multiple partners, and douching – rinsing out the vagina with a bag or bottle of liquid – can all contribute to getting BV, but it is not classified as a sexually transmitted disease. Mostly, how a woman develops BV is still a big mystery.

Mary's doctor treated her with a week of antibiotics, the standard treatment, and her BV cleared up. But, as happens to roughly half of the millions of women in the US who have BV at any given time, Mary's infection kept coming back. 'I was getting it once or twice a month, which was too much for me as a PE teacher and coach,' she says.

'When it's going to come up on you and the smell is ridiculous, you just had to make sure you were always prepared with cleansing wipes, spray and sanitary napkins,' she says. 'If it happened and you weren't prepared, it would be "a horrible day".'

And if the embarrassment and discomfort weren't enough, BV has a far more menacing side. Women affected have a higher risk of contracting sexually transmitted infections (STIs) like gonorrhoea and chlamydia, acquiring and transmitting HIV, and having pelvic inflammatory disease (which can lead to infertility) and other vaginal and uterine infections. During pregnancy, BV gives a woman a greater chance of having a pre-term birth or passing infections to her baby, both of which can lead to life-long problems for the baby.

What's more, BV rubs salt in the wounds of health inequality, affecting African American, Hispanic and Mexican American women more than white women, poor women more than rich women, and uneducated women more than educated women in the US.

> Approximately half of women with BV have no symptoms and don't even know they have a problem, let alone one that's putting them in harm's way

Mary is currently pregnant with her third child. She's not worried, however, because she's so familiar with BV now that she knows the first signs and gets treated immediately. But approximately half of women with BV have no symptoms and don't even know they have a problem, let alone one that's putting them in harm's way. For many, they believe that's just the way their vagina is.

Before her intrauterine device, Mary had never had a problem with BV. She got the standard hygiene lecture from her gynaecologist: external washing of the vulva should only include water, or a mild, non-foaming soap. No scents, perfumes or bubble baths. Take showers, not baths. And douching? Absolutely not!

Douching of any kind disrupts the balance of good bacteria and is associated with increased risk of BV. Folklore about the need to clean out the vagina – especially after sex or a period – is often handed down from older relatives to younger women. But the vagina is remarkably adept at taking care of itself if left undisturbed.

'Your vagina is like a self-cleaning oven', says one gynaecologist. It doesn't need any special help.

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When Sharon Hillier joined King Holmes's laboratory at the University of Washington in Seattle in 1982, BV was called 'non-specific vaginitis'. 'What kind of crazy name is that?' Hillier says. It was a catch-all diagnosis given to women who had vaginal infections of unknown origin – not yeast infections or common STIs like chlamydia or trichomoniasis.

The mystery drew Hillier in. She knew she needed to stay in the field when, during one brainstorming session with mostly male colleagues, someone suggested that women with BV were sexually repressed or feeling sexual guilt. This idea was 'completely crazy' to Hillier.

'A fishy odour was considered to be so common and meant you were a woman who had too much sex or the wrong kind of sex. It created tremendous amounts of concern for women', and still does today, says Hillier, now a microbiologist at the University of Pittsburgh. 'It gets to the core of how we feel about ourselves.'

The Holmes lab did much of the early work to describe, and eventually name, BV. In the early 1970s, it

was apparent to Holmes that BV was one of the most common reasons women came to the obstetric/gynaecology clinic. At that time, the treatment was a vaginal cream that Holmes thought was 'almost useless'. In 1978, he had a colleague, Terrence Pheifer, run a clinical trial to find out if oral antibiotics worked better. They didn't, but serendipity struck during the trial.

> Douching of any kind disrupts the balance of good bacteria and is associated with increased risk of BV

A woman came in with both an STI and signs of BV. The protocol was to treat the infection first with the antibiotic metronidazole before giving other drugs for BV. 'Lo and behold, her BV went away', Holmes says. They immediately substituted metronidazole into the study and showed that it cleared up almost every case of BV. Nearly 40 years later, it's still the treatment of choice.

Around the same time, members of Holmes' lab were figuring out how to diagnose BV. Richard Amsel had noticed that besides discharge, women with BV had vaginal fluid that was less acidic and had 'clue cells' – cells decorated with bacteria – in their vaginal swabs.

Pheifer stumbled upon a third criterion, the 'whiff test'. He brought a test-tube of vaginal fluid from a patient with BV into Holmes's office and added a few drops of potassium hydroxide. 'A really foul, abnormal odour was instantly released from the fluid,' says Holmes. His colleague next door, a biochemist, wandered over and remarked 'Aha, amines!' The bacteria had released chemicals named putrescine and cadaverine, after their pungent smells.

Holmes felt the syndrome should be renamed bacterial vaginosis, which loosely translates to 'too much bacteria'.

Designed by Freepik

And fulfilling three of the four Amsel criteria – thin vaginal discharge, vaginal pH greater than 4.5, positive whiff test and clue cells – is still used by many doctors today to diagnose BV.

In 1995, Hillier and a young medical resident, Craig Cohen, showed that HIV and BV were intimately entwined: sex workers in Thailand who had BV were four times as likely to be HIV positive as those without BV. Since then, epidemiologists have also found that having BV increases women's risks of contracting all other STIs, going into pre-term labour, and having other pregnancy complications.

A renaissance in BV research is afoot since the Holmes lab's heyday, thanks largely to the ease and speed with which the bacteria living in the vagina can be genetically sequenced and identified. Researchers can now catalogue entire bacterial communities, or microbiota, and begin to sort out what happens inside healthy vaginas and what goes awry in BV.

They are realising that all *lactobacillus bacteria* – long thought to keep vaginas healthy – are not created equal. For some researchers, *l. crispatus* is emerging as the vagina's superhero. It not only pumps out the best mix of two different types of lactic acid to keep the vagina inhospitable to other bugs, but it also fortifies a woman's vaginal mucus to trap and keep at bay HIV and other pathogens.

> A renaissance in BV research is afoot thanks largely to the ease and speed with which the bacteria living in the vagina can be genetically sequenced and identified

To confuse matters further, some of the vaginal villains deemed the culprits in BV, *gardnerella*, *prevotella* and *atopobium*, have been found in the vaginas of healthy women.

In 2011, Larry Forney, an evolutionary ecologist at University of Idaho in Moscow, and Jacques Ravel, a microbial genomicist from the University of Maryland School of Medicine in Baltimore, sequenced the bacterial species found in the vaginas of nearly 400 North American women who didn't have the symptoms of BV. They found five different types of bacterial community. Four of these were dominated by different lactobacillus species, but the fifth contained a diverse mix of microbes (including *gardnerella*, *sneathia*, *eggerthella* and *mobiluncus* species), many of which have been associated with BV.

It came as a surprise to find that there were several different kinds of healthy vaginal microbiota – including one that wasn't dominated by *lactobacillus* at all.

When Ravel and Forney sorted their results based on the women's ethnicities they got another surprise. For each ethnic group, there was one bacterial community that was by far the most common, present in roughly 40% or more of those women.

For white women, it was the community dominated by *l. crispatus*. For Asian women, it was the one dominated by *l. iners*. For black and Hispanic women, it was the diverse one. These community differences may explain why black and Hispanic women have higher rates of BV. But Ravel contends that we still don't fully understand what determines vaginal health.

Ultimately, it probably comes down to the functions each bacterial species performs in the vagina with its mix of neighbours, he says. 'All of those microbiota [communities] might be very healthy.' However, he concedes that the diverse community type, though found in many healthy women, could still carry higher risks.

> It's still unclear if unprotected sex is always a BV risk or if it depends on having a partner with a certain bacterial profile

Forney is also not convinced that vaginal health is as simple as having *lactobacillus* and an acidic vagina. For one thing, young girls and post-menopausal women have much less acidic vaginas, which are still healthy.

'All kinds of things – lubricants, semen, bacteria, faeces – get put into the vagina', says Forney. 'But most women are healthy most of the time.' He and other microbiologists would like to discover the keys to that resilience, which probably relies on interactions between the vaginal wall cells, the microbes living there, and the woman's immune system.

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In 2006, reproductive epidemiologist Jenifer Allsworth set out to determine just how many women in the US were affected by BV. Crunching data from a national health survey and 3,727 vaginal swabs analysed by Hillier's group, Allsworth showed that 29% of all US women aged 14–49 were positive for BV. At the time, that represented a staggering 19 million women.

When Allsworth broke down the data by race, only 23% of white women were positive for BV, compared with nearly one-third of Mexican American women and over half of African American women.

Her analysis also showed that BV rates were higher in women whose education had stopped at or before high school, and in women whose family income was near or below the federal poverty level. The infection was much more common in women who had douched in the last six months – and, somewhat surprisingly, it was present in 15% of women who reported never having had sex.

That shows that BV is a 'natural process' on some level, says Allsworth, now at the University of Missouri-Kansas City School of Medicine. Even so, she calls the much higher rates of BV in certain groups 'pretty shocking'. What might account for these differences? She says we don't know yet, but she suspects it has a lot to do with social networks: 'Whose micro-organisms do you come in contact with?'

> Another huge health inequality plays out across the Atlantic. In Africa, black women living in poverty face the burden of both BV and HIV

It's still unclear if unprotected sex is always a BV risk or if it depends on having a partner with a certain bacterial profile, says Allsworth. The changes in vaginal bacteria that result from sex are natural, 'but we really don't understand how to support the disrupted vagina and get it back to a healthy state', she says. 'We don't even really know what "healthy" is.'

And, Allsworth notes, the work raises more questions than it answers: Have the women without a dominant *lactobacillus* never had it or did they lose it somehow? What is it about certain bacterial cocktail parties that create an advantage for BV?

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Another huge health inequality plays out across the Atlantic. In Africa, black women living in poverty face the burden of both BV and HIV. As among African American women in the US, BV is common: around 38% of women in Kenya, Rwanda and South Africa had it in a 2014 study. Many women in Africa practise traditional vaginal washing, deodorising and tightening that, like douching, make BV more likely.

BV puts women at increased risk of both acquiring and transmitting HIV. It's been estimated that having full-blown BV or even simply an altered population of bacteria in the vagina (a precursor to BV) accounts for 29% of new HIV infections among women in Zimbabwe and Uganda. In 2012, Craig Cohen, now a professor of obstetrics, gynaecology and reproductive sciences at the University of California, San Francisco, led a team that followed more than 2,200 African couples and discovered that having BV tripled a woman's chances of transmitting HIV to her uninfected male partner.

Vicky Jespers found the rates of BV in Africa 'staggeringly high', especially compared with the mere 10% of women who have it in Belgium, where she's an epidemiologist at the Institute of Tropical Medicine in Antwerp. For the past two decades, she and her collaborator Janneke van de Wijgert at the University of Liverpool have been searching for answers to vaginal ill-health in Africa.

A clinical epidemiologist, van de Wijgert paints a picture of how BV raises the risk of HIV. If a woman's vagina becomes more bacterially diverse, the total quantity of bacteria also shoots up dramatically. This causes her body to ramp up its immune response in the vagina: it secretes inflammatory chemicals, summons immune cells – which also happen to be the cells that HIV targets – and sheds vaginal cells. Her mucus barrier becomes less viscous and breaks down. All of which increase a woman's risk for HIV, says van de Wijgert.

Unfortunately, screening for and treating BV has not worked as a way to prevent HIV infections. Jespers says that, logically, it should. But there are too many confounding factors, including difficulties with diagnosing BV in rural areas and the high recurrence rate after using metronidazole to treat it.

We are also learning from African women clues as to why BV is exacerbated by sex. Beyond simply disrupting the vaginal environment or pH, it's very likely that male partners also inject BV bacteria living on their penises – especially if they are uncircumcised ones. Studies of whether circumcising men can reduce HIV risk have also revealed that circumcision lowers the recurrences of BV in their female partners.

It's not hard to fathom that we are constantly swapping microbes with our sex partners. However, Cohen has found that treating men with metronidazole or even slathering their penises with alcohol hand gel before sex does not protect their partners from BV recurrences.

The African studies leave researchers clamouring for better solutions for these women. Like others, van de Wijgert believes that the solution lies in getting the right bacteria to set up house in women's vaginas. In 2014, she found that Rwandan sex workers with *l. crispatus* dominant in their vaginas were less likely to have HIV and other STIs. This bacterium may have even protected the clients of HIV-positive sex workers somewhat, because these women were also less likely to shed HIV in the vagina.

Running with this idea, van de Wijgert is currently testing two vaginal probiotic products in Rwanda to see if they can prevent BV recurrences. Both products, capsules inserted into the vagina, are available over the counter in Europe. However, they contain lactobacillus strains found in both the vagina and the intestine, some of which have a poor record of colonising the vagina effectively. In the US, Cohen has launched the next phase of the only clinical trial of a vaginal probiotic that contains *l. crispatus*, called *lactin-v*.

'The health burden of not having good vaginal microbiota is enormous,' says Richard Cone, a biophysicist who studies vaginal mucus at Johns Hopkins University in Baltimore, Maryland. He notes that very few women in Africa carry *l. crispatus*. An effective, long-term cure for BV would be lifesaving for women and their children, he says. 'Anything we can to do help more women, more of the time, have *Lactobacillus crispatus* in their vaginas, then the world will be a better place.'

Cone has good reason to feel so passionate. He and his collaborator Samuel Lai, from the University of North Carolina in Chapel Hill, have found some of the first clues as to how BV leaves women vulnerable to HIV and other deadly infections.

Last year, with colleagues, they found that fresh mucus samples from 31 women varied greatly in their ability to trap HIV particles in the laboratory dish. In some samples, the viral particles passed rapidly through a mucus layer as wide as that in the vagina, about eight hundredths of a millimetre.

This was a huge clue that, for a woman like Mary, a thin, runny discharge is more than just a nuisance requiring multiple pantyliner changes per day, it is a betrayal of her body's natural protection.

Not all mucus samples behaved the same. In others, the HIV particles were stuck tight, as if immobilised in gelatin – Lai and his colleagues calculated that some mucus could trap over 89% of virus particles. These sticky mucus samples had a higher level of D-lactate, a form of lactic acid produced not by humans but by certain bacteria. That hinted that mucus strength depends on the different vaginal bacterial residents.

Looking at their bacterial make-up, the women's samples fell neatly into three groups. The one that stopped HIV in its tracks was dominated by *l. crispatus*. The other two had low levels of D-lactate and let HIV slip right through – even though they contained other species of *lactobacillus*, such as *l. iners*.

Gynaecologists have long considered women with any lactobacillus dominating their vaginal bacteria as healthy. But Lai says that women with *l. iners* might be just as vulnerable to HIV transmission as women with BV, a finding that 'really shocked' him.

In other words, which *lactobacillus* species a woman has in her vagina might mean the difference between HIV infection and protection.

Even though HIV is such a terrible infection to fight, it's 'a wimp during transmission', according to Lai: it takes, on average, many exposures through sex – estimates range from 100 to 1,000 – for just one or two virus particles to successfully infect the host. With such a low probability of transmission, finding ways to reduce virus flow to the vaginal walls by boosting the mucus barrier would effectively decrease HIV transmission, says Lai.

'We've probably underappreciated how well women with *l. crispatus* can defend themselves against HIV and other STDs',"says Lai. '[The vagina is] the battlefield where we want to fight because that's where HIV is at its weakest.'

More evidence that certain bacteria can alter vaginal mucus, leaving women vulnerable to infection, is coming from Washington University in St Louis.

There, microbiologist Amanda Lewis and her biochemist husband and research partner Warren Lewis have found that enzymes called sialidases in BV vaginal fluid can chew off the ends of an antibody component found in vaginal mucus. Normally, this antibody acts a

sentinel to recognise foreign invaders and flag them to the immune system. But the BV activity made the antibody more vulnerable to degradation.

The Lewises have also shown that *gardnerella vaginalis* bacteria produce sialidases, which trim off the ends of sugar molecules that decorate the surface of mucins, a key component of mucus. Amanda suspects that this degradation of antibodies and digestion of vaginal mucus leaves women with BV vulnerable to nastier infections.

> Uterine infections are a common cause of pre-term birth

Now, she and her colleague Nicole Gilbert will use a mouse model of *gardnerella* infection, which shares several features of BV, to investigate whether this infection puts mice at risk of infections from *prevotella* and group B Strep, which can cause uterine and placental infections in pregnant women. Uterine infections are a common cause of pre-term birth, but little is known about how vaginal bacteria cross the mucus barriers that protect the uterus.

Although pre-term birth, defined as birth before 37 weeks of gestation, is the leading cause of infant death in the US, there are few answers about what triggers it or how to prevent it. One in ten babies born in the US will be pre-term, but rates are higher in low-income black communities – in the urban centre of St Louis 15% of babies arrive too early. Many of those born before 28 weeks who survive will have lifelong health issues such as chronic asthma, brain damage or blindness.

The Lewises are determined to see that their experiments lead to better options for women.

In the US, BV is a huge issue for low-income, minority women, not only for their sexual and reproductive health but also for their quality of life. Hilary Reno, an infectious-disease physician in St Louis, thinks that her patients can, at times, feel almost punished for having certain diseases. These diseases are often neglected in research, she says, and therefore have few effective treatments. 'There's no advocacy group for keeping our vaginas healthy,' Reno says.

She sees BV as a health inequality that piles onto the problems of an African American community that already faces higher rates of preterm birth and higher rates of certain STIs.

Reno isn't worried about recruiting women to the *lactin-v* trial, designed to test the ability of *l. crispatus* to prevent BV recurrences. She knows from previous studies that many African American women in her community struggle (or know someone who struggles) with BV and want to help find a better cure. Also, women with BV come into the local walk-in sexual health clinic she oversees nearly every day because it's convenient and free.

Lactin-v is a freeze-dried powder of *l. crispatus* originally isolated from a healthy woman, made by a Californian company called Osel. It's delivered via a tampon-like device. In initial studies, women found it easy and comfortable to use, and the *l.crispatus* colonised 11 out of 18 women.

Craig Cohen sees the lack of a highly effective treatment for BV as keeping this major health problem off most people's radar. There's been no way to break the associations between BV and HIV and pre-term birth because our current treatment leaves between one-third and two-thirds of women still suffering. We won't see breakthroughs until we have a better treatment that keeps the vast majority of women BV-free for six months or more, says Cohen. 'We need not just better antibiotics, but better approaches.'

Mary has tried to gently educate her high-school students in the girls' locker room when she gets a whiff of that unmistakable smell. She pulls them aside to make sure they understand that it's a problem caused by bacteria and that their doctor can treat it. But when she's out at a nightclub and women are cracking jokes about another woman in the restroom ('She nasty! She don't take baths!'), Mary finds it harder to speak up.

'I've wanted to say something, but then that puts you out there. The moment I say something, it will be like, "Well, how do you know that?"' she says. 'It's still a very personal issue.' She's also struggled in the bedroom to explain the condition to her partner. 'You can't do oral sex, you can't really do much of anything until it's gone away', she says. 'The doctor recommended not having sex, but I don't think you can tell a fiancé or husband that.'

Like Cohen, both the Lewises and Cone believe real progress can't be made on these problems until we have a better treatment for BV – one that cures most women. 'Then women would not be buying boric acid and homeopathic suppositories and going back to their gynaecologists all the time,' says Warren Lewis.

Cohen can see a future where metronidazole gel and products like *lactin-v* might be sold together over the counter – which would put BV in the pharmacy aisle, on the magazine ad page and, importantly, on people's minds. Such a treatment would bring real relief to women shopping among those shelves of deodorisers, wipes and cleansers that do nothing to help cure the infection.

It could also bring BV out of the shadows. 'We need to get on top of it,' says Mary. 'So women can treat it and talk about it. It should be just like a yeast infection… not such a shameful issue.'

This is an edited version of an article [https://mosaicscience.com/story/bacterial-vaginosis] first published by Wellcome [www.wellcome.ac.uk] on Mosaic [www.mosaicscience.com] and is republished here under a Creative Commons licence.

For more on vaginal microbiota, gynaecologic and reproductive health see www.ncbi.nlm.nih.gov/pmc/articles/PMC4818402

Odyssey

Fiona Hamilton

She walks out one morning
heading for the river's
shelves of flint and chert
passing a scarlet shop
bric-a-brac, bins
beer cans, buses

She notices remnants of bunting
traffic lights winking, messages
while imagining sandstone
quartzite, *Arabis scabra*
Veronica spicata
amethyst and tarragon

For a while her footsteps loosen and drift
under flight paths of
bullfinch and marsh tit
and invisible aerial dances
of pauper pugs, silky wave moths
white-letter hairstreak butterflies

But she falls, slipping
on crinkly black chocolate box wrappers
crumpled under a rock's shallow face
and are led astray by dogs
to caves where everything echoes
except her

Then somehow, without a map
or compass, without
reading stars or the faces of men
she emerges slowly into daylight
where, at first, oblivious smilers parade
sumptuous day-glo ice creams

She turns a corner, finds companions in snails
and horses, and unexpected friends
with an eye for detail and good balance.
She realises she is her own uncharted territory.
When she has mapped, wept
and understood, that's when
the homecoming begins

Fiona Hamilton is a therapeutic writing practitioner, author and mother of three. Her published poetry includes *Skinandi* and *Poems for People*. BBC Radio has broadcast some of her short fiction and poems and she has written scripts for theatre and community projects, including *Mountains* and *Travelling in Time*. She teaches with Metanoia Institute and Orchard Foundation, and lives in Bristol.

Rewiring our body to pleasure

Kalindi Jordan

I am the creator and facilitator of sensuality courses and sexual healing processes for women and couples. I also teach teenagers emotional intelligence around sexual intimacy. I have been in the world of complementary health since 1993 when, at age 17, I trained in anatomy, physiology and massage. Now, at 41, I have had 24 years of exploring the world of touch, with the last 7 years being more focused around sexuality and communication. It gives me great joy to see the transformation that is possible. I have found that when a woman feels safe to express her sexual appetite, free from pain and discomfort, and she is met in relationship in a satisfying way, this massively increases her enjoyment and quality of life, her ability to mother and her creative energy.

As a creator and facilitator of sensuality courses, the author's experience of people's sexual life convinces her that many feel disconnected and unsatisfied. She proposes that sexual confidence and joyful expression have a healing effect on many areas of life: on the other hand that suppression, restriction and shame of these natural process can lead to disharmony. The article considers the long-term influence of early sexual experiences, how we might re-educate ourselves effectively, and briefly explores how arousal differs between men and women.

Introduction

It seems surprising in our seemingly liberated age that many people's sexual experience is one of disconnection and dissatisfaction, and that this is not something more often brought to the attention of main-stream media. I have learned from many women that deep down their hearts are aching, for they long to know themselves and be totally met by another. Some part of them yearns to explore their deepest sensual and sexual nature, for they often feel unfulfilled, unappreciated and that they have not experienced their true glory as women. And so their bodies have tightened, closed up, inhibiting their pleasure and restricting their orgasms. Their heart may have closed too, causing sadness, loneliness, isolation, physical and emotional pain and perhaps in many cases even dis-ease in the body.

It is my belief that sexual confidence and joyful expression has a healing effect on many areas of our life. On the other hand suppression, restriction and shame of these natural process can lead to disharmony in our lives.

Ann (not real name) came to see me because she could not fully relax while making love and consequently could not experience orgasm with her partner. As she shared her life journey it came to light that she had also been suffering from anxiety on a regular basis, mostly in the mornings, for the last four years. We had a journey of three sessions where we explored the psychological, emotional and physical aspects of her sexual experiences. I also gave her processes to explore on a daily basis between sessions. And as Ann started to see improvements so she was motivated to persist with her daily practice. Soon I received a very excited text: 'I had my first orgasm with my partner!' Three months later when Ann came for a follow-up session, she looked and felt like such a different woman. While she was talking about her new business idea, I asked 'how about your anxiety?' She had to stop and think and I remember her laughing and saying that she hadn't felt anxious since working with her intimacy and sexual experience and that she had forgotten all about it!

So I want to consider in this article how early sexual experiences can send ripples throughout our lives; and if that's had a negative impact, ask how we might re-educate ourselves and addressed this effectively. I will also

briefly explore arousal and how it differs between men and women.

Habits of being

When we have a new experience, a new neural pathway is created. That's the nature of neuroplasticity. Every new experience potentially changes our behaviour. That's how we learn and adapt. If we repeat the experience, or the experience is particularly strong, more impulses flow along the pathway. Neurons that fire together wire eventually together – which is why we learn by repetition. The more you drive a route home the more natural it becomes and eventually you just get home without even thinking about where you are going. In this way we form habits – some that deplete us as well as some that can renew us. This means it's possible to make empowering changes that re-wire our sexual neural pathways. We can actually rebuild a brain-body network that is more fulfilling.

One of the most common complaints I hear from women is that their man doesn't know how to pleasure them correctly. Over the years that I have been helping women learn to receive the pleasure that they crave, one thing I have learned is that it needs to start with them: not with their lover, but with themselves. So I begin this journey of expansion by exploring how a woman first began touching her own body in a sexual way – or not as the case maybe. Unnecessary shame still lingers in our society around body self-exploration and unless addressed it can have a lifelong knock-on effect.

When we are teenagers we start to feel changes in our body. Our touching may move away from general exploration to a more goal-focused experience, ie masturbation. This is a key time in which our body begins to learn how it will receive (or effuse) sexual pleasure and what it needs to achieve pleasure and release.

When we start to touch our bodies sexually we begin build our touch-based neural responses as well as our emotional and psychological responses. And the two of course become interlinked.

The role of parents

As parents we need to contemplate what kind of sexual relationship as an adult we would like our child to experience. Of course, in this regard our own experience will profoundly affect the ways we think, feel and act. My personal preference would be to encourage experiences that are full of safe exploration, joy, playfulness, love, and pleasure; that involve being heard, feeling safe, a sharing that's equal and honorable, that shows respect and self-care. As parents we may support this by encouraging our children to relish their bodies and senses as the amazing creation that they truly are; by educating them to look after their body, listen to it, and to feel that exploring it it is their birthright. If we can teach our children to understand their body not just anatomically, but also to know how it feels and responds, then their emerging sexual explorations will have a firm foundation in a healthy relationship with their body and their feelings.

If self-touch and exploration are kept in the shadows confusion and shame can grow. By not being open with our children we imply that self-exploration is not healthy and natural, when in fact it is an essential part of learning how we function and feel. Otherwise we do them a huge disservice. Unfortunately many of us have grown up believing that touching our body sexually is not OK. To make sexuality not OK or unsafe in some way will create some profound conflicts, not least because our deep-seated natural sexual drive is there to ensure we mate and keep the species going.

Stimulation and excitement

By seeking a positive relationship with every part of our body can we perhaps re-educate such negative conditioning – whether it's us or the world around us that created it? In which case, if we want to enable more pleasurable experiences should we consider how we relate to the many ways we can touch ourselves?

Think of the ways we may stimulate and excite our body, using visual or mental stimuli, vibration, friction or gentle touch. Personally I feel none of them is wrong, but the question is, what do I want my sexual energy pathways to feel like? For instance if I only touch myself with the aim of releasing tension then am I neglecting to connect pleasurable sensations to other areas of the body? Or if I touch my whole body in ways I would like a lover to, then what is this telling my brain?

It can be instructive too, to notice how we receive everyday touch and how present we are with it. For example when someone shakes our hand, do we allow ourselves to really feel it and be present with that connection; or when someone hugs us goodbye can we stay fully present to this experience? Or do we in a certain sense leave the body; dissociate?

I have often seen among women who feel ashamed of touching their own body that they find it hard to remain present in the experience of almost any kind of touch. I believe training oneself that self-touching is other than a fun exploration can create a neural, emotional and psychological pathway of associations that causes touch to bring up negative emotions. However, the good news is that through conscious repetition we can retrain our systems to take on new patterns and ways of behaving. And this includes our relationship with touch.

Making the change

I have witnessed so many times that women can rewire themselves. Numbness, pain, tightness, disconnect, negative self-talk and shame can be rolled back to allow in oceans of pleasure, love and connection. The change entails regularly exploring the body through new and different forms of touch, thoughts and feelings. It's the old adage – if you keep doing what you do, you will always

get the same result, change what you do and you get a different result. So the rule is to explore what makes you feel good, then practice and repeat.

Many women override past negative experiences by using stronger stimuli to force a pleasure response in their bodies. Vibrators are widely accepted as a way for women to pleasure themselves. True, this strong stimulation of the genitals will create a physical response, which at first can be exciting and liberating. Unfortunately, I have often seen this goal-orientated (orgasm) approach to self-pleasure leave a woman feeling empty and with the sensitivity of her sexual organs diminished. Because neural pathways become habituated to strong stimuli, soft gentle touch becomes less arousing. In my experience women who use vibrators a lot may find it increasingly difficult to become excited by touch alone.

The anatomy of pleasure

There are many regions on and inside a woman that loving touch can open to provide deep sensual and orgasmic experiences. A woman's entire body can be orgasmic, but for most women, awakening the sexual energy does not start with the sexual organs – touching them often comes much later.

I have found that where women touch themselves can influence different types of orgasm. Though every woman has slightly different anatomy and her own particular kind of orgasm, the most commonly known (and the least satisfying) is the clitoral orgasm. The g-spot orgasm is more powerful and cervical orgasm is also possible, as is a full vaginal orgasm and a whole-body orgasm. Sexual energy can even make random parts of our body feel orgasm.

My observation over the years has been that for a woman's sexual energy and sexual body to awaken on the energetic, emotional and psychological levels most women need first to feel a sense of safety, affection, of being loved. And so before their body will respond in a wholesome sexual way, they need sensual touch. Men (of course in general and depending on circumstance) like to know that full sex is eventually going to happen. So some initial sexual touch can help a man to slow down and relax into the sensual experience of 'foreplay'.

To my mind, the phases of arousal reflect a series of emotional and psychological events that allow a *feeling of safety*. From there closeness may progress to intimate contact. This makes evolutionary as well and psychological sense because before, during and after sex women are uniquely vulnerable. And sex requires us to be at the same time active and excited but also relaxed and open. Through touch, facial expression and voice, the feelings of safety necessary for allowing close and then intimate contact need can be evoked *body-to-body*. Words and touch create the initial emotional safety that allows a woman to stay fully present and not to disconnect from her bodily experience. These embodied sensations translate psychologically into emotions of love and a sense that one's needs will be met.

Of course a woman's body may respond with sexual arousal in many kinds of situation. However, in my experience a relaxed, non-adrenalised opening of a woman's sexual body leaves no trace of trauma, whereas other kinds of experience often do. However, there are exceptions: what is arousing for one person – for instance anonymity, danger, violence – may be a total turn-off for someone else. Nor are a person's arousal zones and excitement zones pre-set, but can change in the course of a person's sexual life; they can be learnt about and nurtured.

For the autonomic nervous system to fully engage the sexual brain and body, the underlying security that welcomes holding and then loving must first be set in place.

Though the case for slow communicative sex is biologically based, unfortunately none of this is taught in our schools. Nor do most parents know enough (or if they did, do many feel open enough) to talk about these things. Yet when teens lack the kind of education on arousal and communication that Scandinavian countries provide, it is easy to see why unsatisfying sex lays down neural pathways linking it to feelings of shame, frustration, disconnection and failure. If, in their first hungry, urgent sexual forays, teens do to their sex partners only what they would want to have done to them, a habit for loveless, fast, disengaged sex can easily develop. Which is why young men need to know that giving their girlfriend a gentle shoulder massage before love-making warms up her parasympathetic nervous system, making her body more open, activating feelings of trust and so making deeper love and stronger orgasms more likely.

Vive la difference!

The same applies the other way around. A happy healthy sex life has to have the right kind of giving on both sides. Men and women need to be able and confident to let their partners know what they like and don't like. This brings us to the difference between men and women, for it seems we are wired rather differently for sexual touch. In the initial *arousal* phase a man's body wants to be touched on the inner thighs, perineum, genitals and nipples. However, for a woman, the same areas are ready only during the *excitement* phase after non-genital touch has her fully aroused by touching her shoulders, neck, throat, the sides of her breasts, her belly and waist, buttocks and knees. Women need time, connection, trust and love, so a lover who goes to her genitals too early while she is still only in her arousal phase can be a real turn-off. Only once the arousal phase has got her sexual energy flowing does the excitement system awaken the inner thighs, breasts and sexual organs for stimulation. Conversely, only after a man's genital arousal areas have been stimulated and his sexual energy is flowing does the rest of his body open to arousal. A woman who starts softly stroking his body before he is excited will probably make him wish she would go to his genitals first.

Teens are now getting much of their sex education from pornography. Just as the media has spread the myth of the perfect face and body, in online porn they will usually see women shaved and with a small vulva. The need for pretty genitals has become a genuine concern and not only for many teenagers (so much so that many won't even look at their genitals). Women, it seems, have become very self-conscious about the appearance of their vulva, which is why sadly labiaplasty – surgery to remove 'excess' labial tissue – is now the fastest growing market in cosmetic surgery. So is very important for girls and women to know that vulvas come in a huge variety of shapes and sizes. I believe that to rebalance these cruel misconceptions we have to create new ways of approaching sexual and body education. Happily, change is happening and more good resources are now available, for example the book *I'll Show You Mine* by Wrenna Robertson is a photographic guide sharing how different our vulvas really all are.

It brings me joy and thankfulness that through science and embodied exploration we are gaining knowledge that will help us have the experiences we are looking for. If we can trace back to our early sexual life, and come to terms with what we added along the way, we may begin to make helpful adjustments and set our sexual compass in a better direction. One of the most important parts of this process is to listen to the body and to be honest with where we have taken it, and what neural pathways our habits have set up. Once we know this we can start to make progress towards rebooting the system.

Becoming present to sensations: a practice for women

I would like to share a simple but very effective process to start this rewire. This involves learning to listen to sensations as information. (You might want to record this and use it as a guide to the practice).

- Sit or lie down comfortably. If you are prone to falling asleep while meditating then find a time when you are not so tired and remain seated. Close your eyes and just bring your attention to the breath moving in your body.
- Lick your lips and feel the sensation of breath moving over your lips, passing through your mouth and throat into your lungs while feeling the expansion and contraction of lungs and rib cage as you breathe.
- Let yourself get interested in the sensations you notice, especially in your chest.
- Move your awareness through your body, from your chest down your arms to your hands. Notice whatever sensations are there. Move your awareness down to your belly, your pelvis, your womb space. See if you can feel the connection between your pelvis, down through your legs and feet to the floor. Also be aware of your head, spine and pelvis.
- Be curious of the sensations inside your body, let your awareness roam.
- Bring your attention to the sounds around you, the sound of your breath, sounds in the room, sounds outside the room. Subtle sounds and loud sounds.
- Open yourself to the constant ever-changing stream of sound, open to the sensations in your body, the feelings of warmth, cold, tingles, aches, pains, cloth upon the skin, the breeze, blood pumping, your brain buzzing, your heartbeat.
- Merge these experiences in your body, in this moment constantly changing, constantly moving.
- Let go of any judgement of the sensations of them being good or bad. Just let them be.
- Include smell into your awareness.
- What emotions are moving? Feel and watch how they change and move through you, mixing with the other sensations of your body. See how some emotions move quickly some slowly, where they appear and move in your body, where the strongest feeling happens as they pass through.
- Notice your mind in the same way, thoughts rising and falling; no need to follow them, just let them be. The quality of the shapes and forms of your thoughts, notice any images as they arise in mind.
- Feel the constant change, constant hum on all the levels of your body, mind and being and then start feeling into the space in between these sensations – notice the spaciousness.
- What is constantly present within this ever-changing movement? This is the presence of life.
- Rest in this, savour this, surrender to this.
- When you feel ready, open your eyes, keep a soft focus, stay with what is naturally happening, move with this happening, see if you can carry this awareness throughout your day.

Sarah (not real name) came to me suffering from vaginismus, and was distressed that she couldn't be intimate with her partner. She had been given dilators by her doctor but was too afraid to use them because of the pain. We worked through the time that it had begun, what had happened in her body, and what pattern the muscles had got locked into. I shared ways in which she could, step by step, meet the fear and the emotions including self-massage to relax the muscles. She worked daily with the dilators in between our sessions and her husband also got involved supporting her on this journey. Sarah now has the freedom to make love. It took her time and patience and a willingness to face the emotions around experiencing this condition but she did it. This created a lot more confidence in other aspects of her life too.

I hope this article has sparked some reflection on how having fulfilling sexual experiences and confidence can affect and support a healthy satisfying life.

I am so glad that there are people continually exploring and creating new ways of interweaving the wisdom of neuroscience with conscious embodiment processes.

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'Dying to help': female doctor suicide and the NHS workforce crisis

Female doctors are at increased risk of suicide compared with the general population, and suicides in male doctors may be increasing. There is a moral imperative to improve recognition and understanding of this concerning trend, to identify contributory factors and interventions including whether changes within the profession are necessary. We consider the reasons behind poor mental health and wellbeing in young doctors globally and nationally, offer potential solutions, and call for a more strategic approach to the training and support of every doctor for the future.

Angharad Natalie de Cates

Honorary Research Fellow, Unit of Mental Health and Wellbeing, Warwick Medical School, University of Warwick

I'm an academically-focused psychiatry registrar, with research interests including mental wellbeing, mood disorder, psychopharmacology, and self-harm. I also have insight on this subject as an under-35, part-time, female junior doctor who shares pre-school childcare duties with a fellow medical partner. I also experienced the UK junior doctor crisis of 2016 in the context of a BMA junior local negotiating committee representative.

Gareth Knott

Final year medical student, Warwick Medical School, University of Warwick

I have a passion for understanding mental ill-health and ways of promoting wellbeing. My medical student elective with *Connecting with People* instilled in me the importance of compassion and hope when communicating with people in distress or experiencing suicidal thoughts. Tragically for a minority, suicide is the final outcome but huge numbers of medical students and doctors experience poor wellbeing and mental health. The medical profession should lead the way for all other professions in radically reducing such suffering.

Alys Cole-King

Consultant liaison psychiatrist, Betsi Cadwaladr University Health Board; Clinical director, Connecting with People

I work with royal colleges, policymakers, voluntary bodies, academics, healthcare organisations and experts by experience and contribute to the All Party Parliamentary Group for Suicide and Self-harm Prevention. I publish online and paper-based self-help resources on building wellbeing, suicide and self-harm prevention and lead social media campaigns and work with the media. I led the development of Connecting with People's clinical content and SAFETool to facilitate research into practice regarding people at risk of suicide and contributed to the GMC event on doctor resilience.

Melanie Jones

Medical career support

I am an independent career coach and trainer, retired consultant anaesthetist and Associate Postgraduate Dean Wales for Careers and LTFT training. My MA in Managing Medical Careers included a dissertation on role conflict in specialty trainees. I have published on the careers of women doctors, career breaks and support for trainees with health and disabilities.

Introduction: suicide as a current issue within the medical workforce

Suicide is always a tragedy: in the UK in 2015 6,188 people took their own lives (ONS, 2016a), and whilst still being a rare event suicide was the most common cause of death for men under the age of 45. The recent reports of deaths via suspected or confirmed suicides of young female doctors in the United Kingdom (UK) has highlighted the potential challenges currently faced by these young individuals (Criddle, 2016; Jamieson 2017). In the United States (US), a recent rise in doctor suicides has prompted the US National Academy of Medicine to lead a multi-centre collaboration to attempt to reverse the current trend (The Lancet, 2017).

The suicide risk for female doctors is a particular problem. In the UK, the suicide rate between 2011 and 2015 for all female health care professionals was higher than national average (ONS, 2017). Suicide rates for female doctors have been historically higher than the national average for females. In contrast the rates of suicide for male doctors were 37% lower than the male average (ONS, 2017). A higher suicide rate in female versus male doctors was also found in a retrospective mortality study which examined 79 doctor suicides in Australia between 2001 and 2012 (Milner *et al*, 2016). However, more recent data from Australia has indicated that the suicide rate may be rising in both male and female doctors, to such an extent that both genders may have a greater suicide rate than the general population, with a disproportionately higher risk in females (146% elevated risk compared with the general population for female doctors versus 26% for male doctors) (Blue Beyond, 2017).

> The suicide risk for female doctors is a particular problem

However, it should be remembered that first, death in young people of any gender is rare, and therefore any deaths from suicide may particularly stand out, and second there is a possibility that deaths of young men may be being (correctly or incorrectly) recorded as due to other means, such as accidents. The most frequent method of suicide in doctors was self-poisoning (51%), with ready access to prescription medications a risk factor for individual doctors (Milner *et al*, 2016). Anaesthetists, community health doctors, general practitioners and psychiatrists are noted consistently to have higher suicide rates than general hospital doctors (Hawton *et al*, 2001; Blue Beyond, 2017).

For every suicide, there are many more doctors suffering from emotional distress, burnout, and stress-related problems. An Australian survey of 12,252 doctors and 1,811 medical students showed that doctors have higher rates of psychological distress than the general population (Blue Beyond, 2013). Furthermore, compared with other doctors, mental health problems and work-related stress was worse for young doctors and worse for female doctors. The most common sources of work stress reported by doctors were the need to balance work and personal responsibilities (26.8%), too much to do at work (25.0%), responsibility at work (20.8%), long work hours (19.5%) and fear of making mistakes (18.7%) (Blue Beyond, 2013). 10% of doctors had thought about suicide in the previous 12 months and a quarter of doctors at a previous point in their lives. (Blue Beyond, 2013). However, we have reason to be concerned about the whole medical workforce: Hawton found no differences with regard to seniority in his 2001 psychological autopsy study. In a 2017 survey, the Royal College of Anaesthetists found that 64% of anaesthetic trainees thought their job had affected their physical health, and 61% their mental health, with 85% at risk of becoming 'burnt out' (Campbell, 2017). Depression and alcoholism are contributory antecedents of suicide in the UK, and this is no different for doctors (Stanton and Caan, 2003).

We are aware that suicide is an important issue for doctors of all ages but we have discussed suicide risk factors as they pertain to young female doctors as this seems to be a potentially high-risk group with much to give for the future. We also note that there are is significant breadth of topics relevant to this discussion, but we focus on: the factors related to why female doctors might be at increased risk due to personality, the recent NHS funding pressures, male-centric pay and leadership, and the role of external bodies; where we could intervene; and what specific strategies we could consider as interventions.

Why might female doctors be particularly at risk?

Medical school selection and experience

It is possible that we select entrants to medical school who may be at increased risk of mental health problems. Medicine attracts and selects highly intelligent, self-critical, high achieving, conscientious, perfectionist and altruistic individuals who care deeply about their work. It is unclear if these characteristics are more prevalent in men or women, but women have outnumbered men in medical school graduation for the last 15 years (GMC, 2015). The criteria for medical school includes a focus towards repeated academic success. Furthermore, there is a bias towards privilege with 31% of foundation year 1 trainees having attended an independent or fee-paying school compared with the national average of 7% (Weetman *et al*, 2014). They are not selected for their ability to cope with an inherently high-stress degree and occupation that involves managing complex ethical dilemmas and highly complex clinical problems under high pressure at a very young age.

Poor mental wellbeing in medical students is a common experience (Student BMJ, 2015), despite the

increasing availability of resilience training. A systematic review of resilience training in the workplace from 2003 to 2014 identified 14 studies that investigated the impact of resilience training on personal resilience. Of the four broad categories of dependent variables they investigated they found that resilience training was useful for developing mental health and subjective wellbeing in employees, enhancing psychosocial functioning and improving performance, but did not affect physical/biological outcome (Robertson *et al*, 2016).

Working as a female junior doctor

Students may have an idealised view of life as a doctor. The transition from medical school to working as a junior doctor can be tough: from the outset of work (typically in their mid-twenties) junior doctors are faced with the weight of life and death decisions, often in the context of exhaustion and sleep deprivation. It is commonplace to wonder if one is good enough, and whether mistakes have been made. Due to limitations of service demand all doctors struggle to give the quality of care they envisaged as students. This unrelenting environment may have a significant impact on mental health.

> On average, across all grades, female doctors are paid 40% less than their male colleagues

Female doctors are affected by male-designed hierarchies and training structures. Women are societally expected to have a greater role in childcare than men, which places additional demands on women doctors who are mothers, with an associated role conflict. Women can be required to care for patients, partners, parents and children, which leaves little or no time for self-care. The training programme for all doctors can be harsh and inflexible to those trying to combine work, study and family life, and large deaneries and continual rotation can split families or result in long commutes.

Furthermore, junior doctors are constantly under career scrutiny: each year a junior doctor must have an 'annual review of competence progression' in which they submit evidence of examinations, assessments, personal learning and development, and subsequently discover if they can progress to the next year. In addition, failure in professional exams is a common and challenging experience (eg passing rates for Membership of the Royal Colleges of Physicians of the United Kingdom Parts 1, 2 and 3 were 45%, 65% and 44% respectively) (RCP, 2017). The natural solution for many women may be to take time out of training or to work part-time, but they may therefore be unintentionally disadvantaged in terms of their career with an elongated training programme or a failure to complete training.

The funding pressures of the NHS versus rising demand

The NHS is currently required to make £22 billion of efficiency savings by 2020 (NHS England, 2014). This is despite ever-increasing patient demand. In 2016, there were 6,207 unfilled doctor vacancies (Hughes and Clarke, 2016) and seven in ten junior doctors had to work a rota with a permanent gap (RCP, 2016a). The Royal College of Physicians (RCP, 2016b) describes the NHS as 'under-funded, under doctored and overstretched'. UK doctors report that each month on average a junior doctor will have seven shifts without drinking enough water and four without eating (RCP, 2016a). 41% of junior doctors now report that excessive administrative work poses a serious risk to patient safety in their hospital (RCP, 2016a). Increased demand, longer shifts with unpredictable finish times, little recovery time and poor sleep are a recipe for stress and burnout.

Gender inequality and the gender pay gap in medicine

On average, across all grades, female doctors are paid 40% less than their male colleagues – the average female salary for all doctors was £48,125 versus the average male salary £79,964 (ONS, 2016c). This takes account of the fact that currently there are proportionally fewer female doctors in senior consultant grade and managerial positions, as well as proportionally younger female doctors, and more female doctors who work part-time. In the general population across all sectors the gender pay gap is 14.2%. In other words, all women in 2016 worked for free between 10 November and 31 December 2016 (The Fawcett Society, 2016), and female doctors specifically worked for free from 13 August. This pay gap is likely to have a significant impact on job satisfaction and the morale of female doctors. The recently-introduced UK NHS junior doctor contract included an equality assessment by the Department of Health (DoH, 2016) acknowledging that women will be further disproportionately financially affected. Lower pay for female doctors increases the length of time required to pay off their significant student debt; increased debt has been shown in medical students to have a significant association with suicidal ideation in the past year (Dyrbye *et al*, 2008). The implication that women (and women doctors) are worth less is unlikely to improve motivation and mental health.

Male-centric leadership in the NHS

Despite women having equivalent career motivation (Barnett, 1998), leadership in the NHS is predominantly male. Women make up only 24% of medical directors and 36% of chief executives (Newmann, 2015). Jane Dacre, the president of the Royal College of Physicians, has stated that this is not true of elected positions of leadership and therefore may be due to 'unconscious bias' (Rimmer, 2017). A system created by men creates a system for men: a male-centric hierarchy produces leadership roles, awards

and salaries that in turn are more likely to benefit men. This 'male thinking' was keenly demonstrated when the government's own equality impact report on the new junior doctor contract acknowledged it would 'impact disproportionately on women' but that the 'impact would be justifiable legally as an indirect impact resulting from a legitimate aim' (DoH, 2016).

The immediate pastoral support available at university before starting work is perhaps less obviously available to junior doctors. Even where it is available, does a mostly male-dominated leadership feel comfortable discussing potentially personal issues with young female colleagues? Junior doctors, especially women, experience worrying amounts of bullying: 43% of female juniors and 32% of male juniors' report being bullied in the previous year (Quine, 2002).

The role of scrutiny, the press and external regulation

There is undoubtedly increased regulatory and media scrutiny of doctors' shortcomings and mistakes, and in the UK, a legal duty to admit errors to patients, carers and colleagues (Williams and Lees, 2015). This adds an extra dimension to the fear of making an error. The press can celebrate the life-saving hard work of doctors on an individual level, but it can also accuse doctors of selfishness, greediness, and being individually culpable for systemically-driven mistakes due in general to UK budgetary restraint. The UK regulator of the medical profession, the General Medical Council, highlighted current concerns in its 2016 review of current medical practice and education that doctors have had low morale for many years, but 'the levels of dissatisfaction now being expressed suggest that this is of a different order' (GMC, 2016). This all fuels a culture of blame rather than learning from mistakes, which in turn cultivates perfectionism and leaves doctors struggling to live up to their own unattainable goals. The General Medical Council, the regulator for doctors, found that 28 doctors died from suicide while under investigation between 2005 and 2013 (Horsfall, 2014).

Whistleblowing pressures

As well as a professional duty to blow the whistle on yourself and admit your own shortcomings, there is also a professional duty to raise concerns about other colleagues who may be harming patients due to their own mental ill health, inability to cope, or skills and attitudinal shortcomings. This has created an additional pressure on frontline staff to 'police' themselves and to raise concerns, but this comes with an inherent potential danger of damaging careers falsely. Junior doctors may be ideally placed to spot safety problems in the NHS but when they raise concerns it can appear to harm their career progression.

> Doctors have a reluctance to admit personal illness and take a third of the sick days of other NHS staff

Doctors, the high demands they place on themselves, and societal pressure: 'tough enough to cope, yet kind enough to care'

A high public expectation of an idealised doctor, all knowing and unable to make mistakes, feeds into a doctor's own perfectionistic expectations. Culturally, doctors are still expected to cope with whatever the life and work yields. Doctors have a reluctance to admit personal illness and take a third of the sick days of other NHS staff (ONS, 2016b). 59% of doctors felt that being a patient would cause them embarrassment (Blue Beyond, 2013). Other barriers to seeking help for mental health concerns include lack of confidentiality, impact of professional registrations, lack of time, and concern about an impact on their career (Blue Beyond, 2013). This self-driven stigma also feeds into personal guilt that taking time off will impact on colleagues and patients negatively. This can create a culture of presenteeism where there is fear to acknowledge personal illness, especially related to mental health.

Strategies and interventions for improving life as a doctor

We could approach support of young female doctors in two ways: a targeted approach where we focus on specialties that are perhaps less flexible, less traditionally family friendly or more male-dominated (eg general surgery, emergency medicine), or focus on the women involved themselves. The advantage of these targeted interventions is that superficially they appear to cost less. An alternative view is that we should focus on all trainees from all specialties and genders in a universal approach. All doctors are asking for an improved work-life balance, and universal approaches prevent (inadvertently) reinforcing gender division thereby promoting equality and parity between all sectors of junior doctors. Furthermore, the situation surrounding general low morale, stress and burnout in junior doctors is complex, and therefore focusing on individuals can only ever be part of the solution.

We also need team, departmental, organisational and policy responses, in the wider NHS and for each specialty. Both individual-focused and organisational strategies can result in clinically meaningful reductions in burnout among physicians (West *et al*, 2016). We must also ensure that those doctors who become adversely affected by stress or develop health problems or suicidality are not

blamed. They must not be made to feel that the solution to their problem is a generic 'emotional resilience' course.

> We must also ensure that those doctors who become adversely affected by stress or develop health problems or suicidality are not blamed

If working conditions and practices are toxic, self-care and resilience can only go so far to mitigate the situation. Developing helpful emotional, social and cognitive resources and reducing unhelpful stress responses or behaviours will protect to a varying degree; it is important to promote these factors but we must tackle the problem at its source. We must identify and respond to the evidence of increasing adverse emotional impact of work on our colleagues, and just like the 'canary in the mine", use it as an early warning system heralding the need for improvements.

How could we intervene?

Greater understanding of doctor suicides and the aspiration to make doctor suicide a never event

We need a greater understanding of the impact of work-related pressures in terms of doctor suicide. A recent editorial in the BMJ called for suicide to be included among work-related causes of death. The authors suggested that all suicides by junior doctors should be 'identified and investigated, including an explicit focus on the role that workplace pressures may have played' (Clarke and McKee, 2017). All doctor suicides need investigating, irrespective of age or seniority, however work stress cannot be the wholly responsible, as it does not explain the gender differences found in doctor suicides compared to the general population. Following two separate psychological autopsy studies, prevention of doctor suicide requires a range of strategies including improved recognition and management of psychiatric and physical disorder, measures to reduce occupational stress, and restriction of access to means of suicide when doctors are depressed (Lindemann *et al*, 1999, Hawton *et al*, 2004).

Organisational changes to working conditions including increasing flexibility in training

Simple changes to the training structure for all junior doctors would result in a significant positive impact on morale. A variety of external bodies have supported this and made suggestions for change.

Box 1: Practical suggestions to improve the impact of medical training

The Royal College of Psychiatry's recent report recommended that the 'basic needs of trainees should be met' (RCPsych, 2017), including an hour of supervision a week and the ability to peruse clinical interests. Currently, a quarter of psychiatry trainees are unable to access a hot drink and three quarters unable to access a hot healthy meal 24 hours a day. Furthermore, training posts and the design of the programme, instead of intensifying pressure on young women and their families, should be designed to support them.

Part-time working should be available to all to improve work-life balance. The GMC (2017) has recently published a document promoting that flexibility be increased in postgraduate training. This follows, the Royal College of Emergency Medicine (RCEM, 2017) piloting less than full time training for all their ST3+ trainees from August 2017. Currently taking time out of training is burdensome and affects career progression, but the gender-specific impact of this would be reduced if it is easily available to all trainees.

Ready access to appropriate health provision and doctor-specific support including mentoring

Doctors are very reluctant to seek help for mental health problems and even if they are willing to do so some struggle to access their GP and some doctors who move regularly may not even have a GP. There is also a culture of denial regarding their own health needs (Godlee, 2008). There are also workforce challenges for occupational health with a 'real concern that occupational health has not changed sufficiently to meet changed expectations' and needs of today's doctors (NHS Plus, 2012). Nearly a third of doctors have a form of mental disorder, yet for many it is a shameful secret, because of the deep stigma towards mental illness prevalent within the medical profession (Godlee, 2008).

We also need a concerted effort for doctors and colleagues of all grades to reject the 'macho tough culture' for a more compassionate and supportive one. Teams can replace the fear and blame culture with one of continuous learning, universal knowledge of human factors errors and ways to mitigate them, and open disclosure. Making team debriefings regular instead of solely post-crisis can help facilitate this

All doctors should be encouraged to have a mentor in the workplace, and for juniors this should be someone unrelated to career progression. All team leaders should make a habit of asking members of the team how they are, and take time to listen to the answers. Many people who get depressed have a vicious cycle of negative thoughts and lies that can only be broken by the compassionate intervention of another person. All doctors should have the option of developing strategies for self-care and a safety plan if they start to struggle.

The use of a safety plan for doctors in distress

A quarter of junior doctors have suicidal ideation at some point during their careers (Blue Beyond, 2013). Therefore, a safety plan for doctors in any difficulty, and potentially for every junior doctor, is an important consideration for postgraduate educational supervisors.

> A safety plan for doctors is an important consideration for postgraduate educational supervisors

Box 2: The safety plan

A safety plan is a set of actions, strategies and people to contact to help the individual to remain safe if they find themselves thinking of suicide or harming themselves. It will also include the names of family and friends who can support them as well as third sector organisations, specific doctor support organisations and health professionals if required. In developing emotional, cognitive and social resources, and essential elements of emotional resilience and safety planning, doctors will need to be honest about their own humanity and vulnerability, which will start to alleviate the stigma of doctors being unwell and needing help (more information on how to make a safety plan is available in the list of resources).

Promote doctor-specific and general supportive external resources

Doctors have a unique set of barriers accessing healthcare. Details of tailored support covering doctors of all genders, specialties and ages are listed in Box 2. However, doctors are equally entitled to support from non-medical associations and these should also be offered by supporters.

Box 3: Specific useful information for doctors in distress and those supporting them

Doctor Support Service available to all doctors irrespective of BMA membership if a complaint has been made to the GMC. Support is available from the initial complaint until the outcome of the case.

DocHealth is a confidential, not-for-profit, psycho-therapeutic consultation service for all doctors. Although located in London the service is open to all doctors in the UK. For doctors living a considerable distance from London they can offer follow up by Skype, after the initial face-to-face consultation. Supported by the British Medical Association (BMA) and the Royal Medical Benevolent Fund (RMBF).

The **Practitioner Healthcare Programme** significantly reduces these barriers, by offering confidential medical care to doctors who may struggle to access confidential care because of the nature of their work. Furthermore, they have an agreement with the General Medical Council which means they can treat doctors with substance misuse issues without informing them of individual cases (with certain exceptions).

In response to the low morale experienced by junior doctors during the UK junior doctors strikes in 2016, a social media group **Tea and Empathy** on Facebook was created.

Female doctors also have the option of support from local and national networks, including the **Medical Women's Federation**, which is celebrating its 100th anniversary this year.

Box 4: Useful information for all people in distress and those supporting them

Samaritans 24/7 call free from any phone on 116 123

Staying Safe online resource to offer hope, compassion and practical ideas on how to find a way forward and how to make a Safety Plan
www.connectingwithpeople.org/StayingSafe

Dear Distressed: Poignant and compelling letters of hope and recovery written by people with lived experience to reach and help others who are struggling with some much-needed hope connectingwithpeople.org/wspd16

Tips on self-care
connectingwithpeople.org/content/mhaw17

Reduce gender inequality in medicine

Much more needs to be done to ensure women feel as valued as men. A part of this is that women need to have a greater role in leadership and shaping the NHS. This can be aided by promoting role models and offering mentoring to identify skills and experience that trainees will need to progress. The Women in Surgery Programme by the Royal College of Surgeons is a good example of this, however these programmes need to exist for a much wider range

of leadership roles and specialties. The pay of an employee represents their value to the organisation and therefore the gender pay gap needs to be tackled.

Promote self-care, and the potential role of wellbeing and emotional resilience training

The General Medical Council has recommended that 'emotional resilience training is a regular and integral part of the medical curriculum' (Horsfall, 2014). Wellbeing, as defined by the World Health Organization (WHO, 2014a), is when someone 'realises his or her own potential, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to her or his community'. Medicine can be a stressful job although it is important to highlight that emotional resilience is not about 'mental toughness'. One of the authors, Cole-King (2015) stated that:

> *'Emotional resilience is about adaptive coping skills, understanding and managing one's emotions and seeking social support to enable the ability to 'bounce back' or even experience post-adversity growth following a stressful event. It is not only the ability to cope with stress but being able to thrive and flourish even in difficult circumstances. It is not about asking doctors to 'grin and bear it' and to handle intolerable organisational pressures or excessive workloads. Neither is it about the naming and shaming of "weak" doctors for not being tough enough to cope with the pressures placed upon them. Quite the opposite, in fact.'*

Cole-King also advocates that medical students are taught about the emotional burden of caring and that self-care is given equal status to other areas of patient safety in the undergraduate and postgraduate curriculum.

As part of this self-care for doctors, we should encourage interests outside medicine, interaction with non-medical family, friends and pets, and ensuring adequate rest, nutrition and hydration.

Conclusion

In the WHO 2014 report *Preventing suicide: A global imperative* Dr Margaret Chan, Director-General of the World Health Organization, encourages the view that suicide is preventable (WHO, 2014b). Encouraging help-seeking behaviour, rapid access to effective treatments, hopefulness, identifying reasons for living, and removal of access to means can contribute to suicide prevention. Suicide is also rare event and we must keep this in perspective. Doctors and medical students suffer intense pressure, but it is not inevitable that their mental health must also suffer. If doctors worked in optimal clinical conditions which facilitated excellent patient care, strategically invested in their own wellbeing and showed themselves and their colleagues the same compassion that they show to patients much suffering could be alleviated. For those that need additional support this should be readily accessible. It is essential that health care providers be available to give the help and support needed. Additionally, considering their perhaps uniquely stressful situation, we should consider if each doctor in training needs a Safety Plan to access in times of distress. Recent tragedies have highlighted this 'perfect storm' for our current workforce. The challenge now is to recognise this problem and the need for urgent action, to prevent future tragedies and improve the wellbeing of the entire workforce.

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Modern times

A true parable from the frontline of the NHS

David Zigmond

My medical training was in the 1960s. Early on I developed my professional lifetime's interest in exploring and refining the human understanding of our ever-advancing technology. I chose general practice and psychiatry to pursue my interests and earn my keep. My curiosity drove a kind of vernacular qualitative research: the first publication *The Medical Model: its limitations and alternatives* was in 1976. Looking back, I can now see that this aged article contained the germ-ideas of everything that followed.

Understanding the less obvious aspects of people's lives is often key to any healing influence we may have. This requires a very different kind of interaction from treatment paradigms that depend on objective commonalities, and little (if any) personal understanding. This story shows how important all this may be, yet how difficult it is to pursue in our current, often clumsily, over-schematised and micromanaged culture.

It was written nearly ten years ago and refers to events about two years earlier. The therapeutic offerings would be even more difficult to implement now: the organisational nexus has become yet more procedurally inimical.

Belonging

> *Every exit is an entry somewhere else.*
> Tom Stoppard (1967) *Rosencrantz and Guildenstern are Dead*

Karen greets me by her bed, B23, with the social facility of a TV chat-show hostess. Her hair is dark, wavy and lustrous; a generous and sensuous frame to a soft, cherubic face. In counterpoint, sharply mascaraed eyes warn me of other agendas, of danger.

Given the seriousness of her overdose a day previously, this now silk-gowned young woman seems disarmingly urbane and insouciantly welcoming.

Behind the curtained screen Karen and I are now invisible to the gaze and traffic of the ward. This seems to free Karen to hesitantly disclose a little-known self, more usually obscured by her competent, voluptuous masks or painful shards of self-harm.

The brief, typed referral form had forewarned me of the latter: 'third serious overdose, with alcohol binge, in recent months. Recent stresses: break-up with boyfriend and alleged rape (different relationships). Denies mental illness and wants to leave …'

The story Karen tells me is as perplexingly discrepant as her calm social persona and her juxtaposed, profoundly hazardous behaviour. Within the envelope of her salubrious suburban home, her publicly polished, professionally respected parents were locked in decades of a grimly hypnotic power struggle. Their two children became both weapons and casualties. Common emotional violence would erupt, often through a haze of alcohol, in periodic convulsions of physical violence. In her early teens, under cloaks of darkness and alcoholic amnesia, her father culminated the domestic damage in a sexually intrusive visit to her bedroom. Karen, with admirable but precocious resolve, left her parents and never returned.

*

This first time I meet Karen she is entering the eye of the storm that will determine her mortal existence. In the months that follow, her life is like a narrow path skirting the edge of an abyss. Several times she lunges, with angry despair, both softened and fuelled by alcohol, to her own self-annihilation. The serial projects of foiling her self-killing are administered by teams of physicians and psychiatrists at various other inner city hospitals: the blue-light ambulance disgorges this dangerous cargo with blind haste.

Precedent is neither known nor important. The practitioners immediately charged with saving her life are similarly blinded by emergency: there is no place here for nuance or finer historical reference. Medication and the Mental Health Act will contain: if not, 'severe borderline personality disorder' will explain. Karen becomes both lost and lime-lit by the doctors' (self?) defensive conferral of 'dangerous mental illness'. She may be transiently contained, but she is not understood.

This follows a pattern where the (usually) young and inexperienced practitioners, fearing for both Karen's life and their own professional career, act with zealous and crisp efficiency. In order to forestall disaster, Karen becomes crippled by pre-emptive strikes: Sectioned, medicated, monitored, 'specialed'. Karen is managed: dialogue is discarded.

Karen remembers the earlier exchanges she had with me and re-contacts my small department, a different venue and culture from the busy, bustling, prescriptive community mental health team now in charge. In this small, relatively quiet hospital department, there is great stability and accessibility for Karen. Over several years she keeps deliberate and regular contact with me via my long-serving secretary, Dorothy, a woman of unpretentious warmth and robust but respectful intelligence. Her considerable range and length of life experience may discretely illuminate, but will not dazzle. Dorothy and I are both gently silvering with age, a source of wistful banter between us.

*

The consultant in charge of the populous but constantly changing community mental health team, Dr Q, thinks more management is called for. He writes: 'We need to rationalise and unify this woman's care. It is clearly not in the interests of the patient or the service for her care to be fragmented. For this reason, I have asked the patient to continue her attendance to this department and arrange cessation of her sessions with you…'

I telephone Dr Q in an attempt to widen our understanding of this alluringly haunted young woman. He is more interested in speaking as commanding officer: Karen's care would now be systematically planned, co-ordinated and monitored by his multidisciplinary team at HQ. With well-manicured authority he instructs me about the incipient New Order. Dialogue is skillfully bypassed. I am aware of holding my breath; I feel I, too, am being processed.

Karen's compliance to such prescription is fragile: she meets with the many mental health professionals assigned to her, but is progressively confused and wearied by their complex and rigid protocols, their unpredictable impermanence. She describes it later: 'They were all different, of course … A few I thought I could really trust and talk to, but twice they suddenly disappeared – gone for another job or training, or something. It hurts and I don't feel safe … my barriers go up again …' Karen's offerings there turn shell-like: she yields only what she must.

She seeks connection and asylum where she feels less diminished and defined: she is discretely resolute in her regular contact with myself, and thus Dorothy. I have some unease about colluding with her unusual dissent. Dorothy and I are now as foster parents to this grown woman, with the added illicitness of an extra-marital affair. I convolute my mind with a cabal of dark interpretations: Freudian triangles, deposed fathers, vengefully reprised children. I do not exonerate myself from these constructions: I can locate enough of my residual developmental sediment to secure my place. I have training and imagination enough to ascribe a variety of such roles to each of us. It is all plausible. It is, professionally, the safest thing to do.

I take the riskier course: I follow Karen's thoughtful dissent, sensing that she has an instinct now to create new and positive patterns. I remember a harsh and pithy judgement of a non-medical friend: 'The problem with most psychiatry is that, at best, it can stop some "bad" things happening … but it doesn't usually help people heal and grow …'. I had ruefully agreed, hoping I might be an exception, at least sometimes.

*

The months that follow bring a seemingly impossible mix of alarming headlines and growing peace. The first headlines shock with a precipitous, ill-judged but highly-charged affair. She embarks on this with an impecunious, unrooted, political Balkan refugee. Unwary, he enters a lioness's den of erotic attachment. With dismayed foreboding, I see her demeanour transform from a soft mist of adoration and total trust, to a terrifying furnace of raging accusation, incandescent disillusion, total war. I see him briefly at this time: he is emotionally stunned, lost and inchoate – signs of emotional blast concussion.

Amidst these emotional explosions she announces her pregnancy, her first. This news invokes waves of alarmed consternation across professional networks. How will this demonstrably unstable woman deal with the inexorable changes and responsibilities? Professional anxiety and vigilance increases. 'Risk-management' becomes the gravitational nucleus round which their many activities orbit.

*

Karen then confounds and disarms us with her peace: a rapid crystallisation of structure and stability in her life. Faster than we are able to comprehend, she ceases her many ways of imperilling, alarming or punishing herself. Increasingly her emotional intelligence turns from hurt wariness to a capacity for reflective receptivity.

'I'm a mother now … I have to make sure I don't pass on my mess to the next generation,' she says, patting a ripely-pregnant belly. The sagacity here is fresh and self-realised: the integrity of such self-regeneration rapidly renders obsolete the hundreds of pages of specialist, 'expert' communications in her thick folder. In this forest of technically-dense, bureaucratically-moulded prose, it is difficult to discern much of this woman's unique bondage, suffering, struggle and quest for suffrage in her own life. Seeing her now tenderly touching her belly, and uttering such protective and far-foresighted intentions toward her 'accidentally' conceived foetus, I am suddenly and rapidly connected to her in my understanding.

*

Two years later I am talking with Karen of ordinary but crucial problems: of the difficulty of being a single mother, of being receptive to her toddler-son when fatigued and already multi-tasking, of finding a pragmatic, appreciative semi-detachment from her son's father, her ex-lover. I have been close to formative events; she is relieved by the common understanding we create without lengthy explanation. Since motherhood, her female demeanour has changed from alluring siren to fecund and earthed mother. Sean, her delightful wide and sparkle-eyed son babbles happily in playful exchange with Dorothy, who welcomes this heart-warming, brief transformation of her office into a crèche.

Karen tells me of growing good contacts she has with other professionals: a health visitor, the new clinical psychologist, a community support worker. She talks of them with growing trust and faith. Without deliberate design she has assembled around herself a kind of extended family. I reflect on this a while, and lightly contrast her flowering conviviality with our previous shared era, a tangled and dangerous time, when any dependent relationship was likely to carry an explosive charge. For several years, she had managed, time and again, but without any conscious intent, to replay myriad variations of her painful childhood dramas. As we sample these shared historical events, we contrast our different recollections and perspective. We talk of the inevitability of personal relativity, and the importance of creating common language, the most reliable balm for humankind's painful awareness of our individual separateness and mortality.

Equally surprising, to Karen and myself, is the redemption and resumption of her parents' relationship, both with Karen and one another. After many painful years without contact, her mother and father are back in her life, but dramatically transformed. They visit and welcome as calm, kindly, ageing parents and doting grandparents. Karen learns of the paradoxes behind the transformation: her parents are living separately, but close. After decades of internecine marital strife, they have found affectionate and loving peace in separation.

I marvel at the mystery of unseen and insensible matrices that guide such parallel events.

*

'A good clinical outcome, then?' Keith gently teases me with mock managerial formality and falsely dry tone. Another veteran practitioner, he, too, struggles to maintain his elan vital amidst the increasing constriction of institutional rules, diktats and deadlines; the rhetorical boa of planners and politicians.

'Seriously, though, what do you think most helped Karen's transformation?'

I ask Karen.

She looks down for a few seconds. I imagine she is rapidly respooling the last five years. Her answer is scattered, but thoughtful:

'You gave me time and space, faith and guidance …'

She hesitates, checking for my understanding. I believe I do, but I prompt her elaboration.

'Well, you've always been here for me, and for a very long time … You helped me find my voice and rediscover a self I'd been running away from … If you ever offered me guidance or suggestions, I've always thought it's from a real and growing knowledge of me, not some theory, or book or plan about The Mentally Ill … I'm not mentally ill, I was very disturbed: it's very different…'

This notion is expressed with a brief burn of sardonic anger. This yields to a smile of recognition between us. I raise an eyebrow; my curiosity about her distinction.

'What I mean is … Yes, I was like a person blinded with fear and confusion, and like a dumb person in not being able to talk about it. But I was never deaf: through talking with me, you guided me back to my voice and my vision. Then I could get my life back and start to make it really my own. Can a seriously mentally ill person do that?'

Her question is genuine. I delight in her simultaneous ingenuousness and sophistication. I wish often that my colleagues would ask such trenchant but unaffected questions. I inhibit my urge to now explore this question, a favourite haunt of mine. She goes on, to talk of Dorothy and our small department.

'Dorothy has been great … always helpful and interested, but never bossy. A lot of the psychiatrists have wanted to control me, without understanding very much at all. Some have talked to me as if they know everything already. I felt very diminished: "shrunk to fit" their professional theories and procedures.

'Coming up these stairs to be greeted by Dorothy's friendly manner, sitting in this cared-for space, surrounded by growing plants and homely, colourful prints, has somehow given me the same kind of messages that I've talked about with you: that I can heal and grow …'

She becomes quietly thoughtful, and I enquire about why she thought she had received these vital messages so rarely.

'Well, a lot of doctors don't seem to think like that, but even if they do I've got to have a good relationship for it to mean anything … It's like talking about love.'

This last utterance was a short circuit I had not expected. The shock enlivens and awakens me. In unmanaged and unengineered contact, human electricity can flow in unexpected ways.

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Keith talks of the death of a neighbour. She had lived many years in the large multi-occupancy house next door. He has only just heard of her death, three months after the event. He is disturbed by his remoteness from someone so close. We discuss the broader theme of how new technologies lead us to live such lives: where we communicate electronically-mediated words and images instantaneously to the other side of the world, but are insentient of our surrounding environment, oblivious of our neighbours.

My mind returns to an event Karen described three years ago, shortly after one of her turbulent stays in Dr Q's unit. She had resisted a brain imaging scan, feeling both repelled and afraid of the formidable machinery. The young doctor, she said, was curt, prescriptive and didactic: it was 'imperative to exclude significant pathology' (such was most unlikely, and thus hardly 'imperative'). Karen submitted to the scan, but never trusted them with much of her story.

This brief tale can be readily dismissed by more common or cursory analyses: the doctor was inexperienced, busy, unimaginative; or Karen is oppositional, oversensitive, paranoid. Yet much more interesting is this account as a microcosm, cultural metaphor, *zeitgeist*. We are constructing a world of sharp new paradoxes and polarities. We have grown used to – expect – rapid and precise information and images: we are impatient and intolerant of the indistinct, the ambiguous, the slow. We pour massive resources into machinery to provide us with such unprecendently detailed and accurate images, but hardly notice that our own subjective image-making, our imagination, is atrophying. Karen is more easily electromagnetically scanned than imaginatively heard. Keith emails unknown people with effortless regularity across continents, unaware of his long-term neighbour's slow death, 15 yards away.

We increasingly delegate our tasks and responsibilities to inventions which save us time and effort but, with cruel inversity, we observe our lives as incrementally more rushed and less savoured. The mostly inexplicable, but thriving, new syndrome of children with hyperactivity/attention deficit disorder may serve as a pathological index of our accelerating, kinetic and rootless lives.

To belong, we have also to be-long; we have to stay, be still and receptive.

Long enough to relate and to bond.

Herbs for women's health

Zoe Hawes
Medical herbalist

I trained as a nurse in the early 1990s but by the time I completed my training had become very disillusioned. At 20 years old, it was already clear to me that medication and surgery alone seldom addressed the root causes of dis-ease. I also felt that despite good NHS intentions and ideals, the public had come to rely on it for magic bullets. As soon as I qualified, I trained as a medical herbalist, though I continued to nurse in different specialties, and as an infirmary nurse in a monastery boarding school. I started my private practice in Somerset in 2000 and only finally left nursing when I adopted two children in 2011. I host walks and talks on medicinal plants while growing and gathering most of the plants I use in my dispensary.

Herbal medicine views disease as an imbalance in organ function. Medicinal plants work in three main ways to restore balance. The author has found that many female health problems can be helped with common herbs, diet and lifestyle changes. This article aims to give some simple strategies for promoting and sustaining a healthy functional balance in the female body. As they cope with the challenges and demands of modern life, and pressures on NHS increase, women can equip themselves with simple strategies to maintain their own and their family's health.

Women have long been associated with plant lore and the herbal wisdom for dealing with women's and family health issues. Whether a wise crone or a good housewife, a midwife, healer or mother, these women knew what plants were growing in their environment and could use them to treat common and minor ailments. Yet over the centuries this knowledge and power has been eroded by the ascent of orthodox medicine, a realm where male medics predominate except in a few specialties like general practice, paediatrics and psychiatry (www.gmc-uk.org/Chapter_1_SOMEP_2015.pdf_63501394.pdf).

Educating for self-care

In future, where free healthcare may increasingly be less available, we must start educating children about how their bodies work and what a body needs to function in a healthy way. And if we were to empower women to take back some of the healing skills they held traditionally, they would surely hand this knowledge on to their children. As pressures on the NHS increase, women should equip themselves with simple strategies for maintaining their own and their family's health.

Medical herbalists are the only non-medical practitioners legally allowed to diagnose. A consultation is usually an hour long and involves taking a full medical history, including diet and lifestyle. This enables the practitioner to identify issues that contribute to the illness and to prescribe a combination of herbs, usually in the form of alcohol extracts or teas specifically made up for that person. Advice on diet and lifestyle factors would be offered too, so the person understands what they can do to support the body to function better.

In my practice I see a wide range of conditions, but significantly more women than men, and many have health problems specific to women. My consultations, rather than focusing on a herbal prescription in the short term, are always geared towards helping people understand how to incorporate into their daily lives what their body needs in the long term. You can find your local qualified herbalist through the National Institute of Medical Herbalists or the College of Practitioners of Phytotherapy. Many herbalists run short courses, walks and workshops for people who want to know more.

A system of medicine

Mainstream information about herbs tends to focus on specific herbs for particular ailments. However, I learned from a system of medicine called endobiogenics that when a disease

arises, it does so because the body lacks what it needs to function in a balanced way. It could be something environmental, emotional, nutritional or something that was missing during a normal developmental phase. Though the body may be able to adapt in the short term, subsequently as tissues become over-stimulated or congested, and excess hormones or wastes accumulate or nutrients essential for normal functioning and repair are depleted, a disease state may develop. As endobiogenics sees it, allopathic medication interrupts this functional adaptation, and unless the original problem is addressed the body will find another adaptive route. This may manifest as a side-effect of the drug prescribed. Although everyone is unique in the way their body adapts, certain patterns can be grouped together. These are largely the kinds of pattern described in traditional systems of healing, for instance Chinese and humoral (galenic) medicine, and ayurveda.

Medicinal plants work in three main ways to restore balance to a system that is going through this process of functionally adapting:

- by providing phytotherapuetic agents to correct a biological function (research science is revealing many of these actions)
- by providing essential nutrients required for repair and function of a particular system or organ
- by supporting systems of catabolism and elimination of hormones, toxins and waste products of metabolism.

Medicinal herbs are generally very safe and well tolerated. There are some exceptions where interactions are an issue. For instance, some herbs heighten the effect of an biochemical pathway involving cytochrome P450, an enzyme that accelerates the breakdown and elimination of some medications. St John's Wort is the best-known herb with the potential to do this. Herbs with this action can theoretically reduce the effectiveness of prescription medications, such as the contraceptive pill or anti-coagulants. But on the whole herbs are safe, affordable and easy enough to wildcraft and grow. It is important to be sure of correct identification of course; a good medicinal or botanical plant guide is essential and any herb you buy should come from a reputable supplier.

Simple solutions for common female health problems

Many of the best-known and well-researched plants known to be beneficial to women's health are not indigenous to the UK. But many common medicinal plants do grow in the British countryside or can be easily cultivated even in a small garden or outside area. They can be used fresh or collected and preserved by juicing and freezing, drying for infusions, in alcohol for tinctures, with sugar or honey for syrups, and macerated in vinegars or in oil.

I have found that many common female health problems can be helped with a few herbs and some dietary changes. In my experience, with a little knowledge medication may be avoided, reduced or withdrawn by using simple herbs for self-treatment at home.

Diet

I explain to my patients that the most powerful agent of self-care is a nourishing diet. If the body has all the building blocks it requires it will be better able to adapt to whatever life throws at it. The level of wheat consumption is very high in modern western diets. I believe this impacts on gut health and hormone levels and that the effect accumulates (https://ehjournal.biomedcentral.com/articles/10.1186/s12940-016-0117-0). So I encourage my patients not to rely on wheat as a staple part of their diet, and over time I guide them toward making sourdough breads and pre-soaking organic grains and legumes so the nutrients become more bio-available.

- I often advise a grain-free diet mainly because gluten seems so allergenic. And though I am sceptical about the gluten-free craze, in my experience gluten is commonly linked with auto-immune disorders. It is rare for me to get negative feedback from patients who have managed to eliminate gluten from their diet for a month or more. Perhaps this is because modern wheat produces larger gluten particles than traditional wild wheat and shop-bought bread is fast-risen with commercial yeasts, which means the gluten content is much higher. Traditionally slow-risen sour dough methods using natural yeasts from the environment have a lower gluten content.
- Phytic acid in the bran of most grains (and legumes), binds to minerals in the gut, particularly iron, calcium, magnesium and zinc, potentially reducing their absorption. Phytic acid can be broken down by fermentation and long soaking but this rarely happens in modern cooking.
- I take seriously a mounting body of evidence suggesting that the weedkiller glysophate can disturb the endocrine system. Its widespread use means there are residues of it in all non-organic foods, particularly grains.

Phyto-oestrogens

A diet rich in phyto-oestrogens can positively affect women's hormonal health. These selective estrogen receptor modulators or SERMS (http://onlinelibrary.wiley.com/doi/10.1002/9783527684403.ch13/summary) are very similar in chemical structure to endogenous oestrogens but much weaker in action. So in conditions where there is oestrogen dominance (usually because of poor elimination), eg premenstrual syndrome, they compete for receptor sites and exert a weak effect. In conditions with low oestrogen levels, eg menopause, they provide some oestrogenic effect when there would otherwise be none.

Many studies have tried to clarify whether SERMs increase the risk of developing oestrogen-sensitive breast cancers. Typically their conclusions are mixed, because cancers are still poorly understood and their aetiology is so multifactorial. Yet many phyto-oestrogen-rich foods are a frequently consumed staple in many indigenous diets where (as far as I have been able to discover) rates of breast or other oestrogen-dominant cancers are not unexpectedly high. This suggests to me that a plant-based diet high in nuts, seeds and appropriately prepared legumes is more supportive to health than one relying heavily on pre-prepared and refined foods contaminated with chemicals.

> Many common medicinal plants grow in the British countryside or can be easily cultivated

Excess oestrogen is known to play a part in the development of breast cancers and fibroids. There is increasing concern about the effects of exogenous environment oestrogens such as bisphenols from plastics. Brassicas (broccoli, cabbage, kale, cauliflower etc) are known to promote the conjugation of oestrogen, thereby enabling elimination of any excess (Zeligs, 2009). Their inclusion in the daily diet may help sustain health.

Menopause is the most common complaint I see in my clinic, particularly since the media coverage that HRT may increase a woman's risk of breast cancer. Some women suffer debilitating symptoms that may significantly effect daily life. Hot sweats and flushes are a frequent cause of distress, disturbed sleep and poor concentration. Sage can be very effective for reducing sweats because of its drying action. It was traditionally considered to be oestrogenic. It has also been shown to improve memory (www.ncbi.nlm.nih.gov/pubmed/18350281). It can be used fresh or dried or as a tincture up to three times a day. If used as an infusion it is best taken cold.

Heavy menstruation is frequently medicated with the contraceptive pill. Causes include anaemia (which causes heavy periods and is a complication of them), thyroid problems, fibroids, peri-menopause and endometriosis. Contraceptive IUD's may also cause it. Less commonly it may be caused by cancers or as a side-effect from anti-coagulant medications.

In herbal medicine oestrogen dominance is thought to cause a thicker endometrial layer to form during the cycle possibly because the liver is not breaking down and eliminating oestrogen efficiently from the body. I recommend daily brassicas in the diet to boost elimination. The herb ladies mantle is an astringent herb traditionally thought to be progestrogenic. Its toning action is used to reduce heavy menstrual bleeding. Nettles are styptic and rich in many vitamins and minerals including vitamin C and iron. Roses are cooling, astringent and mildly bitter so may reduce bleeding and pelvic congestion, and promote liver function. I use them to help women create healthy boundaries and better self-care when they are overstretched emotionally. These three herbs make a pleasant-tasting herbal infusion. They grow prolifically and can be easily harvested in large amounts, for drying and storing for daily use throughout the year.

Premenstrual syndrome is an umbrella term used to cover many symptoms including breast tenderness, bloating, mood swings and food cravings. From a herbalist perspective it too is usually due to poor elimination of oestrogens and exposure to exogenous environmental oestrogens. Again a diet rich in phyto-oestrogens and brassicas is beneficial. Including bitter herbs in the diet will also promote liver function and help offload oestrogen. If breast tenderness is an issue, dandelion root can be gently roasted and drunk as a pleasant tasting coffee substitute that supports the liver and kidneys and has diuretic effects that reduce bloating. Caffeine aggravates breast tenderness. All the bitter salad leaves and citrus fruits like lemon (zest) and grapefruit can have a positive effect on liver function.

Period pain/dysmenorrhea may be of two types. Congestive dysmenorrhea occurs in the days leading up to menstruation and stops when bleeding commences. Congestive pain is due to poor pelvic blood flow which may have its roots in other system imbalances. A simple approach is to treat the liver using bitter foods, as above, and to promote the flow of blood through the pelvis using warming aromatic spices like cinnamon and ginger. A common meadow herb called yarrow contains anti-inflammatory compounds and is used to open up the circulation and regulate blood flow.

Spasmodic dysmenorrhea is felt when bleeding starts. It involves an imbalance in prostaglandins and can often be rectified within one cycle simply by the addition of good quality omega 3 fats to the diet. Tinned sardines and mackerel are a cheap and sustainable source of these fats and can be added to the diet three times a week. Cramps can occur when the body needs more magnesium. Magnesium is required in large amounts to metabolise a high carbohydrate diet, but phytates in grains bind to magnesium and impair its absorption (www.ncbi.nlm.nih.gov/pmc/articles/PMC1855626), yet another reason to cut out grains. Magnesium is present in high levels in cocoa: a good excuse to indulge in some pre-menstrual, high-quality, dark chocolate! Raspberry leaf is a gentle uterine tonic that can be drunk as a pleasant-tasting tea three times a day in the two weeks leading up to menstruation to ease cramps. Add a little fresh grated ginger or a pinch of cayenne powder for its warming anti-spasmodic effects. Feverfew is another herb containing compounds that regulate inflammatory prostaglandins. It is an easy plant to grow in the garden or a pot and best taken as a fresh leaf each day, rolled up and swallowed down with plenty of water like a little pill. Some people are sensitive to it and get little blisters in their mouth if they chew it so swallowing whole is best, or make a tincture of the whole

flowering herb: macerate in vodka, chop the herb finely, press into a jar and cover with the alcohol. Leave to soak for two weeks then press and bottle. Take a teaspoon in a little water, twice a day. This herb is also excellent for preventing hormonal headaches and migraines.

Cystitis causes misery for many women. It is usually caused by bacteria from the anus contaminating the urethra, or when vigorous sexual intercourse bruises the urethra ('honeymooners disease'). It can be simply treated at home. It is essential to cut out drinks like fruit juices. Even the standard cranberry juice is full of sugar that feed the bacteria. A cranberry extract supplement can be useful however, as it prevents the bacteria adhering to the bladder wall. Cut out carbonated drinks, tea and coffee and drink plenty of fresh water. Barley water made with pearl/pot barley is a soothing demulcent (a substance that relieves irritation of the mucous membranes) for the bladder. Make a large pot of herbal tea blending together thyme (either fresh or dried) for its anti-bacterial properties, couch grass roots for their soothing, anti-inflammatory qualities and goldenrod herb for its bitter tonic and diuretic effects. Drink this freely throughout the day. A litre would be a good therapeutic quantity, made with 10g of herbs.

Barley water

- ½ cup of whole pot barley
- 5 cups of water
- ¼ of a cinnamon stick
- Grated ginger to your taste
- Freshly squeezed juice of 1–2 lemons

Place the barley, water, cinnamon stick and some grated ginger into a pan and simmer for 20 minutes. If you have organic unwaxed lemons you can simmer the peel for the final five minutes which intensifies the taste. After cooling, strain the mixture and finally add fresh lemon juice for extra flavour. Store in a cool place and drink between one and three cups daily, diluted to your taste if necessary.

Stress, anxiety and mental load. If I had a female patient in my consulting room that didn't say that this was an issue for them then I would want to swap with their life immediately, or know what their magic bullet was! The modern world puts an enormous expectation on women to work and manage home and family life, often with little support. The pressures of family life are greater than ever and women usually bear the emotional load for everyone.

Since busyness is a modern disease, it is essential to put aside personal time to rest and recharge. This can be in any way that an individual finds most beneficial. A walk in nature, yoga, Tai Chi, exercise, meditation, massage, bodywork treatments, art, reading. And there is nothing wrong with a gentle nap in a quiet room. Avoid relying on caffeine as it only depletes energy in the long term. It is easy to succumb to sugar as a quick energy boost, but the blood sugar yo-yos up and down and causes energy to peak and trough. Instead, keep energy levels steady with good fats and protein from eggs, oily fish, nuts and seeds. To support the adrenal glands sprinkle a teaspoon of nettle seeds everyday on food or stir them into some yoghurt.

Lemon balm is a wonderful herb for uplifting the spirits while calming the nerves. It is best taken as a fresh tea but can be harvested and made into a tincture or dried for use during the winter months. It has anti-viral properties against the herpes virus, and research shows the oil to be especially useful for the herpes virus that causes cold sores, shingles and chicken pox (www.ncbi.nlm.nih.gov/pubmed/18693101). Chamomile is a relaxing herb. I think of it as the mother herb, like the reassuring hug we want when things feel too much to cope with and we need to reduce our fight or flight response. I use this herb to help stress-related symptoms: an uptight nervous tummy or irritable bowel, or to calm histamine reactions in allergies, promote sleep, and ease pain by relaxing tense muscles. Chamomile enjoys growing in rough ground and self-seeds if the area is left undisturbed. Picking the flowers singly is very time consuming, although 10 or so fresh flowers make a pretty and effective tea. For storage, harvest the whole flowering tops, as the green bits are mildly active too, and can be made into a tincture fresh or, if dried, in infusions.

I have been able to only scratch the surface of an enormous subject. There are many excellent books and resources and it is also worth knowing who and where your local medical herbalists are.

Books

Wild drugs, Zoe Hawes

Practical herbs I & II, Henriette Kress

The complete woman's herbal, Anne McIntyre

Women, hormones and the menstrual cycle, Ruth Trickey

Websites

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Resilience in holistic care: learning from a remarkable woman: Alice Herz-Sommer

Tamar Witztum
Medical student

This essay was originally written for the BHMA 2015 student essay competition. It is a celebration of a remarkable woman, Alice Herz-Sommer, and her survival, all framed in terms of resilience. Alice is well known internationally as a holocaust survivor and pianist (see moving YouTube video (www.youtube.com/watch?v=8oxO3M6rAPw).

I am a fourth year medical student at the university of Bristol. When I'm not studying, I have been engaged both in medical research and community work such as volunteering with the NSPCC as well as swing dancing and pottery. Alice Herz-Sommer was a close friend of my parents and was, effectively, a grandmother to me. She was already 91 years old when I was born but for me, she was as young as many other people around me. She has always been inquisitive, alert, and played wonderful music for me. It is only in later years that I have come to realise the extent of her humanity. Not only was she utmost forgiving (for her experience in the second world war) but also, she had her eyes fixated on the future until her last days. But future for her, was not a matter of time. For her, connecting to the future meant becoming one with the flow of what she saw as eternal: music and knowledge. Music, in particular, for her, meant a bridge between the past and the future as it encapsulated the human spirit. I felt that this way of pouring meaning into one's life in a way that perpetually propelled one into the future is a lesson everyone should learn.

It is a social convention to seek medical attention when we are feeling unwell to restore good health. In part, this is due to the more general belief in the role of specialisation in modern society; almost all aspect of human lives have become the subject of specialised experts and medicine is no exception. Following the successes of medicine in prolonging life in the past few decades, it is only natural to seek a specialist response. Nevertheless, I fear that having the advantage of an easily accessible, effective healthcare has led to an increased dependency on others. But such an attitude can be detrimental, undermining the role of an important aspect of the human condition – resilience.

Resilience is 'the quality or fact of being able to recover quickly or easily from, or resist being affected by, a misfortune, shock, illness, etc' (www.oed.com). I probably would not be such a firm believer of the hugely positive effects that resilience alone can yield, had I not met Alice Herz-Sommer. In spite of being subjected to horrendous physical difficulties and ailments, surviving a concentration camp, breast cancer, strokes and the passing of her son, she lived till the age of 110, keeping her faculties about and living alone with only the most basic community care. Some see it as a miracle she lived on her own until she passed and that she was extremely lucky to avoid diseases that are very prevalent amongst the elderly such as dementia from which a third of people over the age of 95 suffer (Alzheimers Society, 2015). However, it was clear to anyone who'd spent even 10 minutes in her company that luck played no

part in her wellbeing and that it was purely her resilient nature and love of music and life that attributed to her reaching such an old age. I endeavour to explore these two subjects and delve deeper into how we can learn from Alice: the world's oldest holocaust survivor.

> This is also an example of another property of resilience – purposiveness

The most important factor, in my opinion, that favours resilience is awareness (Thompson, 2011). If one is not aware of the reality of a problem, it would be very difficult to overcome. Alice was very close with her mother and so, when her mother was deported to a concentration camp as part of Hitler's extermination campaign of the Jews, Alice (who was left behind) was devastated. Obviously this is an extreme example but one which demonstrates how her awareness eventually saved her. Alice's coping mechanism follows DiClemente's and Proschaska's stages of change model (Prochaska and DiClemente, 1983). At first, she remained in the contemplation phase for a while, depressed, not eating, not sleeping nor was she playing the piano (which was a significant part of her life). Even specialist doctors were at a loss for how to help and her condition seemed helpless until she entered the model's loop and began preparing for action. Alice took it upon herself to learn Chopin's 24 Études on the piano which is an arduous task in itself let alone under such emotional strain. After a year of constant practise, she could play them to concert-performance level. Though this couldn't bring her mother back, Alice had managed to avoid serious mental illness and returned to being a functional, healthy member of society without need for medical intervention (Muller and Piechocki, 2008).

This is also an example of another property of resilience – purposiveness. Not only did Alice identify that there was a problem, she gave herself a sense of purpose. Some could argue that this merely distracts oneself from the problem at hand but, without a sense of purpose, would there be a point of being resilient? An existentialist and holocaust survivor called Viktor Frankl wrote a book in which he says that 'when we are no longer able to change a situation, we are challenged to change ourselves' (Frankl, 2008). This holds true in Alice's case, but begs the question – if we do not find ourselves in such trying circumstances, can we develop such resilience? Has living under the shelter of constant and rapid medical access stifled resilience? Given the tribulations that Alice

Tamar with Alice

had suffered, it is not surprising that she became so resilient; she didn't have a choice.

> Much research is being done to investigate the effects of art on our healthcare

Mind-body medicine is well-known to have a significant effect on health for it's the explanation behind the placebo effect –a beneficial effect produced by a placebo drug or treatment, which cannot be attributed to the properties of the placebo itself, and must therefore be due to the patient's belief in that treatment (www.oed.com). An example of this is elite cyclists being able to cycle faster than ever before after ingesting a pill of corn flour (an inert substance) (Horizon, 2014. It is also suggested that increased positive attitudes may protect against CHD via improvements in sleep habits, smoking cessations and lower levels of cholesterol (Davidson, 2010). This demonstrates that our outlook on a particular medicine will have an impact on how effective it will be. Alice was known by the world for being an optimist. Despite the atrocities she faced throughout her life, she would always tell me that 'every day is a miracle' and that she is 'full of joy'. Having such a positive attitude to all aspects of life meant that she faced barely any health problems relative to how long she lived for. While in the concentration camp, she survived despite eating barely any food and barely drinking while being made to play the piano for the other prisoners and she would always think that 'where there is music, it cannot be so terrible'. This is one of many examples in Alice's life where her emotional health triumphed against all odds and scientific reason. I am certain that it was her unfathomable optimism that was the main contributor to her long life.

Many people think of medicine as a purely scientific subject but, in fact, much research is being done to investigate the effects of art on our healthcare. Music in particular has been shown to reduce stress levels, reduce blood pressure and improve our immune response (Kushnir, 2012). Alice's emotional health overlaps greatly with this pivotal concept of whole person care – the art of medicine. She started playing the piano at the age of four and would regularly practice into the early hours of the morning as a teenager. She became a professional pianist and was kept alive in the concentration camp in order to give concerts to the other prisoners. When the war was over and her camp was liberated, Alice and her son left for Israel where she continued her professional career and also started teaching. When I knew Alice, she had already moved to London and was over 90 years old – still playing the piano. Even in her final years, she would still play the piano for hours each day and everything would be played from memory. There is no doubt that playing complex classical compositions from memory requires significant brain activity and this is another reason Alice managed to live so long and avoided mental diminishment. Music was her medicine.

Through Alice's life, the importance of holistic care is observed. Though the three themes that I have discussed – resilience, art of medicine and mind-body medicine – are all considered to be separate from one another, Alice's life reveals that each aspect of whole person care is interlinked to complement the other. A huge contributor to her undefeatable resilience was her love of music and it was from her relationship with music that grew her optimism. It is only when we face extreme situations that our bodies are put to the ultimate challenge of survival. Alice was a remarkable woman who had to endure such hardships and by speaking to her throughout my upbringing, speaking with her grandsons, friends and doctors, I can conclude that her longevity was not a result of traditional medicine but of her perpetual love of life and resilience. I hope that I have shown the importance of holistic care upon examining Alice's life and I hope that the many films and books about her will continue to inspire many generations of doctors for as soon as anyone hears her speak, nobody can deny the importance of resilience and I am confident that she will encourage doctors not to underestimate this life-saving quality.

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Gender identity and sexual practices – the pain of social vulnerability and rejection

Gluck self-portrait 1942; Gluck was born Hannah Gluckstein

William House
Retired GP; Chair of the BHMA

On a sunny Sunday in June I visited Tate Britain gallery in London with my artist wife. Instead of the usual big Sunday crowds the foyer was almost empty. One of the staff said, 'People only come for the big shows with big names'. But it is a big show and it does have big names – David Hockney, John Singer Sargent, Francis Bacon. There must be another reason. The show in question is *Queer British Art, 1861–1967*. For us it is one of the most fascinating and extraordinary exhibitions we have every seen. In his five star *Guardian* review, [www.theguardian.com/artanddesign/2017/apr/03/queer-british-art-review-tate-britain] Adrian Searle describes it beautifully as 'strange, sexy, heartwrenching'. Surely these epithets describe humanity! They make life worth living. But living a worthwhile life while being true to our deepest needs is not easy, and this is the essence of the exhibition. The major cultural changes over the show's chosen century evoke society's struggle to accommodate our strangeness, our sexiness and our heartwrenching tragedies.

The exhibition time span marks key points in our culture's attitudes to 'deviance from the norm' in gender identity and sexual practices. In 1861 the longstanding death penalty for 'sodomy' (anal sex) between males was abolished. It was not finally decriminalised until 1967. But the show covers much more than sexual practices and pays at least equal attention to women – whose homosexual practices have never been criminalised in England. Our attitudes and asinine laws fit very uneasily with our species' evident diversity and fluidity in these respects. As Carl Jung taught, every woman has a male side, their *animus*, and every man, an *anima*. So it's no surprise that our forebears, including the supposedly prudish Victorians, were just as sexy and strange in their private thoughts and actions as we are. The exhibition shows powerfully the private misery, illness and suicide that follows from the repression of these deepest instincts. It celebrates the crucial role of the creative arts in showing us this. Examples are Gluck's 1942 self-portrait and Charles Buchel's 1918 portrait of Radclyffe Hall. To my eyes, these paintings subtly depict the pain of social rejection. Both subjects were born female. The show also includes the actual cell door of Oscar Wilde's incarceration in Reading Jail – a 'found object' hung on the wall.

So what is it all about – this public intolerance of difference? In common with all social animals we have a deep need to belong and to have a role and identity within a social group. This helps us to create our sense of self-worth, and the group to be cohesive. Group survival and ultimately survival of our species depends on this. We have evolved to cleave to our kind. It runs deep. Not surprisingly, this is exaggerated when we feel threatened, then we are tempted to blame and perhaps attack the 'other'. Tragedy usually ensues. Certainly, attitudes to sexual and gender difference have waxed and waned according to the local, national and global economy, levels of migration and particularly inequality and injustice. Some of this is shown in the exhibition, especially the liberalising mood of the first decade of the twentieth century through the Bloomsbury Group, including William Strang's remarkable painting of Vita Sackville-West and in the 1920s and early 1930s, especially in the Weimar Republic. Each of these periods was followed by a violent backlash and catastrophe. The exhibition ends with our emergence from World War 2 and the start of the 1960s liberalisation ushering in the 1967 *Sexual Offences Act* decriminalising homosexual acts between men in England and Wales. As I write we are once again turning away from liberalisation, looking inwards, being fearful and pushing away the different other. Perhaps this explains the empty Tate foyer, or was it just a quiet day?

Curiously, studies of evolution also tell us that survival requires as much diversity as conformity. Difference generates vital creative energy that enables change. This is one of the many contradictions we must somehow cope with. It is why the challenge of difference will never go away. It lurks just below the surface in all of us. For instance, I attend a weekly early morning conversation café, where a few weeks ago I sat facing five women across the table. All are friends. I heard myself speaking about love and suddenly felt 'different' – a lone male trampling over female territory. The female friends before me became formidable women. I shrank back and said sheepishly, 'But who am I to speak of love!'. They accurately read my feelings, encouraged me to speak of love, and this column is the result.

Research summaries

Thanks to James Hawkins
http://goodmedicine.org.uk/goodknowledge

Acupuncture for hot flushes

Some women choose acupuncture for menopausal hot flushes, though the evidence is conflicted, and a range of placebo interventions has been shown to improve menopausal symptoms. Clinicians need to ensure that women understand the evidence and can integrate it with their personal preferences. This article, synthesising the best available evidence, suggests that acupuncture is effective compared with no treatment, but not compared with sham acupuncture. Yet women should understand the evidence, and its strengths and weaknesses, around both effective medical therapies and acupuncture. Likewise, cost to the individual and the health system needs to be considered in the context of value-based health care.

Ee C *et al* (2017) Acupuncture for menopausal hot flashes: clinical evidence update and its relevance to decision making. *Menopause* Mar 27. doi: 10.1097/GME.0000000000000850.

Fennel reduces post-menopause symptoms

Although HRT is the most effective treatment for managing most menopause symptoms, some women turn to herbal medicine because they are either not suitable for HRT or are worried about side effects. Fennel contains essential oils with oestrogen-like properties. In this triple-blind, placebo-controlled trial, 90 post-enopausal women aged 45 to 60 years in Tehran were randomly assigned to treatment (n=45) or placebo (n=45) groups. The participants took soft capsules containing 100mg fennel or a placebo (two a day for each group) for eight weeks of treatment and were followed for two weeks' post-intervention to assess continuing effects. The groups recorded similar mean scores on the Menopause Rating Scale (MRS) questionnaire before intervention. The treatment group showed a significant decrease in the mean MRS score after treatment at 4, 8 and 10 weeks

Fennel appears to be an effective and safe treatment to reduce menopausal symptoms in post-menopausal women without serious side effects. More clinical trials with larger populations are needed to confirm this result.

Rahimikian F *et al* (2017) Effect of foeniculum vulgare mill. (fennel) on menopausal symptoms in postmenopausal women: a randomized, triple-blind, placebo-controlled trial. *Menopause* May 15. doi: 10.1097/GME.0000000000000881

More on the microbionta

This editorial from a systems medicine/genomics journal once again highlights booming scientific interest in the friendly microbes that live on and in us. It proposes that women's health would be 'vastly improved' and diseases prevented by restoration of a healthy vaginal microbiota (see related article on page 17). The authors point us to decades of research revealing the first line of defence in the female reproductive tract is afforded by the human vagina's microbes. Women who are deficient in vaginal *lactobacillus spp* are at risk for serious and costly reproductive diseases and adverse obstetric outcomes including sexually transmitted infections, human immunodeficiency virus (HIV) infections, pre-term delivery, miscarriage, and pelvic inflammatory disease. Yet surprisingly little is known about how a vigorous vaginal ecosystem protects the female reproductive tract or the other roles it may perform. This knowledge gap represents a major challenge to the development of effective and practical clinical therapeutics that could protect and improve the health of large populations of women.

Ravel J, Brotman RM (2016) Translating the vaginal microbiome: gaps and challenges. *Genome Med.* 8 (5) doi: 10.1186/s13073-016-0291-2

Do hormonal IUDs increase breast cancer risk?

The analysis of self-reported survey data from 8,000 breast cancer patients and 20,000 controls from Finland suggests that post-menopausal women who had used a hormonal intrauterine device had a 52% increased risk of breast cancer compared with women who had used copper intrauterine device. Among younger women under 50 the use of other kinds of hormonal contraceptive was associated with a 32% higher breast cancer risk compared with women who did not use hormonal contraceptives. There was also a 23% observed increase in the risk of breast cancer among women who dyed their hair compared with those who didn't. Further prospective research on the effects of hormonal contraceptives, hormonal IUDs and hair dyes is needed to confirm the significance of these factors.

University of Helsinki (2017) Hormonal contraceptives and hair dyes increase breast cancer risk. *ScienceDaily*, 9 March. www.sciencedaily.com/releases/2017/03/170309120440.htm

Exercise for a 'younger' brain

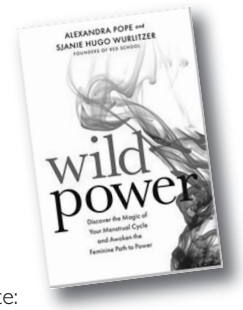
A new study has found that high intensity exercise maintains thinking and memory skills at an age when the chances of dementia or Alzheimer's are highest. The exercise must be high-intensity – running, aerobics or calisthenics. Low intensity exercises such as yoga or walking didn't have the protective benefits for the over-65s. Researchers at the University of Miami looked at the benefits of various types of exercise on a group of 876 people over the age of 65. Their memory and thinking skills were assessed at the start of the study, and seven years later. Only 10% of the group were doing any kind of regular high intensity exercise; the others were doing low intensity or no exercise. In memory and cognitive tests the high intensity exercise group did so much better than the low-activity or no-activity groups that the difference was 'equivalent to a brain 10 years younger'.

www.neurology.org/content/early/2016/03/23/WNL.0000000000002582.short

Reviews

Wild power: discover the magic of your menstrual cycle and awaken the feminine path to power

Alexandra Pope and Sjanie Hugo Wurlitzer
Hay House 2017
ISBN 978 1 78180 758 3



'What has at best been seen as an important biological process is now "officially" being unveiled as a woman's spiritual practice – your most potent ally for creating inner and outer change' (p.227). So begins the epilogue of this remarkable book. Perhaps a book on menstruation may not seem your obvious choice for a page turner, but *Wild Power* is. From the opening sentence: 'Let's start with a wild idea: as a woman you are coded for power, and the journey to realising the fullness and beauty of that power lies in the rhythm and change of your menstrual cycle' (p.xiii), to the last, 'Trust your cycle and allow wild power to return your sovereignty and restore the power of the feminine', this book moves with pace, certainty and a gripping set of propositions, based on 30 years of auto-ethnographic and group evidence based research into the health-giving potential of menstrual cycle awareness (MCA).

The book spearheads the emerging field of menstruality and the authors offer a set of clear and useful instructions for practicing MCA. Through a nuanced and precise description of the two vias, the five chambers of menstruation, and the four inner seasons, an 'archetypal' menstrual cycle is given flesh. This archetypal cycle is offset, with refreshing irreverence and the penchant for emowerment characteristic of this book, with the 'big red rule': 'Your own experience trumps anything we might say' (p.12). As they say simply, 'there are going to be similarities between us but differences'. Nonetheless, despite these differences, the authors expand on the wellbeing available to each woman practicing MCA with or without an 'archetypal' cycle.

The body of menstruality practices described in the book are backed up by the work of The Red School (www.redschool.net), founded by the authors, to offer online and in-person professional training, public talks and workshop teaching the power of the menstrual cycle for self-care and health. The authors are walking – and dancing – their talk. As they explain in their book, the menstrual cycle, and menstruation in particular, is the 'stress sensitive' system of a woman's body and their grand plans to reinstate the full majesty and wise intelligence of the menstrual cycle is: 'a wild idea, whose time has come' (p.xix).

The section on 'menstrual trauma', a term coined by the authors, is of particular note to health practitioners. 'Rather than feeling empowered by the cycle as a spiritual practice, the truth is, many women today feel disturbed by it, and some experience quite extreme suffering, including mental health issues that show up cyclically' write the authors (p.196). The long and distressing list of menstrual symptoms has its roots, they argue, in the cultural denial and fear of menstrual power. This has caused many women – and, traditionally, the medical profession – to doubt or pathologise women's experience of the cycle, in particular the premenstrum and menstruation itself (p.197). A cultural form of 'gaslighting' has destroyed women's trust in their own perceptions of their cyclic reality. More than three decades of practice based research with women has shown that restoring the power of the cycle, using the tools of MCA, over time will reshape a woman's experience of her cycle; soothe her whole system and release menstrual trauma. For some women the effect on painful symptoms is immediate, for others a slower pace, needing to be combined with other self-care practices, for others still the answers may require considerable input from the many holistic health modalities available today. The bottom line is that the practice of MCA clears the path to health and wellbeing.

Wild Power is written with clarity, precision and structure and clear signposting of what is to come at the start of each chapter. This makes for a well organised and highly informative book brimming with insight and information. As well as being practice based and informative, this book is written with a flair for gentle metaphor, allowing the detail of the information to land with resonance for the reader. The menstrual season of 'inner spring' for example, the days after bleeding, is described as a time of promise and possibility, but also of vulnerability. Women who have suffered in their adolescent years can find this a particularly tender and difficult energy to contain: 'It's not unlike a bad frost killing off the tender new shoots of spring. While we may not be able to control the weather, we can, with time, learn to meet the chill wind of our critic…' (p.153).

One of the most potent aspects of this book is the inclusion of the voices of women who through the outreach and education of The Red School, and individual work with Alexandra and Sjanie, are already practicing menstrual cycle awareness (MCA). Apposite extracts are woven deftly through each chapter offering, at salient moments, an experiential evidence base for the process of menstrual trauma recovery and the profound depths of perception available to women practicing MCA. What comes across clearly in this book is a deep commitment, dedication and warmth towards the reader. This book is a genuine lifeline for women navigating the uncharted depths of their menstruality. For anyone working in women's health this book is a must read. I recommend, encourage, insist, you all read this book.

Dr Anna Cole, Research Associate, MCAS, Kings College London

NHS for sale: myths, lies and deceptions

Jacky Davis, John Lister, David Wrigley
The Merlin Press, 2015
ISBN 978 0 85036 627 3

NHS For Sale is a muscular mission of a book. In little over 300 pages its three medical-practitioner authors – aided by a small phalanx of researcher–activists – offer solid and sharp analysis and explanation of how the marketisation of our healthcare is rapidly proving both unsustainable and corrupt.
This authorial mixture of practitioners and analysts is potent: the arguments are clear, the evidence consistent and precise and the writing lean, crisp and restrained in its evidently powerful commitments. Despite being multi-authored, the style has a vivid cohesion that is never dull or committee-toned – even better, it is frequently sprinkled with laconic humour.

NHS for Sale is certainly polemical, yet the quality and intelligence of writing and argument keeps it well away from mere rhetoric, rant or diatribe. It is worth extracting here several extended quotes: these not only capture the main skeleton of the book, but all are good enough to serve as essential caveats or foundation stones for a counter-cultural manifesto: *Restoring Our NHS: the cruciality of public ownership*.

- *Complaining that the private sector maximises profits at the expense of public services is tantamount to complaining that cats kill birds. It is in their nature and the answer is not to try to legislate against the behaviour of cats but to recognise it and take appropriate precautions. No-one would leave their cat in charge of the canary. Equally, private companies cannot be trusted to behave well when delivering public services.*
- *The malign effects of privatisation on those who provide health-care are insidious and multi-faceted, as the corruption of the 'industry' in the USA demonstrates. The medical profession no longer offers an intellectual leadership or the example of social conscience informed by science and humanity. The professional covenant with the patient is reduced to explicit contracts. Doctors become mere sessional functionaries. Loyal company men and women, whose prime responsibility is to their employers, deny patients treatments that do not make a profit while, as front office salespersons, they recommend interventions that may not be in the patient's best interest … Medicine as 'business' places the responsibility on its practitioners to shift as much product as can be paid for.*
- *As Upton Sinclair famously noted, 'it is difficult to get a man to understand something when his salary depends on his not understanding it'. The reality, as is now apparent in England, is that providers are choosing patients and not the other way round.*
- *NHS hospitals are complex organisations whose many departments are interdependent to a high degree, which is often not appreciated by non-clinicians. They resemble children's Jenga towers in as much as removal of one block may lead to instability while the removal of too many blocks will inevitably lead to the collapse of the structure.*
- *NHS specialist teams, representing years of expertise, are like Humpty Dumpty – easy to break up, nigh on impossible to put back together again.*
- [There is] *the interesting problem of how people working in outsourced sectors* [of the NHS] *are supposed to be motivated. Are they expected to work to public sector ethos, while the firms for whom they work are profit-driven – with resulting tensions…? It is a particular dilemma for healthcare professionals, whose duty of care is the patient, but who may find themselves working for the private sector, whose first duty is to shareholders and who act accordingly.*
- *The subsequent creation of commissioning support units (CSUs) has given rise to the possibility that decisions about outsourcing could themselves become outsourced.*
- *This is a prime example of the so-called beggar-my-neighbour behaviour which results in one section of the NHS trying to profit to the detriment of another, and is a travesty of the traditional cooperation which used to characterise the NHS to the benefit of patients.*
- *If politicians had been truthful about this we would long ago have recognised the English NHS market to be a failed experiment that has cost a great deal and delivered little. Based on the evidence, withheld from the public, it should have been abandoned years ago. Therein lies the real damage done by political lies, dishonesty and obfuscation.*

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Such skilled eloquence has caused me to change sides. Previously I had been – mostly – a cock-up theorist rather than a conspiracy theorist. I attributed our NHS follies and impasses to misunderstandings rather than malfeasance; our loss was of human sense, not human concern. I thought that corruption – if and when it occurred – arose secondarily, and later, as a wish to conceal folly, rather than, primarily, as a wish to conceal opportunistic greed.

NHS For Sale has opened my eyes. The writers portray a political-economic oligarchy who mostly conceal the revolving door from those determining the architecture and regulations of our NHS – with easy passage, both ways – to major investors in private health provision and Big Pharma: the 'healthcare industry'. In particular, those behind the conception and protection of the *Heath & Social Care Act* – the turbo-charging of NHS marketisation – are likely to be major financial beneficiaries of the system's trade.

Ideology may be recruited to justify, but this disguises stark self-interest.

The evidence offered is so detailed, specific and precise that it is hard to see how it could be inaccurate – any error would invite punitive libel litigation.

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So, *NHS For Sale* does sterling work in helping us more clearly to see and understand this: how employing the market as a principal incentivising and organising force within healthcare

leads to markedly negative results – to often perverse incentives and fragmentation of services. Clearly this cannot have good economic or human outcomes.

And what of the vital personal hinterlands of vocational experience and relationships – with both colleagues and patients – that may develop from these mistracked systems?

Late on in the book we find this:

> *Professionals by and large are not interested in competing on a financial basis but are easily motivated by professional pride. Nobody sets out in the morning to do a bad day's work, but the NHS has never exploited the natural pride that health professionals have in doing a good job. This is something that has been largely over-looked by management consultants, politicians and others who speak endlessly of 'incentivising' professionals, usually with non-clinical incentives such as targets-with-menaces.*

This is a fundamental point that – I agree – seems to be less and less understood by those now steering and regulating our NHS.

Put another way, we could say: 'people who are happy in their work and working relationships will – with rare exceptions – want to do it well, both for themselves and others. Mostly such motivated good work requires relatively little regulation and management. But the converse is equally true: that the lack of such happiness is a sure path to the kind of de-motivation and poor work that no amount of sticks and carrots, regulators and inspectors, commissioners or managers can ever rectify.'

The latter is what we have now, and increasingly. In human terms what has NHS marketisation brought us? Corporation rather than vocation, contractual compliance rather than personal satisfaction, much data but little dialogue. That marketisation has brought frustrated alienation to both professionals and patients can be clearly seen from multiple vantage points.

NHS For Sale produces massive evidence for the economic and administrative inefficiency brought us through complexity, fragmentation, nepotism and corruption. This last quote alludes only briefly to the consequent destruction of our healthcare's human heart and spirit. Yet this is quite as important as the earlier issues that this book engages so fully and robustly.

But even this very substantial book can take us only so far: for the loss of such humanity cannot be quantified or documented by the kind of schemata and language that serve so well in NHS For Sale. From where this leaves us we need, at least, another path and another book.

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Although I support strongly this main argument, I disagree with the historical account. Before the introduction of the internal market and its allied micromanagement, healthcare professionals felt far more responsively autonomous, validated, affirmed and appreciated. In contrast, the last 25 years have seen all these eroded to leave us with our current parlous conundrum.

My disagreement with this passage thus, paradoxically, strengthens a central argument of the book: people worked better and more happily before marketisation.

David Zigmond, physician in psychological medicine; retired GP

Guidelines for Contributors

About the journal

The Journal of Holistic Healthcare is a UK-based journal focusing on evidence-based holistic practice and the practical implications of holistic health and social care. Our target audience is everyone concerned with developing integrated, humane healthcare services. Our aim is to be useful to anyone who is interested in creative change in the way we think about health, and the way healthcare is practised and organised.

Our basic assumption is that holism can improve healthcare outcomes and will often point to cost-effective ways of improving health. Holistic healthcare can be understood as a response to our turbulent times, and medicine's crisis of vision and values; an evolutionary impulse driving individuals and organisation to innovate. But when complex and creative adaptations do occur, these ideas, experiences and social inventions don't always take root. Though they might be the butterfly wingbeats that could fan the winds of change, even crucial seeds of change may fail to germinate when isolated, unnoticed and lacking the oxygen of publicity or vital political support. Some of these ideas and social inventions have to be rediscovered or reinvented, and thrive once the culture becomes more receptive – or more desperate for solutions.

The JHH sees holism as one such idea, a nest of notions whose time has come. So we want the journal to be a channel for publishing ideas and experiences that don't fit easily into more conventional mainstream journals, because by making them visible, their energy for change becomes available to the system.

The journal's themes include the theory and practice of mind-body medicine; every aspect of whole person care – but especially examples of it in the NHS; patients' participation in their own healing; inter-professional care and education; integration of CAM and other promising new approaches into mainstream medicine; health worker wellbeing; creating and sustaining good health – at every level from the genome to the ozone layer; environment health and the health politics of the environment; diversity and creativity in healthcare delivery, as well as holistic development in organisations and their management: a necessarily broad remit!

Writing for the journal

We intend the journal to be intensely practical; displaying not only research, but also stories about holism in action. Personal viewpoint and theoretical articles are welcome too, providing they can be illuminated by examples of their application. The Journal of Holistic Healthcare is a vehicle for injecting inspiration into the system: ideas and research that might enable positive change. We realise that there is nothing as practical as a good theory, and we encourage authors to foreground what they have done and their experiences, as well as what they know. Though we don't always need or want extensive references, we ask authors to refer to research and writing that supports, debates or contextualises the work they are describing, wherever appropriate. We like further reading and website URLs wherever possible. And we like authors to suggest images, photos, quotes, poems, illustrations or cartoons that enrich what they have written about.

Because the JHH aims to include both authors' ideas and their experience we invite authors to submit case studies and examples of successful holistic practice and services, research findings providing evidence for effective holistic practice, debate about new methodologies and commentaries on holistic policy and service developments. Our aim is to be a source of high-quality information about all aspects of holistic practice for anyone interested in holistic health, including policy-makers, practitioners and 'the public'. We aim to link theory to practice and to be a forum for sharing experiences and the insights of reflective practice.

Articles should be accessible and readable, but also challenging. Key articles will link theory and research to practice and policy development. Contributions from the whole spectrum of healthcare disciplines are welcome.

The journal is particularly concerned to highlight ways of embedding holistic thinking and practice into health care structures, including primary care organisations, networks and collaborative initiatives.

Original research

JHH is a platform for holistic ideas, authentic experiences, and original research. We estimate our regular (and growing) circulation of 700 copies is read by as many as 2000. And, though we don't yet attract researchers seeking RAE points, we are free to be a voice for the kind of ideas, reports, experiences and social inventions that wouldn't fit easily into more conventional mainstream journals: small studies, pilots, local reports, surveys and audits, accounts of action research, narratives, dissertation findings (otherwise hidden in the grey literature), pragmatic and qualitative studies and practice evaluations. By publishing them in the JHH, important seeds for change become available to people who need to grow them on. Another advantage of submitting to JHH is the peer feedback to authors, some of which we may include as commentaries on a published paper.

If you would like to submit an article please contact either editor-in chief David Peters on petersd@westminster.ac.uk or editor Edwina Rowling on edwina.rowling@gmail.com. For our full contributors guidelines see www.bhma.org.

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PROMOTING HOLISTIC PRACTICE IN UK HEALTHCARE