



Human-Mindedness & Cancer

By Alex Concorde, M.D., Ph.D., M.B.A.

Cancer InCytes magazine is rare in its scope of coverage of issues pertaining to disenfranchised populations and their access to healthcare, through to breakthroughs in cancer research.

One of our highest intentions is to encourage readers to make connections between ‘social situations and life events’ and the impact these may have on issues of personal health, including cancer. This may serve to encourage any number of charitable and neighbourly actions at a local level, to inform how we behave at the ballot box at a more regional level, or to improve how we are able to vocalise and validate our expectations of politicians and governments at a national level.

The sorts of social issues we feature in this magazine, which might normally reside outside of many readers’ immediate ken, can be viewed as ‘macro’ issues. One way of tackling macro issues is by looking at how they affect each other, and how they create, or fail to serve, what we would like to regard as ‘Civilized Society’. For example, how marginalization of ethnic minorities affects their access to health care, and therefore their overall health.

Another outlook is *the continuum* between macro societal matters and micro issues – which, here, are singular issues affecting individuals, such as their personal experience of health. For instance, how societal disadvantage may predispose an individual to the development of a particular chronic disease.

In both situations (macro, and macro-micro), 'The Human Mind' is key.

Humanity and Macro-Mindedness

At a 'zoomed out' level, the 'Human Mindedness' of whole societies and governments has a direct impact on 'what's out there' for entire groups of individuals, and how societal disadvantage is created or thwarted. I term this 'macro-mindedness' – the collective societal impact of how we deploy our thoughts and focus as individuals. Overall this affects the degree of humanity, universality, care and compassion of a society – 'human' features which, interestingly, people like to be associated with.

Importantly, the intentional positive deployment of thoughts by the cumulative sum of individuals within a society starts with awareness of, and engagement with, the issues involved. One facet of engagement relates to how easily we can displace ugly or uncomfortable social matters from our minds, especially when they seem to relate to 'other people'.

At times of economic downturn, as many strive to move forward, it may be tempting to vanquish the misfortunes of others to the periphery of our minds. People may inadvertently stray into becoming more self-serving and narrowly-focused, or become defeatist or pessimistic as to how fruitful their efforts for others may prove. Indeed, at such times, governments, also, may disproportionately target the least well-disposed as a source of immediate national savings – sometimes finally jostling near-marginalized people, who are teetering precariously on this side of self-sufficiency, into the abyss.

On account of these challenges, we seek to create a greater awareness of the economic burden *to us all* of our inaction to address issues of social disadvantage, marginalization and injustice. To that effect, for example, in our last edition, we featured a thought-provoking article by Dr. Vincent Felitti, MD, on the economic and medical burden of human trafficking (1). Apart from the immeasurable human cost to individuals in terms of lost quality of life, he spoke of the actual cost in terms of economic burden to society of cognitive impairment and impeded work performance, resulting from mental health issues in adult populations, consequent of childhood trauma.

Another aspect of macro-mindedness is historical and socio-cultural. Though it is blatantly contradictory, even as societies call for equality, the dominant narrative is of 'winners' and 'losers', and at every turn, individual success.... where an emphasis on 'personal agency' can serve to foster a culture of blaming and shaming, and a sense of 'victors' and 'victims'.

However by aligning our individual thoughts and actions with the aspiration of belonging to a more caring and compassionate society, we can all thrive to a greater extent through the minimization of marginalization.

And should you doubt that public opinion has an effect, you will be delighted to hear that the UK government has this week announced a new maximum incarceration sentence of life for persons convicted of human trafficking (2). While there are clearly many facets of that massive problem to tackle, and incarceration brings with it its own problems, it is heartening to recognize that concerns about 'crimes against humans' have risen up the political agenda, even as we struggle with our economic woes, on account of the public's increased awareness of and engagement with the impact of trafficking on human lives.

So that is about 'The Human Mind' on a macro level – important for cultivating 'Humanity Mindedness'.

The Human Mind and the Macro-Micro Continuum

At a 'zoomed in' level, on a personal basis, the Human Mind links 'what's out there' with 'what happens to our bodies at a physical level' – or, more accurately, 'physiological level' (i.e. appertaining to 'body systems') - with a direct impact on health and disease. So, on a macro-micro basis, for each individual, how the social world affects our mind and brain processes directly alters our 'internal milieu' – how our body systems are 'geared' (my term), and the chemicals swirling around, plus their effects on our every body function, from whole systems to cells.

Consequently - as highlighted in Dr Vincent Felitti's article (1) - emotional, mental, and physical trauma during childhood are correlated with higher risk for many diseases in adulthood, including coronary heart disease, depression, substance abuse and autoimmune disease. Therefore societal issues causing adverse personal experience, indi-

vidual stress and trauma can affect both the overall medical burden of disease within society, and the personal burden of disease adding to an individual's disadvantage - and therefore, on both accounts, the economic burden of societal marginalization as a whole. So, it suits us all to be better informed and aware.

So what are the direct links between the 'macro' and 'micro'? How does one affect the other? How and why can the development of cancer relate to the wider social context? For now, I seek to provide an overview for more in-depth exploration in later editions, which shows 'how we can go about our thinking' when seeking explanations as to why micro issues - such as the predilection to developing cancer - can reflect the social issues we are concerned with in this magazine.

Instead of thinking about 'stress' as if it is one uniform 'out there' 'thing', I prefer to give it more character so that we have a better handle on what's going wrong. I consider two major types of stress - one I'm terming 'provocative' stress (for example, as would feature in child development in threatening surroundings, domestic abuse, human trafficking or incarceration), and the other due to the effects of coping with limited resources, or 'impoverished stress' (i.e. stress arising in 'inhospitable' and limiting circumstances, or on account of 'forbidden' opportunities, as may occur in any form of social injustice, disadvantage or marginalization).

Either way, stress is a factor in expression of disease. The toll of stress is not, as many imagine, merely the effects of dramatic incidents of stress, but rather the sum total of many events, or ongoing circumstances, or unrelenting 'provocation', creating an 'allostatic load' - i.e. an individual burden of 'wear and tear on the body' which grows over time when they are exposed to repeated or chronic stress, as physiological systems seek to cope and adapt, and also as your psychology and behaviour changes alongside.

This wear and tear is accentuated by dietary inadequacies, unsuitable or insufficient exercise, substance abuse, and often life-long sets of behaviors and physiological reactivity reflecting attempts to compensate for external limitations and adverse circumstances. How we process information, even, or perceive the world, are features of

our individual experience - which affect our bias in selective attention, responsiveness and response to 'what's out there', thereby rendering us increasingly affected by, or more attuned to, different aspects of our social circumstances, over time.

Because of all these factors, there can be a propagating effect of any stress that alters the way you or your body react to stress or different stressors - and, essentially, the more opportunity a stress within your life experience has had to change how you, your mind, or your body systems are 'placed with' or 'react to' external circumstances (or the lack of them), the greater the potential adverse impact on your health.

It is interesting that when speaking about 'social factors' and 'cancer' in disadvantaged populations, there is an assumption that poverty or adverse circumstances *inevitably* increases the risk of the disease. Importantly, virtually all factors that may influence the *incidence* of developing cancer (the actual *getting* of cancer) in different social groups (some highlighted above) could theoretically be changed. Socio-economic/health scales also tend to indicate that total mortality - which reveals both incidence and *survival* - for all cancers for which people 'better placed' appear to fare better than those 'worse placed' (i.e. breast, bladder, colon and endometrial cancers), do not solely reflect the medical care received, but also pathways by which social factors affect body mechanisms at play in the etiology of the disease. Therefore health care disparities may at best only play a partial role.

On an individual basis, in terms of stress-related 'adversity transduction' - my term for the means by which adverse circumstance can be transferred into adverse biology - many answers regarding how we can offset the effects of either 'provocative stress' or 'impoverished stress', reside in the sophisticated application of 'mind-body science'. In other words psychoneuroimmunology (PNI; mind-body-immunity), and psychoneuroendocrinology (PNE; mind-body-hormones), and psychoneurobiology more generally (including the role of neurological systems and neurotransmitters, and their effects on the immune system and endocrine 'milieu'). For those who might now posit that broader environmental factors with a biological impact could not be

changed – including, say, one's exposure and response to toxins, potentially greater for disadvantaged populations – it is clear that counter-mechanisms could be employed (for example, by dietary means that reduce the overall burden of 'oxidative stress' which contributes to the allostatic load).

That covers some of the direct biological effects of the environment, the 'environment within' as influenced by circumstances 'without', and, at the 'top end', extends to the role of the mind in dealing with adversity, perceiving one's personal situation, and processing external information.

Taken together, all this suggests that many dimensions of the disease process that may 'predispose' people who are socially-disadvantaged towards cancer – or indeed any other of the diseases we have mentioned – may eventually be changed.

That is not in any way to substitute for an emphasis on irrevocably changing the social determinants that put people on the receiving end of a circumstantial battering, nor to take the foot off the gas on all those macro issues that must be addressed to sustainably alter the circumstances that serve to magnify human plight, misery and disadvantage.

But we must also not lose sight of the fact that individuals need not *necessarily* fall foul of their circumstances in so far as their health is concerned, and that it is *possible* that macro-micro pathways can be positively affected so that even the most seemingly insurmountable biological effects are not *inevitable*.

Okay, all in all there's a really long way to go. But with enough will, we can go a long way.

So what will it take? Again this requires that society becomes better informed, aware, engaged and humanity-minded. Starting with us! So I greatly hope that your brush with Cancer_Incytes has led you to be motivated to learn more and join us on this important human journey... and to share this and other articles that you've discovered on this site, far and wide.

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References

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