Piece for the Australian Community Transport Association

Attention Murray Coates

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Headline:

Your destination isn't where you think it is

Strap:

Dr Norman Swan puts the work of ACTA members into a broader perspective.

You know that what you do is important. You don't need me to tell you it's far more than transporting a person who's frail, disabled or disadvantaged. But do you know how much more it is than that? By keeping people connected to their communities, by reducing loneliness, by allowing people some personal freedom which their situation might otherwise deny, you're changing people's minds and bodies in fundamental ways and maybe your own at the same time.

Let me explain because there's solid science around this. The story I'm about to tell you might sound as if it's a meander but it has a direct route to your work.

In every nation, in every community, there's what's called a health gradient. There are people who live longer healthier lives than others, who have lower rates of cancer and heart disease and dementia than others. This isn't a random thing. It's predictable but the reasons for it may not be what you might imagine.

An Australian expatriate researcher in London, Professor Sir Michael Marmot wanted to find out why such health gradients exist, so he studied the British Civil Service. There he found - unsurprisingly - that the people at the top of the tree were much healthier than the people lower down the hierarchy. Now everyone's first thoughts would be that the bosses had

better diets, went to the gym, had lower cholesterol levels, better access to health care and more education. Now all that was true and these factors did explain why there was a difference in health from top to bottom, but importantly, not completely. There was something missing in the explanation. By the way, education is really potent. The further you go in education, the longer you live and the later you get dementia, if you get it at all. But as I said, there was still a factor they hadn't found.

Professor Marmot and his team then factored in a psychological phenomenon called locus of control. Put simply, locus of control is about where you feel your control is over decisions about life, family and work. A good place to be is where your locus of control is with you. A bad place is where you lose your locus of control. It moves from you to a lousy boss, an oppressive job, loneliness, poverty or disadvantage. Something or someone else controls your life. When people's locus of control was added to the analysis, it explained a lot of the missing gap. The question was why would something psychological affect tangible, medical things like heart disease?

Another researcher Professor Len Syme in California studied people who had lost locus of control to see how it affected their lives. What he found was that people lost their ability to make decisions and act. Single parents would be paralysed when calling social services. Given the choice of what number to press for what service, they just hung up. They'd lost the ability to make decisions and act. They'd lost self-efficacy. That's also sometimes seen in people with a cancer diagnosis where within a few weeks, they can feel their lives have been taken over by their doctors and chemo. When people lose locus of control, they feel bad. They feel chronically stressed. We know it when we feel it. It's why your elderly parents get titchy when you say they need some extra help at home. They think it's the first step to someone else deciding their lives and the slide to aged care. Aboriginal communities know all about locus of control which is why they put a premium on community-controlled organisations such as medical services.

The fundamental message here is that the brain runs everything.

In New York, a neuroscientist, Professor Bruce McEwen took these findings and looked at what was going on in the brain. What Bruce McEwen found was that this chronic stress - he called it allostatic load – changed the way the brain worked and that affected the immune system, the heart and blood vessels and general metabolism. In essence the body was on long term alert, feeling there was danger and threat. So the immune system fired up ready for an attack from the outside. Blood pressure went up and stress hormones like cortisol which affect metabolism, rose. All these – especially the immune system activation which causes inflammation – prematurely age every tissue in the body from the heart to the brain.

And it compounds. It multiplies.

Take, for example an older person who's lost their partner. Their kids are no longer nearby. Their friends are dying or moving away. This person's loneliness and isolation is a stress which speeds up ageing. But it's more than that. There's no one to cook for, so why would I bother making a fancy meal? I'll just have a cheese sandwich or Vegemite on toast for dinner. That monotonous diet then has an effect on their microbiome. The health-giving bugs in their bowel are lost or reduced and replaced with bacteria which themselves send chemical messages to the brain and body which speed up ageing and tissue damage further. Moderately intense exercise reverses some of this as does a nutrient rich diet but that's not easy for everyone to achieve.

The results of this according to this body of research are not just accelerated ageing but the diseases of ageing as well, primarily type 2 diabetes, coronary heart disease and, perhaps, cancer.

Which brings me back to you and the work of ACTA's member organisations.

You unlock people's lives. You transport them not just to a medical appointment but into the world. You give them some personal agency back. You connect them. You get to know your 'passengers' and they become much more than that. You do that little bit more for

them that few people on the outside recognise. You're actually making them biologically younger.

This is in several ways in addition to giving people a greater sense of control over their lives. For example the simple act of taking someone shopping has the potential to transform their nutrition. If you're walking down the aisle with people, there's the opportunity for a chat about meals and cooking. For instance, not all convenience foods are bad for people. Frozen vegetables retain the health-giving chemistry of fresh vegetables. A diverse diet means a diverse microbiome which lowers the rate of ageing.

This applies to brain health as well. Mental health issues such as depression, drinking too much when you're older, lack of physical activity and social isolation are toxic for brain health and are risk factors for cognitive decline. The community transport team on the front line, are walking, talking early detectors of medical problems. This can make an enormous difference to individual and public health. You constantly hear politicians and bureaucrats talking about the burden of chronic disease - illnesses which will never go away once you've got them but which can be controlled with good care. Without good care and in the absence of early intervention when you see a decline, the patterns of diabetes, heart disease, heart failure and arthritis are like a staircase downwards with each step often accompanied by an urgent visit to the emergency department or an admission into hospital. Many of these admissions and visits are avoidable if a person is identified who might be heading down the staircase. The idea is to keep people well away from the stairs and as well as possible for as long as possible, and you're often the ones who notice that things aren't as right as the last time you saw the person, especially if they live alone. Your intervention could make all the difference.

The work of community transport is about how we live together and making that easier. It's about giving people agency and returning their locus of control, control. It's about biology.

They're intertwined and you are able to provide the glue that holds them together.

Further reading

Marmot, M. Social justice, epidemiology and health inequalities. *Eur J Epidemiol* **32**, 537–546 (2017). https://doi.org/10.1007/s10654-017-0286-3

Johnson RE, Rosen CC, Chang CH, Lin SH. Getting to the core of locus of control: Is it an evaluation of the self or the environment? J Appl Psychol. 2015 Sep;100(5):1568-78. doi: 10.1037/apl0000011. Epub 2015 Feb 9. PMID: 25664470.

Wallston BD, Wallston KA. Locus of control and health: a review of the literature. Health Educ Monogr. 1978 Spring;6(2):107-17. doi: 10.1177/109019817800600102. PMID: 357347.

Tsey K. The control factor: a neglected social determinant of health. Lancet. 2008 Nov 8;372(9650):1629. doi: 10.1016/S0140-6736(08)61678-5. PMID: 18994654.

Adler, N.E., Marmot, M., McEwen, B.S., and Stewart, J. (Eds.) Socioeconomic Status and Health in Industrial Nations: Social, Psychological, and Biological Pathways. *Annals of the New York Academy of Sciences: New York*, 1999

McEwen, B.S. and Wingfield, J.C. The concept of allostasis in biology and biomedicine. *Horm. & Behav*. 43:2-15 (2003)

McEwen, B.S. Protective and damaging effects of stress mediators. *New England J. Med*. 338: 171-179 (1998)

Syme SL. Social and economic disparities in health: thoughts about intervention. Milbank Q. 1998;76(3):493-505, 306-7. doi: 10.1111/1468-0009.00100. PMID: 9738172; PMCID: PMC2751086.

Beaglehole R, Ebrahim S, Reddy S, Voûte J, Leeder S; Chronic Disease Action Group. Prevention of chronic diseases: a call to action. Lancet. 2007 Dec 22;370(9605):2152-7. doi: 10.1016/S0140-6736(07)61700-0. Epub 2007 Dec 11. PMID: 18063026.