Journal & Proceedings of the Royal Society of New South Wales, vol. 158, part 2, 2025, pp. 289–291. ISSN 0035-9173/25/020289-03

Thomas Julius Borody (1950–2025) FRSN

Emeritus Professor Robert Clancy AM FRSN

Email: robert.clancy181@gmail.com

Thomas Julius Borody died on 4 October 2025 from the complications of a chronic illness. Born on 12 January 1950, he was 75 years old. Tom was probably the last of the great Australian individual physician-scientists working from a solo medical practice, supporting his research through his clinic. History will record his ground-breaking research, always focussed on what most affected his patients — the big questions — and always coming up with the big answers. He was a proud Fellow of the Royal Society of NSW, reflecting the spirit of those founding forefathers of NSW science.

Tom came to Australia from Poland, never losing that connection through a loyal Polish patient cadre. A stellar academic career, beginning at the University of NSW, then St Vincents Hospital, the Garvin Institute, and the Mayo Clinic was followed by his establishing the Centre for Digestive Diseases (CDD) in Five Dock, Sydney, in 1984. Prior to commencing at the CDD, he spent time as a medical missionary in the Solomon Islands, an experience he credited with influencing his approach to solving clinical problems, with a particular focus on manipulating pathology caused by microbes. Tom would become recognised internationally as a world-leading clinical scientist for his extraordinary contributions to managing dysbiotic microbiomes (that is, disease caused by distortion of the normal bacterial populations residing in the gut through the appearance of bacteria linked to a disease). Regularly, at international medical meetings, I would be asked "where is Tom Borody?" before any other Australian medical scientist. The reason is that he made a difference in the gastroenterological challenges of the day.

Few are aware of the extent that his discoveries changed the lives of millions throughout the world.

First, peptic ulcer disease. For those of us working as hospital residents in the 1960s through to the mid-1980s, no matter whether you were on a medical or surgical team, your days and nights were dominated by complications of peptic ulcers in the stomach and duodenum — life-threatening haemorrhage, perforated ulcers, stenotic obstruction, penetrating ulcers or ulcer-related carcinoma of the stomach were part of your daily activities, as 20% of men would develop an ulcer. Ulceration involving the stomach and duodenum was the medical tsunami of the 20th century. Our colleagues Barry Marshall and Robin Warren deservedly received the Nobel Prize in Physiology and Medicine in 2005 for recognising the association of *Helicobacteria pylori* with duodenal and gastric ulcers at a time when we all believed in the "Wilfred Card" paradigm that ulcers were due to the outcome of "acid + pepsin vs mucosal resistance." To neutralise the acid, we filled patients with calcium carbonate to the point of toxicity. The problem was that Marshall and Warren were unable to eradicate the bacteria and thus unable to prove causation. Borody drew on his expe-

rience with tuberculosis in the Solomon Islands. This taught him the importance of combination antibiotic regimens. Marshall had shown that a combination of bismuth and certain antibiotics could reverse gastritis and give relief, but the condition often recurred. Borody discovered that combining bismuth, metronidazole and tetracycline cured 96% of duodenal ulcers and eradicated *H. pylori* in over nearly all cases. By showing that eradication of *H. pylori* and duodenal ulcers persisted with ulcer recurrence at less than 1% per year, Borody had established causation. He further refined treatment to include a proton pump inhibitor to suppress acid secretion and then developed his "escape" therapy to eradicate resistant *H. pylori* resulting from abbreviated commercial therapies.[1] A review of the impact of Borody's discovery of Triple Therapy 25 years after its introduction in Australia in 1985 estimated a saving of 18,000 lives, 260,000 life years, 33,000 productive life years and in excess of $10 billion![2]

Borody's second discovery rivals his triple therapy in importance. It would transform interest and occasional forays into faecal transplantation into clinical relevance. It began with a study published as a letter in the *Australian Medical Journal* in 1989, showing benefit following faecal microbiome transplantation (FMT) in a group of recipients with *Clostridium difficile* (a life-threatening infection), inflammatory bowel disease and irritable bowel disease.[3] FMT cures *C. difficile* in over 90% of cases. Over the subsequent 25 years, 14,000 FMTs have been performed at the CDD, with Borody recognised as the modern "father" of microbiome replacement therapy. New therapeutic targets included systemic disorders such as Parkinson's disease and autism. It was Borody's keen observation of collateral benefits in these patients, treated for a primary gut problem, that opened up FMT to wider fields.

The third discovery was to expand on earlier limited studies in Crohn's disease to develop a triple antibiotic therapy focussed on intracellular bacteria. Successful clinical trials aimed at reducing the load of *Mycobacterium avium s. Paratuberculosis* (MAP) in Crohn's patients provides a major new approach to managing a disease of growing importance. Current therapy aims only at suppressing the inflammatory response to persistent intracellular bacteria, therapy that is symptomatic but fails to eradicate the primary cause. Combining triple anti-MAP antibiotic therapy with FMT in a group of patients with Crohn's gave complete remission without therapy for many years, leading Borody to claim a "cure" for this major blight on humanity.

To these three major contributions, others can be added. They include improved bowel preparations for colonoscopy, anaesthetic apparatus improvements, drug treatment combinations for constipation, parasitic disease — the list goes on. His last significant contribution was in COVID. The early phase of the pandemic was consumed

1 See Borody TJ (2021) *Helicobacter pylori* causes peptic ulcers. *JProcRSNSW* 154: 44–46. https://doi.org/10.5962/p.361954

2 Eslick GD et al. (2020) Clinical and economic impact of "triple therapy" for *Helicobacter pylori* eradication on peptic ulcer disease in Australia. *Helicobacter* 2020;00: e12751. https://doi.org/10.1111/hel.12751

3 Borody TJ et al (1989) Bowel-flora alteration: a potential cure for inflammatory bowel disease and irritable bowel syndrome. *Medical Journal of Australia*, 150, May: 604. https://doi.org/10.5694/j.1326-5377.1989.tb101176.x

in misinformation, with available repurposed drugs avoided as a threat to newly developed genetic vaccines. Tom developed an effective "triple drug therapy" based on ivermectin, doxycycline and zinc which remains in development. As with other ventures attracting controversy at the time, he is supported by science and history, with ivermectin confirmed as safe, effective and cheap in 53 randomised controlled trials.

Few have achieved the success reached by Tom Borody in one major area of medicine, let alone three. He built a clinical research unit within a full-time private clinic, without the advantages enjoyed by career academic medical scientists. His award by thesis of a DSc is most unusual, if not unique, amongst full-time clinicians in private practice. In 2004, *The Australian Medical Journal* celebrated 90 years of publication by listing the ten most cited papers over that time: two were by Nobel Prize winners Warren and Marshall; another two were by Tom Borody.

My association with him came from a search for a gastroenterologist prepared to work with an academic by allowing development of a wet laboratory in his clinic to gather and process specimens — Tom's hand was the only one raised. An incredibly productive collaboration followed (and continued until COVID-19) with new insights into immune dysfunction in *H. pylori* disease and Crohn's disease and the first trial of a "yes/no" test for *H. pylori* using finger-prick blood (the precursor for RAT tests used in COVID diagnosis). This experience reflected the intellectual enquiry and generosity of spirit Tom Borody had in sharing his time and resources to find answers to important questions. He was a warm, generous and kind person — fun to be with but always challenging!

This obituary reflects a personal experience with a great man — we shared science, clinical work, and a close personal relationship for more than 25 years. The long list of medical contributions does not capture the extraordinary commitment and quality relationship Tom Borody had with every patient: from film stars flying in from the US for the day, to a local pensioner living across the road, every patient was equally important. Every patient was a friend, often sharing mobile phone numbers. They saw in him a capacity to individualise their medical problem, to think outside the square and to treat them and their medical problem as unique. His boundless enthusiasm exhausted all but him — exchanging emails at midnight several times a week, always finished with Tom sending the last contribution to whatever the challenging question of the day may be.