Article Feature:

- Climate Change, Food and Water Security, and the Role of General Practitioners
- Early Diagnosis of Dementia in LMICs: The Case of Fiji

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Guest Editorial

Climate Change and Human Health in Fiji: Challenges, Impacts and Adaptation Strategies

Author: Dr. Anushka Prasad

Abstract

Fiji is among the Pacific nations most exposed to the health consequences of climate change. Rising temperatures, extreme weather events, and environmental degradation have intensified risks of vector-borne and waterborne diseases, heat-related illness, malnutrition, and psychosocial distress. Recent dengue fever outbreaks, worsening water and sanitation stress, and food insecurity highlight the urgency of adaptation. Drawing on multiple assessments, including the *Human Health Vulnerability to Climate Change in Fiji* report, *the Lancet Countdown Fiji Country Brief*, and global analyses of small island developing states (SIDS), this article synthesizes evidence on climate–health linkages in Fiji. It also reflects on the practical role of general practitioners (GPs) in responding to these challenges within private practice and community settings.

Introduction

Small island developing states (SIDS), such as Fiji, contribute minimally to global greenhouse gas emissions but face disproportionate health impacts from climate change [1]. Fiji's reliance on natural resources, combined with geographic location and exposure to cyclones and flooding, amplifies its vulnerability[2].

In practice, these vulnerabilities present daily challenges for general practitioners. In recent years, Fiji has faced record dengue epidemics, prolonged heatwaves, and food system disruptions, illustrating how climate variability directly affects patient care. Experts have warned that SIDS are on the brink of "climate-induced catastrophe," with healthcare systems already under strain [3].

Climate-Driven Health Impacts

Heat Exposure and Extreme Weather

Rising temperatures have increased cases of heat stress and dehydration, particularly among older adults and patients with chronic disease[4]. Severe cyclones, such as Winston in 2016, created cascading health crises, disrupting hospital services, damaging homes, and fueling outbreaks of infectious diseases[5].

Vector Borne and Waterborne Diseases

Vector-borne diseases, especially dengue, are increasingly common in GP clinics. Fiji reported nearly 11,000 dengue cases and eight deaths in 2025 [6]. Waterborne illnesses such as leptospirosis and diarrhoeal disease also surge after flooding[1].

Projections indicate that each 1°C increase in average temperature could drive a 3% rise in infant diarrhoeal cases[1]. This is compounded by inadequate sanitation, despite a US $40 million wastewater infrastructure expansion[6].

Nutrition and Food Security

Climate shocks—cyclones, saltwater intrusion, and drought undermine local food production and reduce dietary diversity. This drives reliance on imported, calorie-dense processed foods, contributing to both undernutrition and the worsening epidemic of NCDs, particularly obesity, diabetes, hypertension, and cardiovascular disease[1].

NCDs already account for more than 80% of deaths in Fiji, and climate change further complicates prevention and management. Disruptions to supply chains limit access to essential medications such as insulin and antihypertensives during disasters. Heatwaves also exacerbate cardiovascular strain, complicating care for patients with chronic conditions[1].

Mental Health and Livelihoods

Climate-related displacement and livelihood loss are linked to anxiety, depression, and psychosocial distress. Young people increasingly report "climate anxiety" [1]. Livelihood disruptions in agriculture, fisheries, and tourism further exacerbate inequalities[1].

Fiji's Adaptive Responses

National Assessments and Strategies

The Human Health Vulnerability to Climate Change in Fiji report identified infectious disease, nutrition, and mental health as key adaptation priorities[1].

PCCAPHH Project

The Piloting Climate Change Adaptation to Protect Human Health (PCCAPHH) project improved Fiji's capacity for disease surveillance, workforce training, and public education[1].

Infrastructure and Systems

Investments include expansion of sanitation systems and climate-proofing of healthcare facilities[1]. However, access for remote maritime communities remains limited.

Emerging Challenges

- Escalating dengue epidemics linked to wetter, warmer conditions[illegible].
- Environmental degradation, including mangrove destruction, which removes natural buffers[illegible].
- Weak policy integration across health, agriculture, and environment sectors[illegible].
- Under-recognised mental health needs, especially in relocated communities[illegible].

Recommendations

1. Surveillance and Early Warning – Expand climate-sensitive disease monitoring, hotspot mapping, and data sharing.
2. Infrastructure Resilience – Climate-proof hospitals, strengthen rural clinics, and modernize sanitation.
3. Ecosystem Restoration – Restore mangroves and wetlands as natural buffers.
4. Food and Nutrition Security – Promote climate-resilient crops, strengthen local food systems.
5. Community Engagement – Educate on heat safety, dengue prevention, and safe water practices.
6. Policy Integration – Mainstream health into climate and disaster frameworks
7. Mental Health Support – Integrate psychosocial care into disaster preparedness and relocation planning.

Practice Implications for General Practitioners

For GPs in private and community practice, climate change manifests as daily clinical realities:

- Patient education: Counselling on hydration, food hygiene, and dengue prevention.
- Early recognition: Identifying heat-related illness, vector-borne infections, and malnutrition promptly.
- Medication reviews: Supporting patients with chronic disease during heatwaves or disasters.
- Mental health support: Providing initial counselling for climate-related stress and clear referral pathways.
- Advocacy: Acting as trusted community voices, GPs can push for healthier infrastructure, clean water, and resilient food systems.
- By embedding these practices, GPs help safeguard health at the intersection of climate and chronic disease.

Conclusion

Fiji's health sector is at the frontline of climate change. Escalating dengue epidemics, food insecurity, and heat-related illness reflect the multi-dimensional risks confronting patients. While progress has been made through PCCAPHH and infrastructure upgrades, persistent vulnerabilities demand accelerated, cross-sectoral action.

For general practitioners, especially in private hospitals and clinics, climate change is not an abstract challenge but a daily reality shaping consultation. GPs have a vital role in prevention, early detection, patient education, and advocacy. Protecting health in Fiji requires integrated strategies combining ecosystem restoration, resilient infrastructure, disease surveillance, and mental health services—anchored in community-level practice.

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Guest Editorial

Climate Change, Food and Water Security, and The Role of General Practitioners

Author: Dr. Shiruka Swami

Introduction

Climate change refers to long-term alterations in temperature, precipitation, wind patterns, and other aspects of the Earth's climate system, primarily driven by human activities such as fossil fuel combustion, deforestation, and industrial processes (IPCC, 2021). These changes are leading to increased global temperatures, more frequent and severe weather events, and disruptions in natural systems. Climate change is an escalating global crisis that threatens fundamental resources essential for human survival, chiefly, food and water. The stability and availability of these resources are deeply intertwined with climate patterns, and disruptions have severe consequences for public health (Watts et al., 2021). General practitioners, as primary healthcare providers, are at the front line of managing the health effects that arise from food and water insecurity. Understanding these links is critical to strengthening the healthcare response to climate-related challenges.

Climate Change and Food Security

Food security is defined as consistent access to sufficient, safe, and nutritious food necessary for a healthy life (FAO, 2023). Climate change threatens food security in Fiji through a range of environmental challenges that reflect global trends but also carry unique local implications.

- **Crop Production Declines:** Fiji's agriculture relies heavily on small-scale subsistence farming, with staple crops such as taro, cassava, and sweet potato. Rising temperatures, shifting rainfall patterns, and increased frequency of droughts and cyclones have disrupted planting cycles and reduced yields (Government of Fiji, 2020). Heat stress and water scarcity hinder crop growth, threatening both local food supplies and farmer livelihoods.

- **Pests and Diseases:** Warmer and more humid conditions in Fiji have led to the increased spread of crop pests and diseases, further challenging agricultural productivity (FAO, 2023).

- **Soil Degradation:** Intense tropical storms and heavy rainfall contribute to soil erosion and nutrient depletion in Fiji's farming areas, reducing soil fertility and arable land availability (Singh et al., 2018). Conversely, droughts in some regions lead to soil degradation and reduced moisture, compounding food production difficulties.

- **Fisheries Impact:** As an island nation, Fiji's food security is closely linked to marine resources. Ocean warming and acidification have affected coral reefs and fish populations, crucial for both nutrition and local economies. Declines in fish stocks threaten the dietary protein sources of many coastal communities (SPREP, 2021).

- **Food Supply Chain Disruptions:** Extreme weather events, such as cyclones, frequently damage transport infrastructure and disrupt food distribution networks across Fiji. This not only causes food shortages but also drives up prices, making nutritious food less affordable for vulnerable populations (UNDP, 2021).

The combined effect of these climate-related environmental changes is a reduction in food availability, increased food prices, and compromised food quality in Fiji. This increases the risk of malnutrition, including undernutrition and micronutrient deficiencies, while also potentially contributing to poor dietary choices linked to obesity and related chronic diseases.

Climate Change and Water Security

Water security means reliable access to adequate quantities of safe water for health, livelihoods, and ecosystem sustainability. In Fiji, climate change poses serious threats to water security through several interconnected pathways.

- **Changing Precipitation Patterns:** Fiji experiences a tropical climate with distinct wet and dry seasons. Climate change has led to more erratic rainfall patterns, intense flooding during wet seasons and prolonged dry spells in others. These shifts cause unpredictable water availability, making it difficult for communities and agriculture to rely on consistent water supplies (Government of Fiji, 2020).

- **Melting Glaciers and Snowpack:** While Fiji itself does not have glaciers or snowpack, many Pacific islands depend indirectly on upstream water flows influenced by larger regional hydrological cycles. Changes in these cycles, along with altered ocean currents, can impact Fiji's freshwater resources, especially in river basins critical for drinking water and irrigation.

- **Increased Evaporation:** Rising temperatures in Fiji accelerate evaporation from reservoirs, rivers, and soils, reducing the amount of water available during dry periods (FAO, 2021). This exacerbates drought conditions, stressing both human consumption and agricultural needs.

- **Water Quality Deterioration:** Fiji is highly vulnerable to tropical cyclones and flooding. Floodwaters frequently contaminate drinking water sources with pathogens, chemicals, and sediments, leading to outbreaks of waterborne diseases such as typhoid, leptospirosis, and diarrheal illnesses (WHO, 2020). During droughts, reduced water volumes concentrate pollutants, further degrading water quality and increasing health risks.

The cumulative effect of these changes in Fiji is reduced access to safe, clean drinking water, challenges in sanitation and hygiene, and heightened vulnerability to infectious diseases, particularly in rural and low-income communities.

Health Implications Related to Food and Water Insecurity

The health consequences of food and water insecurity in Fiji, driven by climate change, are both widespread and deeply interconnected. Fiji's status as a small island developing state with limited resources, geographic isolation, and high exposure to climate extremes makes it especially vulnerable to the health impacts outlined below:

- **Malnutrition:** In many rural and maritime communities across Fiji, subsistence farming and local fisheries are key sources of food. Climate-induced crop failures and declining fish stocks reduce food availability, contributing to undernutrition, especially in children. Undernutrition in Fiji has been linked to stunting, weakened immunity, and poor educational outcomes in early childhood (FAO, 2023).

- **Micronutrient Deficiencies:** Limited access to diverse and nutrient-rich foods exacerbated by poor harvests, rising food costs, and damaged supply chains has resulted in widespread deficiencies in iron, iodine, and vitamin A, particularly among pregnant women and young children. These deficiencies impair development and increase the risk of disease (Watts et al., 2021).

- **Foodborne Illnesses:** Fiji's warm, humid climate, now intensified by rising temperatures, facilitates the rapid growth of pathogens in improperly stored or contaminated food. Outbreaks of food poisoning, bacterial infections, and gastrointestinal illnesses often increase after cyclones and during periods of power or infrastructure disruptions (WHO, 2020).

- **Waterborne Diseases:** Flooding and contaminated drinking water supplies have led to recurrent outbreaks of waterborne illnesses such as typhoid fever, leptospirosis, and diarrheal diseases in both rural and peri-urban areas. These diseases particularly affect children, who are more vulnerable to dehydration and complications. After severe weather events like Tropical Cyclone Winston (2016), Fiji saw a significant rise in such cases (WHO, 2020).

- **Chronic Diseases:** As healthy, fresh food becomes less accessible or affordable due to climate-related disruptions, many Fijians turn to cheaper, imported, processed foods high in sugar, fat, and salt. This nutritional shift has contributed to Fiji's growing burden of non-communicable diseases (NCDs), including obesity, type 2 diabetes, hypertension, and cardiovascular disease, which are now leading causes of mortality in the country (Watts et al., 2021).

- **Mental Health Impacts:** The uncertainty and stress caused by food and water shortages, displacement due to climate disasters, and the ongoing financial strain on households contribute to anxiety, depression, and psychological distress. As per the WHO report in 2020, general practitioners in Fiji report increasing numbers of patients experiencing mental health issues related to climate stressors, especially in communities hit hardest by extreme weather events (WHO, 2020).

Together, these health issues create a cluster of interconnected conditions worsened by social and environmental stressors. This complex reality places extra strain on Fiji's healthcare system, particularly on primary care providers such as general practitioners, who are expected to diagnose, treat, and educate patients while navigating resource limitations (Watts et al., 2021).

The Role of General Practitioners

General practitioners are critical in managing and mitigating the health impacts of food and water insecurity driven by climate change. Their role spans several dimensions:

1. **Early Identification and Management of Nutritional Disorders**
   - GPs frequently encounter patients with signs of undernutrition and micronutrient deficiencies, particularly in rural and outer island communities affected by cyclones, droughts, and crop failures (FAO, 2023).
   - They provide nutrition counselling tailored to locally available foods, even when healthy options are limited due to disrupted supply chains or damaged crops (Government of Fiji, 2020).
   - Coordination with dietitians, school feeding programs, and community health workers is essential in improving nutritional outcomes, especially in areas where child stunting and maternal malnutrition remain concerns (FAO, 2023).

2. Diagnosis and Treatment of Waterborne and Foodborne Diseases

- GPs are often responsible for early detection and reporting disease clusters to public health units, helping to control outbreaks through rapid local responses (WHO, 2020).
- They also educate communities about hand hygiene, boiling drinking water, and safe food preparation, vital in areas where sanitation infrastructure is compromised (WHO, 2020).

3. Supporting Vulnerable Populations

- Vulnerable populations such as children, pregnant women, the elderly, and people with disabilities bear the brunt of climate-related food and water insecurity (Watts et al., 2021).
- GPs play a key role in monitoring child growth and maternal health, ensuring early interventions when signs of malnutrition appear (FAO, 2023).
- They help link patients with government aid programs, such as food vouchers or water tank subsidies, and collaborate with NGOs providing emergency food and clean water during climate crises (UNDP, 2021).

4. Community Education and Advocacy

- GPs in Fiji serve not only as clinicians but also as trusted community figures, particularly in remote and maritime regions (Watts et al., 2021).
- They raise awareness about climate-sensitive health risks, including safe practices for water storage, food hygiene, and disease prevention (WHO, 2020).
- GPs can be strong advocates for public health policy, pushing for improved infrastructure (like rainwater harvesting systems) and stronger climate adaptation measures in healthcare planning (Government of Fiji, 2020).

5. Mental Health Support

- Fiji has seen an increase in mental health issues linked to climate-related stress, including anxiety, depression, and post-traumatic stress, particularly following displacement or livelihood loss from cyclones and droughts (WHO, 2020).
- GPs, especially in rural health centres, are often the first and only point of mental health care. They provide basic counselling and refer more complex cases to scarce mental health professionals (Watts et al., 2021).
- Ongoing training in psychological first aid and culturally appropriate mental health support is essential to strengthen GPs' capacity in this area (WHO, 2020).

6. Preparing for Climate-related Health Challenges

- GPs must increasingly adapt to emerging climate-sensitive disease patterns, such as dengue and leptospirosis outbreaks that follow extreme rainfall.
- Clinics, particularly in vulnerable coastal and outer island areas, are developing disaster preparedness plans, including stockpiling medical supplies and setting up emergency response protocols (Government of Fiji, 2020).
- Continued professional development and climate-health integration into medical training are needed to equip GPs with the skills to manage changing disease burdens and respond effectively during climate emergencies (Watts et al., 2021).

Challenges Faced by General Practitioners

- **Limited Training and Resources:** Many GPs receive minimal training on the health effects of climate change and lack resources to address complex social determinants (Watts et al., 2021).
- **Systemic Barriers:** In many regions, especially low-income areas, GPs face overwhelming caseloads, limited diagnostic tools, and poor infrastructure (Government of Fiji, 2020).
- **Coordination Gaps:** Effective responses require collaboration between health, agriculture, water, and social sectors, which is often fragmented (UNDP, 2021).
- **Emotional and Professional Burden:** The ongoing strain of managing climate-driven health issues can lead to burnout (Watts et al., 2021).

Conclusion

Climate change's impact on food and water security poses significant health risks that manifest directly in the patient populations served by general practitioners. By recognizing these challenges and expanding their roles beyond traditional clinical care to include prevention, education, and advocacy, GPs can be powerful agents in safeguarding health amid climate uncertainty. However, this requires systemic support through education, infrastructure investment, and cross-sectoral collaboration to enable primary care providers to meet the growing demands of climate-related health threats (Watts et al., 2021; WHO, 2020).

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Review Article

Early Diagnosis of Dementia in LMICs: The Case of Fiji

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Abstract.
Dementia affects memory, thinking, behaviour, and the ability to perform everyday activities, with profound impacts on patients, caregivers, and society. More than 60% of people living with dementia reside in low and middle income countries (LMICs), where systems are least prepared for its burden [1]. Early diagnosis enables:

1. identification and treatment of reversible contributors (delirium, depression, hypothyroidism, B12 deficiency);
2. tailored risk reduction counselling;
3. timely psychosocial and caregiver support;
4. advanced care planning and safeguarding; and
5. appropriate initiation of symptomatic pharmacotherapy when desired and available [2].

In many LMICs, however, stigma, low awareness, limited workforce, and scarce diagnostics delay help seeking and recognition[3,4].

Fiji context: workforce, services, and culture

Fiji illustrates the LMIC challenge. Physician density has hovered around 0.8 doctors per 1,000 people in the most recent World Bank reported year, underscoring severe manpower constraints compared with high income settings (often >3 per 1,000)[5]. Saint Giles Hospital in Suva anchors specialist mental health services, but national dementia specific planning, public campaigns, and clinical guidelines have historically been limited per WHO's Global Dementia Observatory provisional country profile[6]. Qualitative work from Fiji describes families and frontline providers "letting it be", accepting progressive cognitive change as normal ageing or a family matter reflecting spiritual beliefs, stigma, and practical barriers to formal care[7].

These realities mean primary care must shoulder early detection using brief, culturally fair tools, basic labs, and structured conversations that address beliefs about memory loss.

Barriers to early diagnosis in LMICs (and how to work around them)

1. **Limited manpower and training:** Sparse specialist coverage and high general practice workloads reduce time for cognitive assessment. Task sharing approaches (nurses, community health workers) using standardized protocols from WHO's mhGAP Intervention Guide can expand reach and quality[8,9].

2. **Diagnostic scarcity:** Neuroimaging and neuropsychology are often unavailable or unaffordable. Early diagnosis should rely on history from an informant, brief cognitive testing adapted to literacy, functional assessment, and focused labs (CBC, electrolytes/renal function, glucose/HbA1c, TSH, B12, HIV/syphilis where indicated). Imaging is reserved for red flags (e.g., focal deficits, rapid decline, head injury, suspected normal pressure hydrocephalus). WHO training modules emphasize this pragmatic, non specialized approach[8].

3. **Cultural beliefs and stigma:** In Fiji and many LMICs, cognitive and behavioural changes can be normalized as ageing, attributed to spiritual causation, or concealed due to shame, delaying presentation[4,7].

4. **Affordability and access to medicines and care:** Symptomatic drugs (acetylcholinesterase inhibitors and memantine) have variable availability, limited reimbursement, and out of pocket costs that deter use in LMICs[10,11]. Notably, donepezil is not currently on the WHO Model List of Essential Medicines (EML); a 2023 review reaffirmed non listing despite broad country approvals, so national procurement may be inconsistent[12,13].

A practical, Fiji-appropriate pathway for early diagnosis (primary care–led)

1. Case finding & triggers: Screen adults ≥60 years with subjective or informant-reported decline, especially in high-risk groups[1-3].

2. History with an informant: Assess onset/trajectory, ADLs/IADLs, safety, neuropsychiatric symptoms, sleep, falls, medication review, comorbidities, and cultural explanations[5].

3. Brief cognitive & functional testing: Use culturally fair tools like the RUDAS [12,13] or MoCA with education adjustments [14,15]. The 10/66 protocol is validated in Fijian Indian adults[16].

4. Focused examination and labs: Look for focal deficits, gait disturbance, hallucinations, UMN signs, and test for reversible causes.

5. Differential diagnosis & red flags: Distinguish dementia from delirium, depression, and metabolic causes; refer urgent cases.

6. Communicating the diagnosis amid cultural resistance: Use respectful, family-centred approaches; frame early diagnosis as a path to safety and dignity[9].

7. Immediate management: Non-pharmacologic first line (sleep, activity, risk factor management, safety). Offer caregiver training (WHO iSupport)[17-19]. Pharmacologic therapy (donepezil, rivastigmine, galantamine, memantine) if available and affordable[10,20-21].

8. Follow-up & safeguarding: Review function, behaviours, caregiver stress, risks, and advance care planning; align with Fiji's Mental Health Decree 2010[22].

Conclusion

In Fiji and comparable LMICs, early dementia diagnosis is feasible without high-tech tools if primary care teams use informant histories, culturally fair brief cognitive tests, minimal labs, and structured family-centred conversations. System supports – mhGAP task sharing, caregiver training, and pragmatic medicine procurement – can close the gap despite limited manpower and diagnostics. Addressing cultural resistance through respectful engagement is as vital as any test or drug.

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Review Article

The New Arsenal: Navigating Novel Anti-Diabetic Agents in the Context of Fiji's Type 2 Diabetes Epidemic

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Abstract

The global surge in Type 2 Diabetes (T2D) presents a profound public health challenge, but its burden is disproportionately borne by Low- and Middle-Income Countries (LMICs). Fiji, a Pacific Island nation, epitomises this crisis, with some of the world's highest prevalence rates of T2D and its devastating complications, particularly end-stage renal failure (ESRF)[1,2]. For decades, the pharmacological management of T2D in resource-limited settings like Fiji relied on a limited formulary of metformin, sulfonylureas, and insulin. While effective at lowering glucose, this older regimen often comes with side effects like hypoglycaemia and weight gain and does little to address the underlying cardio-renal complications that drive morbidity and mortality. The advent of new anti-diabetic pharmacological classes—Sodium-Glucose Co-Transporter-2 Inhibitors (SGLT2is) and Glucagon-Like Peptide-1 Receptor Agonists (GLP-1 RAs)—represents a paradigm shift. These agents offer not only glycaemic control but also significant cardio-renal protection. However, their integration into treatment strategies in a LMIC like Fiji necessitates a careful balancing act between clinical benefit and formidable cost constraints, requiring an understanding of their specific sites of action within a holistic management plan.

The Fiji Context: A Perfect Storm for Diabetes and Complications

Fiji's struggle with T2D is a consequence of rapid epidemiological transition. Traditional diets have been supplanted by energy-dense, processed foods high in sugar and fat, coupled with declining levels of physical activity[3]. This has led to an alarming prevalence of obesity and T2D, estimated to affect over 15% of the adult population, with rates significantly higher in Indigenous Fijians (iTaukei)[1]. The human cost is measured in a surge of diabetes-related complications: amputations, blindness, and, most critically, a tsunami of chronic kidney disease (CKD) progressing to ESRF[2]. Dialysis units are overwhelmed, and access to renal replacement therapy is limited and catastrophically expensive for families and the healthcare system[4]. This context makes the cardio-renal protective properties of the new drug classes not merely advantageous but essential.

The Traditional Armamentarium and Its Limitations

The site of action for traditional therapies is primarily the pancreas and, to a lesser extent, the liver.

- **Metformin (first-line):** Acts primarily on the liver to reduce hepatic gluconeogenesis[5]. It is effective, cheap, and weight-neutral but can cause gastrointestinal upset and is contraindicated in advanced CKD due to the risk of lactic acidosis—a significant limitation in a population with high CKD prevalence.

- **Sulfonylureas (e.g., gliclazide):** Stimulate insulin secretion from pancreatic beta cells[5]. They are effective and inexpensive but carry a high risk of hypoglycaemia and promote weight gain, potentially worsening other cardiovascular risk factors.

- **Insulin:** The most potent glucose-lowering agent, acting on peripheral tissues (muscle, fat) to promote glucose uptake and on the liver to inhibit glucose production[5]. While life-saving, its use is complex, requires monitoring, and causes hypoglycaemia and weight gain.

This traditional approach is gluco-centric, focusing on a single biomarker—HbA1c. It fails to target the multifaceted pathophysiology of T2D, which involves not just insulin deficiency but also insulin resistance, glucagon dysregulation, and renal glucose handling. Most critically, it does not directly mitigate the high risks of cardiovascular events and renal decline.

The New Pharmacological Arsenal: Mechanisms and Protective Benefits

The new agents work through novel sites of action, moving treatment beyond mere glycaemic control to organ protection.

1. **Sodium-Glucose Co-Transporter-2 Inhibitors (SGLT2is)**
   - **Site of Action:** The proximal convoluted tubule of the nephron[6].
   - **Mechanism:** These drugs (e.g., empagliflozin, canagliflozin, dapagliflozin) inhibit the SGLT2 protein, responsible for reabsorbing approximately 90% of filtered glucose from the urine back into the bloodstream. By blocking this transporter, they promote the excretion of excess glucose through the urine (glucosuria)[6].
   - **Benefits:** This mechanism provides glucose-lowering independent of insulin, carries a low risk of hypoglycaemia, and results in caloric loss leading to weight loss and lowered blood pressure. Beyond these metabolic benefits, landmark trials have demonstrated profound cardio-renal outcomes: significant reductions in hospitalisation for heart failure, major

adverse cardiovascular events (MACE), and progression of renal disease, including a reduction in the risk of initiating dialysis[7,8]. This makes them uniquely suited for a population like Fiji's, where heart failure and ESRF are common endpoints.

2. **Glucagon-Like Peptide-1 Receptor Agonists (GLP-1 RAs)**
   - **Site of Action:** Multiple sites, including the pancreas, brain, stomach, and liver[9].
   - **Mechanism:** These injectable agents (e.g., liraglutide, semaglutide, dulaglutide) mimic the action of the endogenous incretin hormone GLP-1. They enhance glucose-dependent insulin secretion from pancreatic beta cells, suppress glucagon secretion from alpha cells, slow gastric emptying (promoting satiety), and act on the brain to reduce appetite[9].
   - **Benefits:** They offer powerful glucose-lowering with a very low risk of hypoglycaemia and often cause significant weight loss. Crucially, several GLP-1 RAs have demonstrated robust cardiovascular benefits, primarily a reduction in MACE (non-fatal myocardial infarction and stroke)[10]. Their renal benefits appear to be secondary to improved glycaemic control, weight loss, and blood pressure reduction, though some studies show a direct protective effect on the kidney[11].

The Crucial Challenge:
Cost and Accessibility in a LMIC

The transformative potential of SGLT2is and GLP-1 RAs is undeniable, but their high cost presents an almost insurmountable barrier in LMICs like Fiji. A month's supply of these agents can cost many times more than the entire existing first- and second-line regimen[12]. Fiji's Ministry of Health operates with a constrained budget, and the high unit cost of these novel drugs threatens the sustainability of the national pharmaceutical budget, potentially diverting funds from other essential health services.

Therefore, a blanket, first-line recommendation for all patients with T2D is neither feasible nor cost-effective. A strategic, targeted approach is essential to maximise benefit per dollar spent. This involves prioritising patients who will derive the most value from these expensive therapies, effectively rationing based on the highest clinical need.

A Pragmatic Treatment Strategy for Fiji: Integrating Novel Agents with Cost in Mind

A cost-conscious, staged treatment strategy for T2D in Fiji must leverage the sites of action and specific benefits of each drug class.

1. **Universal First-Line:** Metformin remains the cornerstone due to its efficacy, safety, low cost, and wide availability. It should be initiated and maintained unless contraindicated.
2. **Second-Line Stratification:** When metformin alone is insufficient, the choice of add-on therapy should be guided by the patient's dominant comorbidity profile, a form of precision public health.
   - **For patients with established Cardiovascular Disease (CVD) or High CV Risk:** A GLP-1 RA with proven CV benefit (e.g., liraglutide) should be the preferred add-on, given its powerful impact on reducing heart attacks and strokes[10].
   - **For patients with evidence of Chronic Kidney Disease (CKD) (e.g., albuminuria) or Heart Failure:** An SGLT2 inhibitor should be prioritised due to its direct and potent effects on slowing renal decline and preventing heart failure hospitalisations[7,8]. This is perhaps the most critical group to target in the Fijian context.
   - **For patients without these complications but where hypoglycaemia is a major concern (e.g., manual labourers, the elderly):** A DPP-4 inhibitor (e.g., sitagliptin), while less potent and without strong organ protection, is a cheaper alternative to sulfonylureas that avoids hypoglycaemia.
   - **For all other patients:** Sulfonylureas remain the default, cost-effective second-line option, despite their drawbacks, due to their extremely low cost.
3. **Third-Line and Beyond:** Insulin remains the ultimate agent for advanced disease. The strategy would be to add insulin to the existing regimen of metformin plus either an SGLT2i or GLP-1 RA if needed and if resources allow.
4. **Voglibose as a Complementary ttherapeutic modality in the new paradigm.**

   In the context of Fiji's high carbohydrate traditional diet and the need for affordable, safe therapeutic options, the class of alpha-glucosidase inhibitors (AGIs), particularly Voglibose, warrants specific attention. While not possessing the ground-breaking cardio-renal benefits of SGLT2is or GLP-1 RAs, Voglibose plays a distinct and valuable role in the management paradigm for T2D, especially in resource-limited settings. Site of Action remains at the brush border of the small intestine[13].

Voglibose competitively inhibits alpha-glucosidase enzymes (e.g., maltase, sucrase, isomaltase). These enzymes are responsible for breaking down complex carbohydrates and disaccharides into monosaccharides (like glucose) for absorption [13]. By delaying this process, Voglibose slows the digestion of carbohydrates. This results in a significant reduction in the postprandial (after-meal) spike in blood glucose levels, flattening the glucose excursion post prandially[14]. Voglibose specifically addresses this issue, complementing drugs like metformin that primarily target fasting glucose.

Voglibose does not cause hypoglycaemia when used as a monotherapy[14]. This is a major safety advantage over sulfonylureas and insulin, especially in populations with irregular meal patterns or limited access to glucose monitoring.

Voglibose is generally weight-neutral, which is preferable to agents that cause weight gain, such as sulfonylureas, thiazolidinediones, and insulin[16]. It is not systemically absorbed to a significant degree, acting locally within the gastrointestinal tract. This makes it a suitable option for patients with renal impairment—a critical advantage in a population with high rates of CKD—as no dose adjustment is required[16]. It can be safely combined with all other anti-diabetic agents.

While not as cheap as metformin or sulfonylureas, Voglibose is generally less expensive than the novel agents (SGLT2is, GLP-1 RAs, and DPP-4 inhibitors)[17]. This positions it as a mid-tier cost option that is more accessible for public formularies and individual patients in LMICs. The primary drawback of Voglibose is its side effect profile, which is a direct consequence of its mechanism of action. Undigested carbohydrates pass into the large intestine, where they are fermented by colonic bacteria, leading to: Flatulence, abdominal distension, bloating, diarrhoea & borborygmi.

These gastrointestinal adverse effects are very common, especially upon initiation, are a major reason for poor adherence and discontinuation[14]. However, they can be mitigated by starting with a low dose e.g., 0.2 mg once daily and gradually titrating upwards, and by encouraging patients to consume a diet with complex carbohydrates rather than simple sugars.

Strategic Placement in Fiji's Treatment Hierarchy
Given its profile, Voglibose should be considered a strategic option in the following scenarios within Fiji's national diabetes management plan:

As Second-Line Monotherapy: In patients where metformin is contraindicated or not tolerated, and where the risk of hypoglycaemia from sulfonylureas is a primary concern (e.g., elderly patients, those with erratic meals).

As Add-On Combination Therapy with Metformin to provide complementary control of both fasting and postprandial glucose.

With Sulfonylureas or Insulin, voglibose can allow for a reduction in the dose of the hypoglycaemic agent, thereby mitigating the risk of hypoglycaemic events while improving overall glycaemic control, particularly after meals.

Additionally, In Early Diabetes or Pre-Diabetes with its excellent safety profile makes it a suitable agent for managing impaired glucose tolerance to delay progression to overt diabetes[18].
For Specific Cultural/Dietary Fit: For patients who maintain a traditional high-carbohydrate diet and exhibit particularly high postprandial glucose levels, Voglibose offers a targeted and mechanistically logical intervention. Voglibose may be considered an older agent, but its unique site of action in the gut fills an important niche.

It is not a substitute for the organ-protective benefits of SGLT2is in patients with established CKD. However, as a safe, affordable, and effective agent for controlling postprandial hyperglycaemia—a major feature of diabetes in Fiji—it remains a valuable tool in the public health arsenal. Its role is one of complementary management, helping to achieve glycaemic targets and potentially delay the need for more expensive and complex therapies, all while avoiding hypoglycaemia and being safe for the kidneys. A pragmatic treatment strategy for Fiji should include Voglibose in its formulary as a viable and cost-effective option for a broad range of patients.

Conclusion
The new range of anti-diabetic agents, the SGLT2 inhibitors and GLP-1 receptor agonists, represent a therapeutic revolution. Their novel sites of action in the kidney and gut-brain-pancreas axis, respectively, provide unparalleled benefits in reducing the very cardiovascular and renal complications that devastate the Fijian population. Ignoring these tools is not an option. However, embracing them without a strategic plan is financially impossible.
The path forward for Fiji and similar LMICs requires a deliberate, pragmatic, and morally conscious approach. It necessitates robust clinical guidance that prioritises these expensive agents for the highest-risk subgroups—those with existing kidney or heart disease—to maximise their life-saving and dialysis-preventing potential.
Concurrently, fierce international negotiation for preferential pricing, exploration of generic manufacturing, and pursuit of inclusion in global access programmes are non-negotiable to make these drugs accessible. The goal must be to move beyond a gluco-centric model to an organ-protective strategy, ensuring that the breakthroughs of modern medicine do not widen global health inequities but are instead harnessed to combat the devastating tide of diabetes and its complications in nations, like Fiji.

Antidiabetic Agents Available in Fiji with Costings.

Biguanides

Agent	Cost to patient per tab ($)	Comments
Metformin 500mg	0.12	Other Cheaper brands available
Metformin 850mg	0.10	
Metformin 1000mg	0.19	
Metformin XR 500mg	0.27	
Metformin XR 850mg	0.18	
Metformin XR 1000mg	0.55	

Sulfonylureas

Agent	Cost to patient per tab ($)	Comments
Glibenclamide 5mg	0.16	
Gliclazide 30mg	0.20	
Gliclazide 80mg	0.22	
Gliclazide MR 30mg	0.20	
Gliclazide MR 60mg	0.30	
Glipizide 5mg	0.18	

Thiazolidinediones (works be increasing the body's sensitivity to insulin)

Agent	Cost to patient per tab ($)	Comments
Pioglitazone 15mg	0.22	
Pioglitazone 30mg	0.30	

Dipeptidyl peptidase – 4 inhibitors

Agent	Cost to patient per tab ($)	Comments
Sitagliptin 25mg	0.97	
Sitagliptin 50mg	0.60	
Linagliptin 5mg	0.45	

Sodium-Glucose co-transporter 2 inhibitors

Agent	Cost to patient per tab ($)	Comments
Empaglifolzin 10mg	0.65	
Emagliflozin 25mg	0.93	
Dapaliflozin 5mg	0.50	
Dapaliflozinn 10mg	0.90	

Competitive Alpha-Glucosidase Inhibitor

Agent	Cost to patient per Tab ($)	
Voglibose 0.3mg	2.45	

GLP-1 agonists

Agent	Cost to patient	
Ozempic Injectable	$370.00 per month supply	

Combination Therapy

Agent	Cost to patient per tab ($)	Comments
Sitagliptin 50mg/ Metformin 500mg	0.85	
Sitagliptin 50mg/Metformin 100mg	0.85	
Linagliptin 2.5mg/Metformin 500mg	0.50	
Linagliptin 2.5mg/Metformin 850mg	0.65	
Empagliflizin 5mg/Metformin 500mg	0.47	
Empagliflozin 10mg/Linagliptin 5mg	0.80	
Empagliflozin 25mg/Linagliptin 5mg	0.50	
Dapaliflozin 10mg/Linagliptin 5mg	0.55	
Dapaliflozin 5mg/Sitagliptin 50mg	1.35	
Vildagliptin 50mg/Metfromin 1000mg	1.58	
Vildagliptin 50mg/Metformin 850mg		
Vildagliptin 50mg/Metformin 500mg	2.25	

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Review Article

Gastritis in Primary Care: A Case-Based Review and Management Protocol for General Practice in Fiji

Author: *Dr. Anushka Prasad*

Abstract

Gastritis is a common gastrointestinal condition in general practice, with nonsteroidal anti-inflammatory drug (NSAID) use and Helicobacter pylori (H. pylori) infection being the leading causes. This article presents a case of NSAID-induced gastritis in a 60-year-old man in a Fijian primary care setting and discusses a pragmatic, structured approach to diagnosis and management. The discussion integrates national prevalence data, highlights the importance of medication history, and supports evidence-based, symptom-guided management relevant to general practitioners (GPs). While diagnostic tools such as

endoscopy and H. pylori testing are increasingly available, a conservative clinical approach remains appropriate for most uncomplicated cases in the community.

Introduction

Gastritis, defined histologically as inflammation of the gastric mucosa, is a frequent clinical problem in primary care. The condition arises from multiple etiologies, most commonly Helicobacter pylori infection, prolonged use of nonsteroidal anti-inflammatory drugs (NSAIDs), alcohol consumption, autoimmune mechanisms, and stress-related mucosal changes[1]. Clinical manifestations are variable, ranging from mild epigastric discomfort and early satiety to complications such as gastrointestinal bleeding or peptic ulcer disease.

In Fiji and the wider Pacific region, gastritis and dyspeptic disorders represent a significant burden in community practice. A retrospective study at the Colonial War Memorial Hospital in Suva reported that 93% of patients undergoing diagnostic endoscopy were H. pylori-positive, 95% had chronic active gastritis, and 62% were diagnosed with peptic ulcer disease[1]. These findings highlight both the high prevalence of infection and the clinical importance of gastritis in the local context.

Primary care serves as the first point of contact for most patients with upper gastrointestinal symptoms. For general practitioners (GPs), a structured and evidence-based approach is essential, combining careful history-taking, exclusion of non-gastrointestinal causes such as myocardial infarction or pancreatitis, recognition of alarm features, and appropriate use of investigations and empirical therapy.

Case Presentation

A 60-year-old male with chronic knee osteoarthritis presented with one week of epigastric burning and nausea. He had been taking over-the-counter ibuprofen (400 mg twice daily) for six weeks. Examination was unremarkable, with stable vital signs, mild epigastric tenderness, and no red-flag features. Fecal occult blood and ECG were normal. NSAID-induced gastritis was diagnosed clinically.

Management: Ibuprofen was discontinued and replaced with paracetamol. Omeprazole 40 mg daily was prescribed for 4–6 weeks, alongside Gaviscon for symptomatic relief and dietary/lifestyle advice to avoid irritants.

Outcome: Symptoms improved within two weeks, resolved completely by six weeks, and the patient successfully tapered the PPI. No recurrence or specialist referral was needed.

Discussion

NSAID-induced gastritis is a well-documented and preventable cause of upper gastrointestinal (GI) symptoms, particularly in primary care settings where NSAIDs are frequently utilized for chronic pain management[2]. NSAIDs impair gastric mucosal defenses through inhibition of prostaglandin synthesis, resulting in mucosal inflammation and, in some cases, ulceration[2].

In the Fijian context, the high prevalence of Helicobacter pylori infection—reported in up to 93% of symptomatic individuals undergoing endoscopy—further increases the risk of chronic gastritis and peptic ulcer disease[1]. However, NSAID use remains a significant modifiable contributor. The widespread availability of NSAIDs over the counter, coupled with unsupervised use, increases the likelihood of drug-induced gastrointestinal complications[2].

Effective management in resource-limited settings should prioritize early identification of NSAID exposure, discontinuation of the offending agent, and initiation of proton pump inhibitor (PPI) therapy to facilitate mucosal healing[3]. Patient education regarding medication risks, dietary modifications, and avoidance of additional gastric irritants is also essential for both treatment and prevention of recurrence[3]. While diagnostic tools such as upper gastrointestinal endoscopy and H. pylori testing are becoming more accessible, they are not always feasible. In such settings, a clinical diagnosis based on history, symptomatology, and therapeutic response is often appropriate[4].

A comprehensive clinical assessment should also include consideration of non-gastrointestinal causes of epigastric pain. Cardiac ischemia and respiratory conditions may present with overlapping symptoms and should be excluded through targeted history-taking and physical examination prior to confirming a gastrointestinal etiology[4].

Referral to specialist care is indicated for patients presenting with alarm features, including unintentional weight loss, gastrointestinal bleeding, anemia, dysphagia, or failure to respond to empirical therapy[4]. General practitioners play a central role in reducing the burden of gastritis by conducting structured clinical evaluations, optimizing pharmacological interventions, and providing evidence-based counselling[4].

Conclusion

Gastritis, particularly induced by nonsteroidal anti-inflammatory drugs (NSAIDs), represents a common and manageable condition in primary care. Effective management relies on thorough clinical history-taking, identification of modifiable risk factors, initiation of appropriate pharmacologic therapy, and patient education. In the Fijian context, where both Helicobacter pylori infection and NSAID use are highly prevalent, general practitioners should maintain a high index of suspicion and apply structured, evidence-based approaches tailored to local resource availability. Early recognition and conservative management at the primary care level can reduce reliance on advanced diagnostics, minimize complications, and contribute to improved patient outcomes[1-4].

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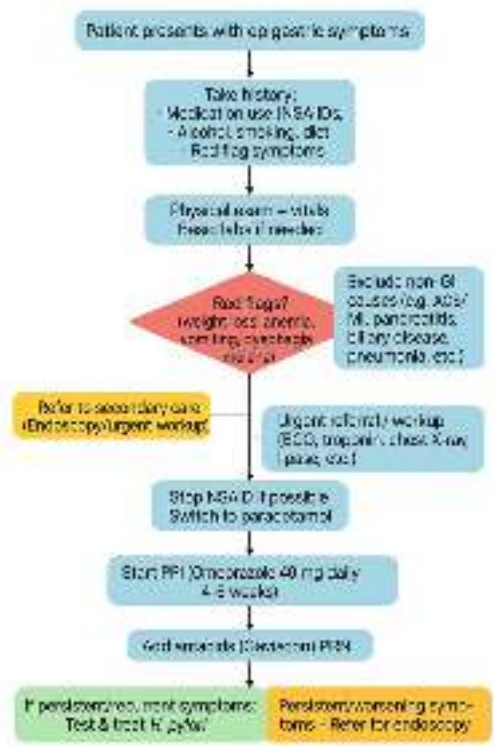
Appendix: Primary Care Approach to Epigastric Symptoms



Review Article

The Silent Crisis: Postnatal Depression, Self-Harm, and Suicide in Low-Resource Settings with a Focus on Oceania

Author: *Dr. Nashika Sharma*

1. Introduction

Postnatal depression (PND) is a common but severe mental health disorder affecting mothers globally, typically emerging within the first four to six weeks after childbirth, though it can occur up to a year postpartum. It is characterized by persistent feelings of sadness, anxiety, exhaustion, and a profound inability to cope with the demands of infant care.[1] While often conflated with the milder 'baby blues,' PND is a clinical depression requiring medical intervention. Left untreated, it has devastating consequences not only for the mother's health and well-being but also for infant development, family cohesion, and societal health.[2] One of the most severe and tragic outcomes of untreated PND is self-harm and suicide, representing a critical public health emergency. This crisis is acutely magnified in Low- and Middle-Income Countries (LMICs) and regions like the Pacific Islands, where systemic limitations in healthcare infrastructure, cultural stigma, and a lack of resources create a perfect storm of unmet need. The recent COVID-19 pandemic has further exacerbated these pre-existing vulnerabilities, pushing already fragile systems to their brink.

2. Understanding the Nexus: PND, Self-Harm, and Suicide

The pathway from PND to suicidal ideation and behaviour is complex and multifaceted. The overwhelming nature of PND—characterized by intense guilt, worthlessness, and the belief that one is a 'bad mother'—can generate profound psychic pain. For some women, self-harm becomes a maladaptive coping mechanism to manage or express this intolerable emotional distress.[3] Suicidal ideation, meanwhile, often stems from a feeling of being trapped, hopeless, and believing that their family would be 'better off' without them.[4]

Research indicates that the perinatal period is a time of significantly elevated risk for suicide. A landmark UK study found that suicide is a leading cause of maternal death in the first year following childbirth.[5] While completed suicide may be the most extreme outcome, attempted

suicide and non-suicidal self-injury (NSSI) are far more common and are potent indicators of severe psychological suffering. The presence of comorbid anxiety, a history of previous mental illness, intimate partner violence, and substance abuse are strong risk factors that escalate the likelihood of self-harm in women with PND.[1]

3. The Global and Regional Landscape: Data from LMICs

Globally, the prevalence of PND is estimated to be approximately 17%, with higher rates consistently reported in LMICs (nearly 20%) compared to High-Income Countries (HICs; around 13%).[1] This disparity is attributed to a greater burden of psychosocial risk factors, including poverty, food insecurity, lower levels of education, limited social support, and higher rates of adolescent pregnancy.[1]

However, data on the specific nexus between PND and self-harm/suicide in LMICs is severely limited. This is due to three primary reasons:

- **Underreporting and Stigma:** Cultural stigma surrounding mental illness and suicide leads to deliberate concealment by families and misclassification by authorities. Deaths may be recorded as accidents or other causes.
- **Lack of Standardized Surveillance:** Many LMICs lack robust vital registration systems to accurately document causes of death, particularly suicide.
- **Focus on Maternal Physical Health:** Maternal health programs in LMICs have historically prioritized reducing mortality from direct obstetric causes (e.g., haemorrhage, sepsis), often neglecting mental health.

Despite these limitations, existing studies paint a worrying picture. A systematic review found that suicidal ideation in the perinatal period is significantly prevalent in LMICs, with a pooled prevalence of 12.5% during pregnancy and 12.7% postpartum.[1] Another study in Pakistan found that among women with PND, over 25% reported suicidal thoughts.[1] These figures likely represent a significant underestimate of the true scale of the problem.

4. The Pacific Context: A Case Study of Fiji and Oceania

The Oceania region, particularly the Pacific Island Countries and Territories (PICTs), faces a disproportionate burden of PND amidst unique cultural and systemic challenges. Fiji, as one of the larger Pacific nations, exemplifies these issues.

Prevalence and Risk Factors: Studies in Fiji have reported high rates of PND. A study found a prevalence of 32% among mothers in Suva, with key risk factors being poverty, unplanned pregnancy, lack of partner support, and experiencing domestic violence.[1] This rate is nearly double the global average for LMICs. The cultural concept of *vakamatorarata* (shame) and the pressure to fulfil traditional maternal roles can prevent women from disclosing their distress, internalizing their symptoms until they reach a crisis point.[1]

Systemic Limitations: The healthcare systems in Fiji and neighbouring PICTs are critically under-resourced in terms of mental health.

- **Screening:** There is no nationwide, routine screening for PND using validated tools (e.g., Edinburgh Postnatal Depression Scale – EPDS) in antenatal or postnatal clinics.
- **Diagnosis:** There is a critical shortage of trained psychiatrists and clinical psychologists. General practitioners and nurses, who are the first point of contact, often lack training in recognizing mental health disorders.
- **Therapy and Treatment:** Access to evidence-based psychotherapy (e.g., Cognitive Behavioural Therapy) is extremely limited. Pharmacological treatment is available but may be hindered by concerns about medication during breastfeeding and a lack of specialist follow-up. St. Giles Hospital in Suva is the only psychiatric inpatient facility in Fiji, often carrying a strong social stigma that deters help-seeking.[1]

Data on Self-Harm and Suicide: Data on maternal suicide is scarce. However, Fiji has one of the higher recorded suicide rates in the world, with a significant proportion being young people and women.[1] While not all are postpartum, it indicates a population-level vulnerability to suicidal behaviour. The link between PND and this high suicide rate is clinically plausible but not yet rigorously quantified due to the absence of specific studies and surveillance.

5. The Impact of the COVID-19 Pandemic

The COVID-19 pandemic has acted as a significant negative multiplier of the risk factors for PND and suicidal behaviour, especially in resource-poor settings. The mechanisms through which it has impacted prevalence rates include:

Increased Psychosocial Stressors: Economic hardship, job losses, and food insecurity intensified dramatically during lockdowns, directly increasing the risk for depression.[1]

Reduced Social Support: Public health measures like social distancing and movement restrictions severed crucial lifelines for new mothers. Traditional practices in the Pacific, such as extended family support and communal childcare (*kerekere*), were disrupted, leaving mothers isolated and overwhelmed.[1]

Barriers to Healthcare Access: Clinic closures, fear of infection, and redirected health resources away from routine maternal care meant many women missed their postnatal check-ups—the primary opportunity for PND identification. Telehealth solutions were often not a viable alternative in regions with poor digital connectivity.[1]

Increased Intimate Partner Violence: Lockdowns led to a documented global surge in domestic violence, a major precipitant of PND and suicidal ideation.[1]

Early studies and reports from across the globe confirm a worrying trend. A meta-analysis found that the prevalence

of postpartum depression significantly increased during the COVID-19 pandemic compared to pre-pandemic rates.[19] While specific data from Fiji and the Pacific is still emerging, health professionals in the region have reported a marked increase in presentations of mental distress, suggesting a similar rise in cases of severe PND and associated self-harm risk.[20]

6. Conclusion and Recommendations

Postnatal depression and its most severe consequences—self-harm and suicide—represent a silent and neglected crisis in global maternal health. The problem is particularly acute in LMICs and the Pacific region, where high prevalence rates collide with crippling limitations in healthcare capacity. The COVID-19 pandemic has further widened this treatment gap, exposing and exacerbating systemic weaknesses.

Addressing this crisis requires a multi-faceted, culturally sensitive approach.

- **Integration of Mental Health into Primary Care:** Task-shifting, where midwives and community nurses are trained to screen for PND using validated tools, is a cost-effective and essential first step.
- **Community-Based Interventions:** Leveraging community health workers and peer support groups can help reduce stigma and provide a first line of support in remote areas.
- **Culturally Appropriate Awareness Campaigns:** Developing public health messages that frame PND as a common medical condition, not a personal failure, is crucial to encourage help-seeking.
- **Investment in Data Collection:** Governments and NGOs must invest in strengthening mental health surveillance and vital registration systems to accurately quantify the problem and guide resource allocation.
- **Telemental Health Initiatives:** Exploring low-tech, accessible tele-support options (e.g., via SMS or basic phones) could help bridge the gap in remote and island communities.

The well-being of mothers is the foundation of healthy families and societies. Prioritizing the mental health of postpartum women is not merely a clinical issue but a fundamental moral and public health imperative, requiring urgent and concerted global action.

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Review Article

The Longest Shadow: A Lifecycle Narrative of Diet and Disease in Fiji

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Introduction

The Non-Communicable Disease (NCD) crisis represents a slow-motion disaster unfolding across Low and Middle-Income Countries (LMICs), and Fiji stands as a stark exemplar of this global shift. Here, the epidemiological transition—the shift from infectious diseases to NCDs as the primary causes of morbidity and mortality—is complete, and its consequences are devastating[1]. NCDs, primarily cardiovascular diseases, diabetes, chronic respiratory diseases, and cancers, are now responsible for over 80% of all deaths in Fiji[1]. This narrative will trace the arc of this crisis through a hypothetical Fijian life, from infancy to old age, contrasting the path laid by traditional, home-cooked meals with the trajectory fuelled by sugar-sweetened beverages (SSBs), ultra-processed foods (UPFs), and the misuse of substances like tobacco, alcohol, and kava. The central theme, 'food not medicine,' serves as both a mantra for prevention and a lament for a lost opportunity, urging General Practitioners (GPs) to view dietary counselling not as an ancillary service, but as a fundamental and lifelong interventional tool.

Infancy and Childhood: The Foundation of Taste and Health

The narrative begins not with conscious choice, but with environment. For an infant in a traditional setting, weaning might involve mashed *dalo* (taro), *rukruku* (mashed green banana), and fresh, local fruits like papaya and mango. These foods are rich in fibre, vitamins, and complex carbohydrates. They establish a palate accustomed to natural, whole foods and are, in essence, the first and most crucial dose of 'food as medicine,' building a robust microbiome and providing essential nutrients for growth and cognitive development[1].

Contrast this with an increasingly common alternative: an infant introduced to sweetened teas, cordials, and later, SSBs. The high sugar content not only predisposes to early childhood caries and accustoms the taste buds to a heightened preference for sweetness[1]. As toddlers become children, the convenience and aggressive marketing of UPFs—packaged biscuits, instant noodles, and sugary cereals—become powerful forces. These products, often high in refined carbohydrates, unhealthy fats, and salt while being low in micronutrients, displace nutrient-dense traditional foods. This nutritional transition in early life sets a metabolic trajectory, with childhood obesity becoming a significant risk factor for early-onset type 2 diabetes and hypertension[1]. For the GP, understanding that the NCD risk clock starts ticking in childhood is paramount. Antenatal and well-baby consultations are critical windows to champion breastfeeding and the introduction of whole foods, framing them not just as nutrition but as the primary inoculation against future disease.

Adolescence and Early Adulthood: Socialization and the "Sin Goods" Economy

Adolescence is a period of forging identity and social bonds, often away from direct parental influence. Here, the traditional path of socialization, particularly in the iTaukei (Indigenous Fijian) context, has historically centred on *yaqona* (kava). Traditionally, kava consumption was a ceremonial and communal activity, governed by ritual and moderation. However, its role is evolving. While kava itself is not calorie-dense, its modern, often daily, consumption in large sessions can be a gateway to unhealthy dietary patterns. The lengthy sessions frequently involve the consumption of energy-dense 'chasers' or accompanying snacks—fried doughballs, packets of crisps, and other UPFs—leading to significant passive caloric intake[1].

This traditional practice now competes with and is often intertwined with the globalized vices of tobacco and alcohol. Meanwhile, the dietary landscape for young adults is dominated by SSBs and UPFs. A can of sugary drink can contain up to 10 teaspoons of sugar, providing empty calories that contribute directly to weight gain and insulin resistance[1]. The convenience of cheap, tasty, and heavily marketed UPFs makes them the default choice for students and young workers. The mantra 'food not medicine' is inverted: their daily consumption is, in effect, a slow-acting 'anti-medicine,' eroding metabolic health.

The GP's role here is to recognise this life stage not as one of invincibility but of profound vulnerability. Screening for early signs of metabolic syndrome—elevated BMI, borderline blood pressure or fasting glucose—should be routine. Counselling must be pragmatic, acknowledging the social pressures. Instead of an unattainable injunction to avoid kava sessions, advice could focus on substituting SSBs with water and replacing UPF snacks with healthier alternatives. The goal is to reframe 'socialization' around connection, not consumption.

Middle Age: The Harvest of Metabolic Debt

Middle age is when the metabolic debt accumulated over decades comes due. The body's compensatory mechanisms begin to falter. On the traditional path, a diet centred on fresh fish, root crops, leafy greens, and local fruits continues to offer protection. A meal of grilled fish, *etaitei* (fern shoots), and *dalo* provides sustained energy, dietary fibre that moderates blood sugar spikes, and a portfolio of phytonutrients and omega-3 fatty acids with anti-inflammatory properties[8]. This is 'food as medicine' in its most potent, preventative form.

For a great many, however, middle age arrives with a diagnosis. It is the age of the 'wake-up call' heart attack or the new, symptomatic diagnosis of type 2 diabetes. The

relentless consumption of SSBs, UPFs, combined with the cumulative effects of tobacco and alcohol, manifests as hypertension, dyslipidaemia, and uncontrolled diabetes. The Fiji Ministry of Health estimates that nearly one in three Fijians has hypertension, and diabetes prevalence is among the highest in the world[2]. The health system, already strained, now faces the immense cost of managing these chronic conditions. Medications for blood pressure, diabetes, and cholesterol become a monthly expense, a pharmaceutical crutch for a body broken by diet.

For the GP, this is the frontline of the NCD war. The consultation room is where the consequences of the crisis are most visible. Here, "food not medicine" transforms from a preventative mantra into a therapeutic imperative. Medical management is essential, but it is not sufficient. Lifestyle modification must be prescribed with the same seriousness as pharmaceuticals. This involves moving beyond vague advice to "eat healthier." It requires culturally competent, actionable guidance: "Replace one sugary drink a day with water," "Try to have two servings of rourou (taro leaves) this week," "Use fresh chili for flavour instead of salt." This is the point where food can still act as a powerful adjunctive medicine, potentially reducing medication dependence and slowing disease progression.

Old Age: A Tale of Two Endings

The final chapter of this narrative presents two contrasting visions of old age. The first is that of an elder who has largely followed a traditional lifestyle. While not immune to disease, they may enjoy relative vitality, their health sustained by a lifetime of nutrient-rich food and physical activity. They remain a repository of cultural knowledge, able to participate in family and community life. Their later years may be marked by natural decline, but not necessarily prematurely truncated or dominated by debilitating complications.

The second vision is tragically common: an elder living with multiple NCDs and their devastating sequelae. This is the reality of end-stage renal disease from diabetic nephropathy, requiring exhausting and costly dialysis. It is the congestive heart failure that confines one to a chair, the blindness from diabetic retinopathy, or the amputation of a limb from peripheral vascular disease [9]. This is not a graceful ageing process; it is a prolonged, painful, and costly medicalized existence. The "medicine" now is a cocktail of drugs, insulin injections, and surgical interventions, fighting a desperate rear-guard action against a disease process that was decades in the making. The mantra "food not medicine" now rings hollow, as the opportunity for prevention is long past. The focus shifts to palliative care and managing a poor quality of life.

Conclusion and Call to Action for the General Practitioner

The NCD crisis in Fiji is not an act of fate; it is a man-made disaster, a slow-rolling epidemic driven by a toxic combination of changing food environments, economic pressures, and social norms. The life course narrative illustrates that the choices made at every stage—from a child's first taste of sugar to an adult's daily dietary and social habits—cast a long shadow forward.

For the General Practitioner, these narrative underscores a critical paradigm shift. The consultation must be a platform for lifelong NCD prevention and management. GPs are uniquely positioned to deliver the "food not medicine" message at every patient encounter, from antenatal clinics to geriatric care. This involves:

- **Early and Continuous Counselling:** Integrate nutritional advice into all well-person and chronic disease consultations.
- **Cultural Competence:** Provide advice that is realistic, affordable, and respectful of Fijian cultural practices, offering modifications rather than unattainable prohibitions.
- **Empowerment:** Equip patients with the knowledge to understand the direct link between their dietary choices and their health outcomes, making them active participants in their own well-being.
- **Advocacy:** Beyond the clinic, GPs can be powerful community advocates for public health policies that tackle the root causes, such as taxation on SSBs, stricter marketing regulations for UPFs, and programs that support local food production and consumption[1].

The battle against NCDs in Fiji will be won or lost not just in hospital wards, but in the kitchens, gardens, and community halls of the nation. By championing the profound truth that the right food is the most powerful preventive medicine, and that the wrong "foodstuffs" are a primary driver of disease, GPs can help steer individual lives and the national health trajectory away from the shadow of NCDs and towards a healthier, more vibrant future.

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Case Study

An Acute ST-Elevation Myocardial Infarction (STEMI)

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Abstract

The global burden of ischemic heart disease (IHD) continues to rise, with myocardial infarction remaining a leading cause of mortality and morbidity worldwide. In the South Pacific, particularly in Fiji, cardiovascular disease accounts for over one-third of all deaths, with an age-standardized incidence of 911 per 100,000 population (2021). The increasing prevalence of modifiable risk factors such as hypertension, diabetes, obesity, and tobacco use has contributed to the surge in acute coronary syndromes (ACS) across the region. Recent advancements in cardiac care, as in the introduction of emergency percutaneous coronary intervention (PCI) in Fiji, have begun to reshape the landscape of acute cardiac management, emphasizing the evolving standards of care.

Case Presentation

A.M, a 40-year-old Indo-Fijian male with a known history of ischemic heart disease and hypertension, was under regular follow-up at Oceania Hospital for his chronic cardiac conditions. While attending a business meeting, A.M experienced sudden onset of severe left-sided chest pain accompanied by dyspnea. Witnesses described him as visibly distressed, clutching his chest and struggling to breathe. His colleagues promptly transported him to the treatment room at Oceania Hospital.

A.M was in acute distress, diaphoretic, and clutching his fist to his chest. He exhibited labored breathing and was unable to speak in full sentences. Vital signs were recorded immediately, and he was placed on a cardiac monitor. An urgent electrocardiogram (ECG) revealed an anterolateral ST-elevation myocardial infarction (STEMI). In accordance with current ACS protocols, he was cardiac-loaded with aspirin 300 mg, clopidogrel 300 mg, and atorvastatin 80 mg. Within four minutes of arrival, he received Tenecteplase 40 mg via intravenous slow push and morphine 5 mg IV stat for analgesia.

The resident Cardiologist reviewed the case shortly thereafter and recommended admission to the High Dependency Unit (HDU) for close monitoring and further management. The following day, A.M underwent transthoracic echocardiography, which revealed moderate left ventricular systolic dysfunction with an estimated ejection fraction (LVEF) of 35%. Given the extent of myocardial injury and persistent symptoms, a coronary angiogram (CAG) was scheduled. The angiogram identified a significant occlusion in the left anterior descending artery, and a single drug-eluting stent was successfully deployed.

Risk Factors and Diagnostic Assessment

A.M's presentation was consistent with acute coronary syndrome, precipitated by underlying atherosclerotic disease. His known history of hypertension and IHD placed him at elevated risk, compounded by potential lifestyle factors common in the region, such as high dietary sodium intake, sedentary habits, and possible tobacco use. Diagnostic evaluation included ECG, cardiac biomarkers, and echocardiography, all of which confirmed the diagnosis and guided therapeutic decisions. The use of Tenecteplase, a fibrin-specific thrombolytic agent, reflects current practice in Fiji where PCI capabilities are still emerging but increasingly accessible.

Management and Prognosis

Following successful thrombolysis and stent placement, A.M was initiated on dual antiplatelet therapy, high-dose statins, beta-blockers, and ACE inhibitors. He remained hemodynamically stable during his HDU stay and was discharged with a structured cardiac rehabilitation plan. His prognosis is cautiously optimistic, contingent upon adherence to medical therapy and lifestyle modifications. Follow-up included outpatient cardiology review, repeat echocardiography in three months and routine monitoring of lipid profile and blood pressure.

Discussion

This case underscores the critical importance of early recognition and rapid intervention in STEMI. The timely administration of thrombolytics and subsequent PCI exemplify the evolving cardiac care infrastructure in Fiji. Historically, patients required transfer abroad for advanced interventions; however, with the establishment of PCI services at facilities like Oceania Hospital, outcomes are improving whereas both streptokinase and Tenecteplase are thrombolytic agents used to dissolve blood clots, but they differ significantly in their origin, mechanism, safety profile, and clinical use. Tenecteplase has a longer half-life, a lower bleeding risk and can be given as a single dose whereas streptokinase requires infusion over an hour, is readily available to government hospitals.

The integration of evidence-based protocols, including cardiac loading and early echocardiographic assessment, aligns with international standards as outlined by UpToDate and Medscape.
Moreover, the case highlights the need for public awareness and education regarding cardiovascular symptoms and risk factors. Community-level interventions targeting hypertension, obesity, and smoking are essential to curb the rising tide of heart disease in Oceania.

Conclusion

A.M's case illustrates the successful application of contemporary cardiac care in a resource-limited setting. With the expansion of PCI capabilities, adherence to global guidelines, Fiji is making significant strides in managing acute coronary syndromes. Continued investment in healthcare infrastructure, professional training, and public health initiatives will be pivotal in reducing cardiovascular mortality in the region.

The delay in PCI was case specific. Ominous signs developed after initial treatment, whilst in-patient and under observations.
This can be discussed with the Author.

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Case Study

Migraine without Aura

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Mrs. S, a 35-year-old Indo-Fijian female residing in Suva, Fiji, presented to the outpatient department with a 6-month history of recurrent, pulsatile headaches predominantly affecting the right temporal region. The headaches, described as moderate to severe in intensity, lasting between 12 to 48 hours, and were often accompanied by nausea, photophobia and phonophobia. The episodes occurred approximately twice per month, aggravated by physical exertion and emotional stress. There was no aura preceding the headaches. She denied any history of trauma, visual disturbances, focal neurological deficits or seizures.

Her medical history was notable for mild hypertension, well-controlled with lifestyle modifications. She had no history of diabetes or dyslipidemia. Her mother suffered from similar headaches, suggesting a possible genetic predisposition. Mrs. S was a primary school teacher, reported high levels of occupational stress. She did not smoke or consume alcohol, but experienced irregular sleep patterns and frequent consumption of processed foods, both recognized migraine triggers.

On examination, her vital signs were stable: blood pressure 128/82 mmHg, heart rate 76 bpm, respiratory rate 16/min, and temperature 36.8°C. Neurological examination was unremarkable, with no focal deficits. Fundoscopy revealed no papilledema. Her general physical examination was within normal limits.

Diagnostic Evaluation

Given the typical presentation and absence of red flags, the diagnosis of migraine without aura was considered. To exclude secondary causes, a non-contrast CT scan of the brain was performed, which was normal. The diagnosis was made clinically, in accordance with the International Classification of Headache Disorders (ICHD-3) criteria for migraine without aura.

Discussion

Migraine is a common primary headache disorder characterized by recurrent attacks of moderate to severe headache, often unilateral and pulsatile, and associated with nausea, vomiting, and sensitivity to light and sound. Globally, migraine affects approximately 12–14% of the population annually. In Fiji, although comprehensive epidemiological data are limited, the Ministry of Health and Medical Services has acknowledged the growing burden of non-communicable neurological disorders, including migraine, particularly among women aged 30–45.

Differentiating migraine from other headache types is crucial. Tension-type headaches, the most common globally, are typically bilateral, pressing or tightening in quality, and not aggravated by routine activity. Cluster headaches, though rare, are strictly unilateral and associated with autonomic symptoms. Secondary headaches, such as those due to intracranial hemorrhage or mass lesions, often present with sudden onset, neurological deficits, or systemic symptoms, and require urgent imaging.

Management and Treatment Plan

Mrs. S was counseled on lifestyle modifications, including regular sleep hygiene, stress management, and dietary adjustments. Acute treatment was initiated with oral sumatriptan 50 mg at headache onset, which is considered first-line therapy for moderate to severe migraine attacks. NSAIDs such as naproxen 500 mg were prescribed as adjuncts for pain relief. For prophylaxis, given the frequency and impact of her migraines, amitriptyline 10 mg at bedtime was initiated, with plans to titrate based on response and tolerability.

In Fiji, access to newer migraine-specific therapies such as CGRP monoclonal antibodies is limited due to cost and availability. However, traditional medicine practices, including herbal remedies and Ayurvedic approaches, are commonly used and culturally accepted. Mrs. S was advised to avoid unregulated treatments and to discuss any alternative therapies with her physician.

Follow-up was scheduled in six weeks to assess treatment efficacy and side effects. She was also referred to a local wellness program that integrates stress reduction techniques such as yoga and mindfulness, which have shown benefit in migraine management.

Conclusion

This case highlights atypical presentation of migraine in a middle-aged woman, emphasizing the importance of clinical diagnosis, differentiation from other headache types, and a tailored management plan. In resource-limited settings like Fiji, clinical acumen and patient education are paramount. While global advancements in migraine therapy continue, equitable access remains a challenge in the South Pacific. Strengthening primary care awareness and integrating culturally sensitive approaches can improve outcomes for migraine sufferers in Fiji.

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Case Study

Psychogenic Non-Epileptic Seizures: Diagnostic Challenges in Early Recognition

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Abstract:
Psychogenic nonepileptic seizures (PNES), commonly referred to as pseudo seizures, remain a poorly recognized and under-treated condition across the Pacific, particularly in Fiji. Despite their prevalence, PNES are frequently misdiagnosed as epileptic seizures due to overlapping clinical presentations and limited access to advanced diagnostic tools. In Fiji, where neurological services are scarce and mental health stigma persists, patients with PNES often endure prolonged suffering without appropriate intervention. This case report presents a 40-year-old Indo-Fijian male who was initially treated for epilepsy but later diagnosed with PNES. The report underscores the importance of distinguishing PNES from epileptic seizures, outlines the diagnostic process advocating improved awareness and early recognition in Fiji's healthcare system.

Introduction:
Seizures are transient episodes of abnormal neurological activity that manifest in various forms. The International League Against Epilepsy (ILAE) classifies seizures into focal, generalized, and unknown onset types, each with distinct clinical features and management strategies. Epileptic seizures arise from abnormal electrical discharges in the brain, whereas PNES are behavioral events triggered by psychological stressors without corresponding electrophysiological abnormalities. PNES are often misinterpreted as epilepsy, leading to inappropriate use of antiepileptic drugs (AEDs) and delayed psychiatric care. In Fiji, the lack of specialized neurology services and limited access to video EEG monitoring contribute to diagnostic ambiguity.

Case Presentation:
A 40-year-old Indo-Fijian male presented to the outpatient department at Oceania Hospital with recurrent episodes of unresponsiveness, limb jerking, and vocalization. These episodes had persisted for over a year and were initially diagnosed as generalized tonic-clonic seizures. He had been prescribed carbamazepine, later switched to valproate without clinical improvement. His medical history was unremarkable, but psychosocial evaluation revealed significant stress related to unemployment, familial discord, and unresolved grief following the death of a sibling.

Neurological examination was normal between episodes. During observed events, the patient exhibited asynchronous limb movements, pelvic thrusting, and prolonged duration without postictal confusion—features atypical of epileptic seizures. Routine EEG was normal, and MRI of the brain showed no structural abnormalities. A prolonged video EEG captured several episodes without corresponding epileptiform activity, confirming the diagnosis of PNES.

Discussion:
PNES are often rooted in psychological trauma, dissociation, or conversion disorders. Risk factors include a history of abuse, psychiatric comorbidities and chronic stress, all of which were present in this patient. In Fiji, cultural perceptions of seizures as spiritual or supernatural phenomena further complicate diagnosis and treatment. The overlap in clinical presentation between PNES and epileptic seizures necessitates careful history-taking, eyewitness accounts, and diagnostic tools such as video EEG, which remains unavailable in most hospitals in Fiji.

The management of PNES requires a multidisciplinary approach involving neurologists, psychiatrists, and psychologists. Cognitive behavioral therapy (CBT) has shown efficacy in reducing seizure frequency and improving quality of life. In this case, the patient was referred to the St. Giles Psychiatric Hospital for psychotherapy and supportive counseling. AEDs were tapered off under supervision, and the patient reported significant improvement over the course of his follow up consultations.

Conclusion:
This case highlights the diagnostic and therapeutic challenges of PNES in Fiji. Misdiagnosis leads to unnecessary pharmacological treatment, increased healthcare costs, and prolonged patient distress. Early recognition through clinical vigilance and access to video EEG is crucial. There is an urgent need for capacity-building in neurology and mental health services in Fiji, alongside public education to reduce stigma and promote timely intervention. PNES should be considered in any patient with refractory seizures and atypical features.

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Case Study

A Case of Typhoid Fever in a Traveler

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Abstract
Typhoid fever remains a common public health problem in endemic regions such as Fiji, where foodborne transmission is prevalent. In this article, a case of a 62-year-old female tourist who developed acute gastroenteritis and fever following the consumption of a traditional Fijian meal is presented. Clinical features, positive serology, and exclusion of other tropical infections supported the diagnosis of typhoid fever. She was managed with intravenous ceftriaxone followed by oral ciprofloxacin, with rapid clinical improvement. This case highlights the importance of early recognition, empiric therapy, and patient education in managing typhoid fever, particularly in resource-limited, endemic settings.

Introduction
Typhoid fever, caused by *Salmonella enterica* serovar Typhi, continues to be a major cause of morbidity in many low- and middle-income countries. Transmission is closely linked to contaminated food and water, and outbreaks are often associated with traditional communal meals. While blood culture remains the diagnostic gold standard, rapid serological tests are increasingly used where culture facilities are limited or where immediate decision-making is required. This case illustrates the clinical features, diagnostic approach, and management of typhoid fever in a traveller visiting Fiji.

Case Presentation
A 62-year-old Caucasian woman, visiting Fiji for two weeks, presented with a one-week history of diarrhoea, vomiting, fever, and abdominal cramps following a traditional lovo meal at a Fijian village. She reported four to five daily episodes of watery diarrhoea, occasionally blood-stained, accompanied by generalized weakness, dizziness, and reduced appetite. She denied respiratory symptoms or other systemic complaints. Despite self-treatment with anti-diarrheal medication and oral rehydration, her symptoms persisted, prompting medical consultation.

She had no comorbidities, no history of recent hospitalization, and no known drug allergies. She was not on regular medications. She was an Australian tourist, employed as a sales representative, a non-smoker, and an occasional alcohol consumer.

On examination, she was alert, oriented, and not in distress but clinically dehydrated with dry oral mucosa. Vital signs revealed a temperature of 37.8°C, pulse 110 bpm, blood pressure 108/79 mmHg, respiratory rate 24/min, and oxygen saturation 98% on room air. Cardiovascular and respiratory examinations were normal. The abdomen was soft and non-tender, with no organomegaly. Peripheral pulses were normal, and no rashes were observed.

Investigations showed hemoglobin of 13.1 g/dL, white cell count 8,040/µL, and platelets 354 × 10^9/L. Renal and liver function tests were within reference ranges, except for a mildly elevated bilirubin (6.3 µmol/L) and C-reactive protein (40 mg/L). Typhoid IgM and IgG were positive, while tests for dengue and leptospirosis were negative. Blood culture was declined.

The diagnosis was typhoid fever with acute gastroenteritis. She received intravenous ceftriaxone and fluids, with symptomatic improvement. She declined admission and was discharged on oral ciprofloxacin for seven days, with paracetamol as required and strict advice on hydration and red-flag symptoms. At two-day follow-up, her symptoms had resolved, and blood counts were normal. Case notification and EWARS reporting were completed, and she was counselled on food safety and hygiene.

Discussion
Typhoid fever is endemic in Fiji and presents with variable clinical manifestations, often ranging from mild gastrointestinal illness to life-threatening systemic disease. In this case, the patient presented with typical

features including fever, diarrhoea, and abdominal pain, with additional blood-stained stools that strengthened clinical suspicion.

Although blood culture is the diagnostic gold standard, rapid serological testing facilitated timely treatment when culture was declined. Early administration of intravenous ceftriaxone followed by oral ciprofloxacin resulted in rapid recovery, underscoring the effectiveness of empiric management in endemic regions. Importantly, patient counselling and case notification were prioritized to prevent secondary transmission.

This case emphasizes the need for heightened clinical suspicion, especially in travellers and endemic areas, and reinforces the role of public health measures alongside clinical care.

Literature Review

Diagnostic Approach and Antibiotic Management

Blood culture remains the definitive diagnostic tool for typhoid fever, yet its use is limited by availability, cost, and time. Rapid diagnostic tests (RDTs) such as Typhidot, Typhidot-M, and Tubex provide faster results with sensitivities of 80–95% and specificities of 65–89% (8,9). However, performance varies geographically, and false positives may occur due to antibody cross-reactivity. While useful in early diagnosis, RDTs are not a substitute for culture or molecular methods. Continued development of reliable, affordable RDTs remains a global priority.

A study published in *Frontiers in Bacteriology* in 2024 assessed the Typhipoint ELISA, reporting a sensitivity of 92.9% and specificity of 68.8% when compared to nested PCR-based detection of *Salmonella Typhi*. Similarly, a 2024 systematic review in *Journal of Scientific and Clinical Research* evaluated multiple commercially available typhoid RDTs, emphasizing the need for standardized testing protocols to enhance diagnostic accuracy.

Antibiotic Therapy

Antibiotics are the mainstay of treatment. Fluoroquinolones, such as ciprofloxacin and ofloxacin, have historically been highly effective, but widespread resistance has reduced their utility in many endemic areas. WHO now recommends azithromycin or third-generation cephalosporins (e.g., ceftriaxone) in resistant or severe cases. For extensively drug-resistant strains, carbapenems such as meropenem may be used, though clinical data are limited. Duration of therapy typically ranges from 7–14 days depending on clinical response. Antibiotic stewardship and surveillance of local resistance patterns remain critical to preserving treatment efficacy.

In Fiji, a study published in *Antimicrobial Resistance & Infection Control* in 2024 reviewed antimicrobial susceptibility trends, noting increasing resistance among Gram-negative pathogens. While specific data on *S. Typhi* resistance patterns are limited, these findings suggest that empirical therapy should be guided by local resistance data when available.

Conclusion

This case highlights the clinical presentation and management of typhoid fever in a traveller to Fiji. Rapid diagnosis, early initiation of empiric antibiotics, and supportive therapy led to a favourable outcome. Patient education and case notification played essential roles in preventing further spread. The case underscores the ongoing need for accurate diagnostics, appropriate antibiotic selection, and robust public health measures in endemic regions.

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Case Study

Recurrent Urinary Tract Infection

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Abstract
Recurrent urinary tract infections (rUTIs) are a significant public health concern, particularly among women of reproductive age. This case report presents a 30-year-old iTaukei female from Fiji with a history of recurrent UTIs. The report explores her clinical presentation, diagnostic workup, therapeutic interventions, and management strategies. It also highlights the global and regional epidemiology of rUTIs, differential diagnoses, and the importance of culturally & geographically tailored approaches to care. The case underscores the need for improved diagnostic accuracy and preventive strategies in resource-limited settings.

Case Presentation
A 30-year-old iTaukei female presented to the outpatient department in Suva, with complaints of dysuria, urinary frequency, suprapubic discomfort, and intermittent hematuria. She reported experiencing similar symptoms on at least four occasions over the past year, each treated with short courses of oral antibiotics. Her symptoms typically resolved within days but recurred within weeks to months. She denied fever, flank pain, or vaginal discharge.

Her medical history was notable for poorly controlled type 2 diabetes mellitus diagnosed three years previously and prior episode of pyelonephritis during pregnancy at age 27. She had no known structural abnormalities of the urinary tract. She was sexually active with a single partner and used condoms intermittently. She had no history of sexually transmitted infections. Her travel history included recent visits to rural villages in Vanua Levu, where access to clean water and sanitation was limited. On examination, her vital signs were stable: temperature 37.2°C, heart rate 82 bpm, blood pressure 118/76 mmHg, respiratory rate 16 breaths/min, and oxygen saturation 98% on room air. Abdominal examination revealed mild suprapubic tenderness without guarding or rebound. No costovertebral angle tenderness was noted. Pelvic examination was unremarkable, with no signs of vaginitis or pelvic inflammatory disease.

Diagnostic Assessment
Urinalysis revealed pyuria, positive leukocyte esterase, and nitrites. Midstream urine culture grew Escherichia coli >10^5 CFU/mL, sensitive to nitrofurantoin and resistant to ciprofloxacin and amoxicillin. A renal ultrasound showed no hydronephrosis or structural abnormalities. Blood glucose was elevated at 11.8 mmol/L. Hemoglobin A1c was 8.2%, indicating suboptimal glycemic control. A pelvic ultrasound ruled out gynecological pathology.
Given the recurrent nature of her infections, a diagnosis of recurrent uncomplicated cystitis was made. The criteria for rUTI—three or more episodes in 12 months—were met, and the presence of E. coli confirmed reinfection rather than relapse, as each episode had been preceded by symptom resolution and negative cultures.

Therapeutic Intervention
She was treated with a seven-day course of nitrofurantoin. In addition, she was counseled on behavioral modifications, including increased fluid intake, post-coital voiding, and avoidance of spermicidal products. A regimen of D-mannose and cranberry extract was initiated as a non-antibiotic prophylactic strategy. Her diabetes management was intensified with dietary counseling and adjustment of her oral hypoglycemic agents.

Management and Outcome
Over the following six months, the patient remained symptom-free. Follow-up urine cultures were negative, and her glycemic control improved significantly. She reported adherence to lifestyle modifications and prophylactic supplements. No further episodes of UTI were documented during this period.

Discussion
Recurrent UTIs are defined as two or more infections within six months or three or more within a year, typically caused by reinfection with uropathogenic E. coli. Risk factors include female anatomy, sexual activity, use of spermicides, diabetes mellitus, and poor hygiene practices, all of which were present in this patient (Gupta et al., UpToDate 2024).

Globally, UTIs affect over 150 million people annually, with recurrent infections contributing significantly to healthcare burden and antimicrobial resistance (Brusch JL. Medscape 2025). In Fiji and the broader Pacific Islands, limited access to diagnostic tools and sanitation exacerbates the prevalence and recurrence of UTIs. A study from the Global Burden of Disease project estimated over 404 million cases of UTIs worldwide in 2019, with rising incidence in tropical regions including Oceania (Zeng et al., World J Urol 2022).

Differential diagnoses for recurrent dysuria include sexually transmitted infections (e.g., chlamydia, gonorrhea), interstitial cystitis, vaginitis, and urethral syndrome. These can be differentiated through targeted history, pelvic examination, and laboratory testing. For instance, STIs often present with vaginal discharge and dyspareunia, while interstitial cystitis lacks bacteriuria and responds poorly to antibiotics (Kodner CM, AAFP 2010).

Accurate diagnosis hinges on correlating symptoms with urine culture results. In symptomatic women, a threshold of $>10^3$ CFU/mL of E. coli is sufficient for diagnosis, especially when accompanied by pyuria and positive nitrites (McKertich K, AJGP 2021). Imaging and cystoscopy are reserved for complicated cases or when structural abnormalities are suspected.

Management of rUTIs involves both acute treatment and preventive strategies. Antibiotic prophylaxis, either continuous or post-coital, is effective but risks resistance. Non-antibiotic options such as D-mannose, probiotics, and immunoactive prophylaxis (e.g., OM-89) are gaining traction, especially in settings with high resistance rates (Biology Insights 2025).

Conclusion

This case highlights the multifactorial nature of recurrent UTIs and the importance of individualized care. In the Pacific Islands, addressing underlying risk factors such as diabetes and improving access to clean water and sanitation are critical. Non-antibiotic prophylaxis and behavioral modifications offer promising avenues for reducing recurrence and preserving antibiotic efficacy. Continued surveillance and region-specific guidelines are essential to combat the rising burden of UTIs in resource-limited settings.

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Case Study

Erectile Dysfunction

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Abstract

Erectile dysfunction (ED) defined as the persistent inability to achieve or maintain an erection sufficient for satisfactory sexual activity is a common issue affecting adult males globally, Fiji is no exception. While global prevalence data reflect a wide incidence range, Fiji faces additional challenges due to cultural stigma, delayed healthcare seeking and rising non-communicable diseases without specific male health services.

Local Context & Epidemiology

A local Fiji Times article underscores that "men in Fiji are no different from their international brethren" with respect to the ED incidence. The condition is often left unaddressed due to embarrassment or low awareness. Contributing factors frequently cited include stress, hypertension, diabetes mellitus, hormonal deficiency & local genital conditions such as Peyronie's disease. That article highlighted that blood testing for serum testosterone and SHBG is now locally available and that generic medication like sildenafil and tadalafil are affordable and accessible[1].

Globally, ED prevalence increases with age—affecting approximately 18% of males aged 50–59 and 37% of those aged 70–75—and was strongly associated with cardiovascular risk factors. In general practice settings, ED is frequently under-recognized; almost 40% of men reported ED in their 5th Decade, yet only a small fraction received treatment[4,5].

Barriers in Primary Care in Fiji

GPs do not routinely inquire about sexual function & embarrassment remains a major barrier for male patients worldwide. Studies reporting that up to 60% of men do not discuss ED with their GP. This barrier is likely intensified in Fiji by cultural stigmas around sexual health, underscoring the importance of proactive yet sensitive enquiry [1].

Case Study

A 56year old I'taukei, successfully married for 20 years, a taxi driver by profession presented to his GP. His concerns were that he was experiencing difficulty maintaining an erection during intercourse over the preceding 9 months. He reported gradual onset of symptoms however greater worsening over the last 3 months was noted.

Initially he developed decreased rigidity, difficulty maintaining erections, especially during stressful periods. No significant morning or nocturnal erections for the past three months was reported. He indicated normal libido but avoids initiating sexual activity due to fear of failure. No associated penile pain, curvature, discharge or urinary symptoms were established. He further denied any recent trauma or infections. His medical history indicated a T2D diagnosed 8 years previously, hypertension confirmed 6 years ago. His "sin good" consumption was established as follows: Smoker (10 cigarettes/day for 20 years), occasional alcohol consumption but a regular kava drinker up to 3 sessions/week.

Detailed medication use was established as follows: Metformin 1g twice
Daily, Amlodipine 10mg daily for his hypertension. No herbal or over-the-counter medication was in use. On interrogation his father had type-2 diabetes and coronary artery disease. High stress levels due to financial pressure. However, no psychiatric history was present. He reported irritability and poor sleep. Finally, he felt embarrassed to speak about sexual issues and delayed seeking counselling. Physical Examination indicated a BP& pulse in range with BMI 29.4kg/m^2. Local genital exam demonstrated no scrotal, urethral meatal abnormalities, an estimated normal testicular size with normal drainage ducts. No hernias or varicosities, without any penile deformities or gynaecomastia were noted. Neurological exam was unremarkable with intact perineal sensation and reflexes. No clinical signs of hypogonadism were forthcoming.

Investigations undertaken.

Test	Result	Normal Range
Fasting glucose	8.7 mmol/L	<5.6 mmol/L
HbA1c	8.2%	<6.5%
Lipid profile	Elevated LDL, low HDL	
Serum testosterone	10.5 nmol/L	10–35 nmol/L
SHBG	28 nmol/L	10–70 nmol/L
ECG	Normal sinus rhythm	

Diagnosis

Erectile Dysfunction (organic, mixed etiology: vasculogenic – lifestyle + psychological factors). Associated conditions: Type 2 diabetes, hypertension, obesity, stress

Discussion

This case highlights a common presentation of ED in the Fijian context, where cultural and psychological barriers delay care. The patient had multiple contributing risk factors—diabetes, hypertension, smoking, kava use with psychological stress. Management in primary care focused on patient education, lifestyle intervention, initiating pharmacotherapy, and holistic support. Normalizing discussion around sexual health and ensuring a culturally sensitive approach, GPs can improve both sexual and general health outcomes.

Assessment Strategy for GPs

1. Clinical History and Physical Examination
   a. Explore gradual vs. sudden onset, nocturnal erections, comorbidities (diabetes, hypertension), medications, lifestyle habits, and psychological stressors.
   b. Include local relevance items, such as kava or alcohol use.
2. Screening for Cardiovascular and Metabolic Risk Factors
   a. Physical exam and basic tests: blood pressure, fasting glucose, lipid profile, and total testosterone when indicated.
3. Identify Psychogenic vs Organic ED
   a. Distinguish via history of nocturnal erections and consider psychological contributors such as stress or performance anxiety.
4. Address Cultural and Personal Barriers
   a. Employ a non-judgemental, empathetic approach, normalize discussions around ED to

reduce shame and facilitate open communication.

Management Recommendations

1. Patient Education & Lifestyle Intervention
    - Emphasize that ED may signal broader health issues and benefits from lifestyle changes—weight loss, exercise, smoking cessation, reduction of alcohol/kava use, and stress management.
2. Pharmacotherapy
    - First-line treatment: PDE5 inhibitors (e.g., sildenafil, tadalafil). Counsel on correct use (sexual stimulation required, timing regarding meals), contraindications (notably nitrates), side effects, and cost considerations.
3. Second-Line & Adjunctive Therapies
    - The options of vacuum erection devices (illegal to import, currently), intracavernosal alprostadil (very expensive, locally), low-intensity shockwave therapy (questionable adjunctive role) or prosthetic implants (not available locally) are issues at stake. PDE5 inhibitors are more recently, available as a Jelly in USA, as an OTC item now.
4. Psychological Support
    - Engaging the partner may enhance treatment success if warranted. Sex therapists are not available locally.

Management Plan

1. Patient Education

- Explained the multifactorial nature of ED
- Reassured patient that ED is common and treatable
- Emphasized importance of addressing underlying conditions (diabetes, hypertension)

2. Lifestyle Modification

- Smoking cessation advice and referral for cessation support
- Encouraged reduction of alcohol and kava intake
- Recommended weight loss, regular physical activity
- Discussed stress management strategies (sleep hygiene, relaxation techniques)

3. Medication

- Initiated Sildenafil 50 mg as needed, max once daily
- Instructions: Take 1 hour before intercourse, avoid fatty meals
- Monitored for potential interactions (no nitrates prescribed)
- Continued current medications for diabetes and hypertension

4. Psychosocial Support

- Referred for brief counselling with a community health worker trained in sexual health if suitable referral pathway is created.
- Encouraging open communication with spouse is important for some couples.

5. Follow-Up

- Review in 4 weeks to assess medication efficacy and side effects
- Monitor blood pressure, HbA1c, and psychological well-being
- Plan to consider specialist referral (urology) if no improvement after 3 months

Learning Points for GPs

- ED can be an early marker of cardiovascular disease.
- Discussions on sexual function proactively in high-risk groups is mandatory (e.g., men with diabetes, hypertension).
- Use a stepwise approach: lifestyle, medication, psychosocial support.
- Culturally sensitive communication is critical in the Fijian setting.
- Leverage accessible medications and laboratory tests that are available locally.

Conclusion

GPs in Fiji play a pivotal role in both the early identification and management of ED, offering a gateway to improved both sexual and overall health outcomes. Prioritizing empathetic, culturally sensitive communication, combined with evidence-based assessment and leveraging locally available diagnostics and treatments, can help overcome prevalent barriers. Prompt intervention not only improves quality of life but may also uncover hidden cardiovascular or metabolic conditions.

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Climate Change and Health: Implications for General Practitioners in Fiji

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Abstract

Climate change poses a significant and growing challenge to health systems worldwide, with Pacific Island nations such as Fiji being particularly vulnerable due to their geographical, economic, and healthcare resource constraints. Rising ambient temperatures, altered rainfall patterns, and extreme weather events directly and indirectly affect health outcomes. For GPs practicing in Fiji, one of the most pressing concerns is the rising incidence of heat-related illnesses, including heat exhaustion and heat stroke, as well as the broader impacts on non-communicable and communicable diseases. This article provides an overview of how climate change affects health in Fiji, practical recognition and management of heat-related illness, and the role of primary care physicians in community adaptation and resilience.

Introduction

The World Health Organization identifies climate change as the greatest health threat of the 21st century. Fiji, as a low-lying island nation in the South Pacific, is particularly vulnerable. Rising temperatures, increasing humidity, and more frequent extreme weather events (cyclones, floods, droughts) affect health both directly and indirectly. GPs are often the first point of contact for patients experiencing climate-related illness, making awareness and preparedness critical.

Rising Temperatures and Heat-Related Illness

Mechanisms

- Physiological stress: Prolonged exposure to high temperatures overwhelms the body's thermoregulation.
- Risk factors: The elderly, children, outdoor workers (farmers, construction workers), and those with chronic disease (cardiovascular, renal, diabetes) are particularly vulnerable.
- Urban effects: Suva and other towns may experience "urban heat island" effects due to concrete and reduced vegetation.

Spectrum of Illness

- Heat cramps: Painful muscle spasms due to electrolyte loss.
- Heat exhaustion: Characterized by dehydration, tachycardia, hypotension, dizziness, and weakness.
- Heat stroke: Medical emergency defined by core temperature >40°C and central nervous system dysfunction (confusion, seizures, coma).

Climate Change and Other Health Impacts in Fiji

Vector-Borne Diseases

- Warmer, wetter conditions increase mosquito breeding, leading to higher risk of dengue, chikungunya, and Zika.
- Outbreaks in Fiji are already seasonal; climate change may prolong transmission windows.

Water- and Food-Borne Illnesses

- Flooding and rising seas contaminate water supplies, increasing risk of leptospirosis, typhoid, and diarrheal diseases.
- Warmer seas contribute to ciguatera fish poisoning outbreaks.

Non-Communicable Diseases (NCDs)

- Heat stress exacerbates cardiovascular and renal disease.
- Food insecurity from crop damage affects nutrition, worsening obesity-diabetes cycles.

Mental Health

- Displacement from cyclones, flooding, and loss of livelihood contributes to anxiety, depression, and post-traumatic stress disorder.

Clinical Role of General Practitioners

Recognition and Management of Heat Stroke

- **Early recognition:** Altered mental state in a patient with recent heat exposure is heat stroke until proven otherwise.
- **First aid:** Rapid cooling (evaporative cooling, ice packs in axillae/groin), cold IV fluids if available.
- **Supportive care:** Oxygen, airway protection, IV fluids, correction of electrolytes, rapid referral to higher-level care.

Preventive Counselling

- Advise high-risk groups (elderly, outdoor workers, athletes).
- Encourage hydration, light clothing, shaded rest breaks, and community "cooling shelters" during heat waves.
- Emphasize importance of recognizing early symptoms.

Community Engagement

- Work with local health authorities to develop heatwave early warning systems.
- Incorporate climate change health awareness into routine health checks and NCD management.

- Promote village-level disaster preparedness, safe water storage, and sanitation practices.

Challenges for Fiji

- Resource constraints: Limited ICU capacity, cooling equipment, and laboratory support for managing severe heat illness.
- Geographic vulnerability: Rural and maritime communities often have limited access to timely care.
- Knowledge gaps: Need for more local epidemiological data linking climate change and health outcomes.

Conclusion

Climate change is not only an environmental challenge but also a public health emergency. For Fiji, where health systems already face resource limitations, rising temperatures and extreme weather amplify risks for heat stroke, vector-borne disease, and NCD complications. GPs are uniquely placed to provide frontline recognition, prevention, and advocacy. Building community awareness and integrating climate resilience into health practice are essential steps in protecting Fijian communities.

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Medico-Political Column

The History and Contents of a Primary Care Physician's Bag on House Calls into the 21st Century

Author: *Dr. Neil Sharma*

Introduction

The black medical bag of a primary care physician has long been a symbol of medicine's most personal touch—the house call. While modern medicine has largely centralized care within clinics and hospitals, the practice of visiting patients at home persists in many regions and is seeing a resurgence due to aging populations, chronic disease management, and the evolution of mobile medical technologies. The contents of the doctor's bag have changed dramatically over time, but its purpose—delivering care directly to the patient—remains constant.

Origins: The 19th Century Medical Bag

The concept of the physician's bag dates back to the 1800s, when general practitioners, often referred to as apothecaries or country doctors, traveled on horseback or by carriage to reach patients. These early bags were utilitarian and leather-bound, often handmade and compartmentalized to carry essential items for diagnosis and rudimentary treatment. Contents typically included a stethoscope, thermometer, sphygmomanometer, tongue depressors, basic surgical tools, glass syringes, morphine, laudanum, and antiseptics like carbolic acid.

Early 20th Century: Scientific Advancements and Greater Utility

The early 1900s ushered in improvements in antisepsis, bacteriology, and diagnostic accuracy, all of which influenced the physician's house call toolkit. Bags became more structured and capable of handling a wider array of illnesses, with additions such as sulfa drugs, glass ampoules, portable otoscopes, tuning forks, and portable light sources.

Mid to Late 20th Century: The Golden Era and Gradual Decline

By the 1950s and 60s, most physicians still made house calls. However, as medicine became more hospital-based, house calls declined. Despite this, the physician's bag evolved to include battery-powered devices, disposable tools, simple medications, and compact medical references. The bag symbolized trust and community care even as the practice diminished in frequency.

21st Century: The Digital Doctor's Bag
In the new millennium, aging populations and digital health tools have revived interest in house calls. Modern bags now include digital stethoscopes, portable ECGs, pulse oximeters, handheld ultrasound devices, glucometers, and technology for mobile records and communication. Medications, minor procedural kits, and administrative documents remain standard.

Specialized Variants of the Modern Bag
Depending on the focus of care, bags are now tailored: palliative care kits may include syringe drivers; pediatric bags include immunization tools, and geriatric kits prioritize mobility aids and dementia screening tools.

COVID-19 and the Rebirth of the House Call
The COVID-19 pandemic revitalized the practice of house calls. Physicians updated their bags with PPE, COVID test kits, portable oxygen, and tools for telehealth. The pandemic reaffirmed the flexibility and necessity of in-home care in modern healthcare systems.

Conclusion: The Symbolism and Future of the Physician's Bag
Though the contents of a doctor's bag have changed drastically, its essence remains the same — to bring medical care to the patient. The physician's bag represents accessibility, compassion, and continuity of care. As healthcare decentralizes, the doctor's bag — now digitally enabled and portable — remains a symbol of personalized care.

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Obituary

In Loving Memory of **Dr. Isireli "Leli" Biumaitotoya**

It is with deep sadness that we share the passing of **Dr. Isireli Biumaitotoya**, fondly known to many as "Leli", who left us a few weeks ago.

Dr. Biumaitotoya was a much-loved Private General Practitioner in Nadi, devoted to the care and well-being of his patients. His compassion, dedication, and warmth touched countless lives across the communities he served. For him, medicine was not just a profession—it was a calling of the heart.

Those who knew Leli will remember his infectious humour, his joyful dancing, and the magnetic energy he brought to every gathering and every post on social media. He had a gift for making others smile, a rare ability to connect with people from all walks of life, and a genuine kindness that made everyone feel seen and valued.

Leli's love for his family was unwavering. He is lovingly remembered by his mother, sister, and brother, as well as the nephews he helped raise, guiding them with patience and pride into the men they are today. His legacy of love, laughter, and service will live on through them, and through the many whose lives he brightened with his care.

Though his passing leaves a profound emptiness, his spirit continues to inspire all who had the privilege of knowing him. His laughter, his light, and his love will be remembered always.

May his beautiful soul rest in eternal peace.

In Loving Memory of **Professor John Murtagh**

With profound sadness, the medical community mourns the passing of Emeritus Professor John Murtagh, a beloved mentor, pioneering educator, and a guiding light of general practice and family medicine. He passed away peacefully at the age of 89, surrounded by family.

A Life Dedicated to Healing & Teaching
Born into a rural Victorian farming family, Professor Murtagh's early encounter with poliomyelitis during childhood awakened in him a deep appreciation for medicine and the healing relationship between doctor and patient. After excelling academically, he entered medicine at Monash University and graduated in 1966, setting the stage for a remarkable career that would bridge the worlds of clinical practice, teaching, and compassionate care.

The Practitioner & Rural Advocate
Professor Murtagh spent formative years as a rural general practitioner in Yaeman South, Victoria. It was there, in the community-based setting, that his enduring belief took root, that every patient, no matter how remote or ordinary, deserved excellent, kind-hearted care. His work in rural, remote and underserved areas became a hallmark of his philosophy that strong primary care is the foundation of health for all.

Educator, Author, Visionary
His influence is perhaps most widely felt through his textbook John Murtagh's General Practice, first published in 1994 and now in its ninth edition, translated into numerous languages and used in more than 20 countries. With clarity, warmth and practicality, he made complex medical topics accessible to students and practitioners alike.

He held the professorship in General Practice at Monash University, served as Medical Editor of *Australian Family Physician*, and carried his teaching across borders, disciplines and generations.

Legacy of Compassion & Equity
Professor Murtagh's legacy extends far beyond textbooks. He was deeply committed to equitable health care, particularly in rural and remote regions. The Australian College of Rural & Remote Medicine acknowledged how his work "transformed the landscape of general practice and strengthened the foundations of rural and remote medicine." His humility, warmth, decency and patient-centred approach were widely celebrated by peers and students alike.

Honours and Recognition
In recognition of his extraordinary service to medicine, Professor Murtagh was awarded Life Fellowships by both the Royal Australian College of General Practitioners (RACGP) and the World Organization of Family Doctors in 2007. In 2015, he was appointed an Officer of the Order of Australia (AO), for distinguished service to general practice, medical education, research and publishing.

Personal-Heart, Professional-Might
Beyond his professional achievements, Professor Murtagh was a husband, a father, a friend, and a mentor. His daughter paid tribute to him as a "trailblazer" whose legacy reaches into the lives of doctors and patients alike. He remained grounded, humble, ever-approachable, a rare combination in someone of his stature.

Farewell & Reflection
As we bid farewell to the father of family medicine, we pause not just to mourn his passing but to celebrate a life of purpose. His voice will continue to speak in exam rooms, rural clinics, teaching hospitals and in the thoughtful care of clinicians who strive to put people first. To quote his own life's work: medicine is not just about diseases, but about people, their lives, and the trust we share.

Professor Murtagh leaves behind a world immeasurably richer for his contributions. May his memory inspire continued compassion, scholarship and service in the field he so loved. Our deepest condolences to his family, colleagues, students and to every patient whose life he touched. He will be profoundly missed and ever-remembered.

Notes

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