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The Pharmacy Guild

Industry Labour Market Update | Strategic Education Partnership | Planning For Change

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PRESIDENT'S MESSAGE

It is disappointing that the Federal Government has ignored a golden opportunity to make the Pharmaceutical Benefits Scheme truly universal, but by the time you read this, hopefully some progress will have been made.

The purpose of the PBS is to provide timely, reliable and affordable access – or universal access – to necessary medicines for Australians.

But that has not happened because more and more Australians simply cannot afford their medicines.

In the recent Budget, the Government's response to growing community concerns over medicines' affordability was to lower the safety net threshold from $1,542.10 to $1,457.10 for general patients and from $326.40 to $244.80 for concessional patients. This may help some patients towards the end of the year but does little for patients facing cost pressures every day throughout the whole year.

There is a solution, developed by the Pharmacy Guild, that we put to the Government to include in the Budget. Sadly, rather than act on it, the Government went on a spending spree, including tokenistic handouts and other populist measures, but there were signs that action would be taken, and hopefully by now there have been clear advances made.

The Guild's solution offers the opportunity for better access to critical medicines while also relieving hip-pocket pressures for working families.

Our solution is quite simple – cut the general co-payment on PBS medicines.

The maximum general co-payment for the PBS is now $42.50 and will keep rising every year until it is destined to hit $50 by the end of the decade. The Guild's proposal makes about 70 per cent of PBS medicines more affordable for more than 19 million people.

The Guild recognises the fiscal pressures facing the Government, so we proposed Budget savings offsets to our Affordable Medicines Reform (AMR) by proposing new measures to raise biosimilar uptake.

Put simply, the Guild offers the Government a way to address the cost of medicines in a sensible, pragmatic and cost-neutral way.

This policy reform will drive universality of access to the PBS and enhance medication adherence, immediately reducing spending pressures on the health system and the economy.

It will benefit patients prescribed drugs for diabetes, stroke prevention, cardiovascular disease, respiratory conditions, epilepsy, hormonal contraception, skin conditions, anaphylaxis, viral conditions, Parkinson's disease, macular degeneration and many others.

Moreover, to help offset the direct Government costs of cutting co-payments (notwithstanding the overall benefits through lower health care costs), the Guild proposes new measures to raise biosimilar uptake.

We need to act on this problem of medicines affordability – and act now. Research by the Australian Patients Association has found more than 20 per cent of Australians aged 18–64 describe prescription medicines as being unaffordable.

Cost of living and the affordability of health care continue to dominate as issues affecting Australians, with more than one in six saying they or their families have been unable to purchase medicines due to cost.

In the Budget, the Government lowered the PBS Safety Net Threshold, but this does not go far enough. When many Australians are living from pay cheque to pay cheque and are deciding whether they can put fuel in their car, purchase groceries or keep a roof over their head, they need more done to make medicines affordable.

People are struggling to afford essentials and going without their medicines should never be a decision Australians have to make.

Community pharmacists at the frontline of primary health care are concerned about the implications for individuals and their families.

Families are being forced to choose between medicines and immediate needs like food or fuel. This is bad news for their health and wellbeing and will translate into a higher burden on hospitals and emergency health care.

The Guild and community pharmacists are committed to achieving this reform for the benefit of patients, and we will continue our strong campaign and advocacy to help more patients afford their medicines.

Trent Twomey
National President

The Pharmacy Guild of Australia

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DAVID HEFFERNAN

Government & Public Relations Committee Chair

Tell us a little about yourself

I've been a community pharmacist for 20 years since graduating from Charles Sturt University, Wagga Wagga. Currently, I am a community pharmacist in partnership at Culburra Pharmacy, Culburra Beach, NSW; Southside Pharmacy, South Grafton, NSW; and Masen's Pharmacy, South Grafton, NSW. I was raised on a farm in Eurongilly near Junee NSW and have lived in Berry, on the South Coast of NSW, for the last 20 years.

I have a particular passion for the autonomy of the pharmacist professional and the importance of pharmacist ownership, and advocate strongly for our profession. As Chair of the CSU Pharmacy Foundation, I championed the role of CSU Pharmacy in the community, especially as a rural university.

My other interests are in public policy (Health), politics – undertaking a Master of Politics and Public Policy through Macquarie University – Indigenous policy, Rural Pharmacy policy, education and community health in general.

I am currently NSW Branch President of the Pharmacy Guild, National Vice President and Chair of the Government and Public Relations Committee. I entered the NSW Branch Committee in 2014. I also sit on the Health Economics and Policy Committee and the Corporate Governance and Services Committee for the National Council.

The last three years in particular have been fast paced yet fulfilling in the many achievements we have been able to pass in NSW and the National Council. It was an honour to be there and witness the signing of the 7th CPA in the Prime Minister's office after the hardest fought agreement ever and through the hardest pandemic years pharmacy has seen for a long time. We have moved mountains to steer our profession to a point where we are no longer taken for granted and are front and centre in the eyes of the decision-makers both in governments and bureaucracies.

Role of the Government and Public Relations Committee

The GPR Committee is the enabler – fast paced, dynamic and charged with providing governance oversight, strategic direction, advocacy and advice in relation to government relations, stakeholder engagement, media and communications, and public relations on policy relevant to community pharmacy.

The committee leads federal political engagement and advocacy, develops campaigns which defend and promote the value of community pharmacy, the integrity of the network and the brand of the Guild and which increase understanding and recognition of the vital role of community pharmacy. We support the Guild to effectively communicate the vision, future viability and integral value of community pharmacy to government, decision-makers, influencers and the public with respect to the value of community pharmacy, policy reforms and patient-centric programs and services.

What is your role in the Government and Public Relations Committee?

In this role, I work closely with the other National Council members of the committee: Adele Tahan (NSW), Helen O'Byrne, (Tasmania) Nick Panayiaris (South Australia) and Peter Hatswell (Northern Territory) as well as members of the Nationals Secretariat and branch staff.

Three issues that are top of mind

Affordable Medicines Now

In the history of the PBS, the price patients pay for medicines has gone in only one direction – up. No pharmacist wants to witness their patients going without their medication, yet according to the Australian Bureau of Statistics, 900,000 Australians delayed or didn't get a script filled in 2019–20 due to cost. As community pharmacists, we are very concerned that when people can't afford prescription medicines, their health is compromised, and they end up needing to rely more heavily on our already stretched hospital system. Bringing down the co-payment is a monumental policy change whereby we are campaigning hard. You will see ads, billboards and material in pharmacies supporting our proposal, and when we get it across the line, it will be significant for our patients.

Scope of Practice

We are committed to making big changes in this area over the coming years. Australia is well behind other OECD nations in their health professions practising to their full scope. When all primary healthcare practitioners are practising to their full scope, collectively, we are able to better tackle the incidence and management of chronic diseases, reduce preventable hospitalisations, reduce non-urgent emergency department presentations and ultimately deliver better health outcomes for all Australians.

As such, community pharmacists need to be able to work to their full scope.

Pharmacists have the knowledge, skill and professional accountability to prescribe, administer and review medicines. We are the medicines experts.

At present, there is strong resistance from the medical profession to pharmacists working to their full scope – arguments to the effect that the sky is falling if pharmacists do more. The reality is we are trained to do much more and can actually help to ease the pressure on our medical colleagues and their practices and improve health outcomes.

We have already seen the benefit to the community through the advancements made in the pandemic, and we are pushing on. Watch this space.

8th CPA

We have already started working on the next CPA – pretty much since the last finished. We expect it to be hard fought again. The integrity of the PBS and pharmacist remuneration is paramount and involves some big players as stakeholders: big Pharma, wholesalers and more. As such, a lot of work is kept close, behind closed doors, as the sharks who threaten our profession are always circling.to ensure the safety of the patient.

INDUSTRY LABOUR MARKET UPDATE

Words | Dr Philip Chindamo Chief Economist

There are currently just over 32,300 pharmacists employed in Australia. Around 17,000 of these pharmacists (53% of the total) are working in community pharmacies. There are around 6,500 pharmacists working in hospitals, and the rest are employed across all other industries, such as academia, manufacturing and government. The ratio of the number of community pharmacists to total pharmacists employed has remained stable over the past decade at around 53%.

Chart 1 shows the growth in the number of pharmacists employed in Australia over the past 20 years relative to both total employment growth and employment of pharmacy assistants in community pharmacies. Total employment growth in Australia has averaged 1.9% annually over this time, whereas employment growth for pharmacists has averaged 5.5% annually. This reflects the rise in demand for pharmacists relative to other occupations, with pharmacists in the highest skilled occupation category. In turn, the growth reflects the relative growth in services industries in the economy.

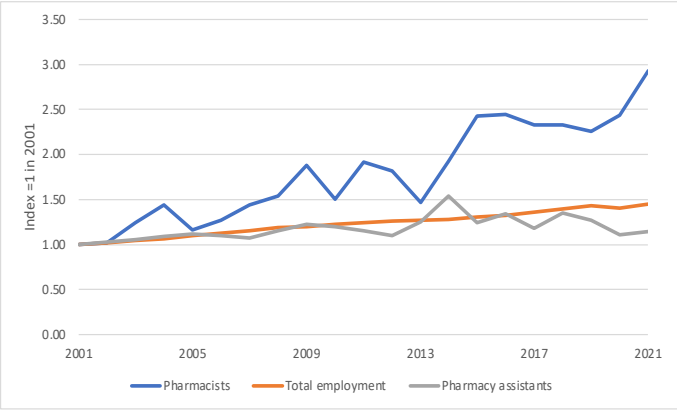

Chart 1: Employment growth in Australia (index)

Source: Calculations based on data from ABS, Labour Force, Australia, Detailed.

Chart 1 also shows the different experience of pharmacy assistants working in community pharmacies over the past 20 years. The absolute number of pharmacy assistants employed has increased from just over 29,000 in 2001 to approximately 33,500 in 2021. This is an average annual increase of 0.7%, which is a much smaller rate of growth than for overall employment in the Australian economy. This trend reflects several factors: the shift in employment hours to a part-time or casual basis, as well as the substitution of technology for less skilled labour (pharmacy assistants are in a lower skilled category than pharmacists). The latter reflects longer-term changes to employment across the economy where some occupations are more open to being partly mechanised.

The pharmacist occupation in Australia has traditionally been a 'full employment' occupation. Of the total pharmacists registered in Australia that seek to work in their profession, consistently over 94% in any one year are actively employed in their profession (Chart 2), whereas only 0.5% are employed in Australia outside of their registered profession even though they are looking for work in Australia as pharmacists. The annual 'unemployment rate' for registered pharmacists in Australia has averaged only 1.1% amongst pharmacists since 2013.

Chart 2: Pharmacist labour force in Australia (% of total employed pharmacists)

Source: National Health Workforce Dataset. https://hwd.health.gov.au/datatool/

One of the trends in recent years that is not apparent from Chart 1 relates to the composition of the number of employed pharmacists in different job settings. Whilst the proportion of total pharmacists working in community pharmacies has been stable at around 53% since 2013 (when data is first available), the rate of growth of pharmacists working in hospitals has been much stronger. Table 1 shows the growth in the number of employed pharmacists in Australia since 2013 split into job settings of community pharmacies, hospitals and all other sectors/ industries. The growth in the number of pharmacists employed in hospitals has dominated since 2013, recording 54% growth, whereas the growth in the number of pharmacists employed in community pharmacy has been 15%. However, growth in employment of pharmacists in other sectors has grown only 4%.

	Community pharmacy	Hospitals	All other settings
Employment growth (%)	15%	54%	4%

Table 1: Employment growth of pharmacist employment in Australia (% growth, 2013 to 2020)

Source: National Health Workforce Dataset. https://hwd.health.gov.au/datatool/

Job Vacancies

Job vacancies for pharmacists and pharmacy assistants are recently also at relatively high levels, reflecting the critical role these people have in contributing to the current COVID 19 response and public health measures, as well as more broadly reflecting increased business activity as the economy comes out of the pandemic period. Chart 3 shows the annual number of job vacancies advertised on the internet for pharmacists and pharmacy assistants since mid-2015, noting that internet vacancies advertised are largely for independent pharmacies and do not represent other forms of recruitment, so they represent a smaller proportion of potential vacancies. In 2015, the number of advertised vacancies was approximately similar for pharmacists and pharmacy assistants; however, since then, the demand for pharmacists has been much stronger than the demand for pharmacy assistants. We can see from Chart 3 the drop off in demand for both occupations in 2020 during the first wave of the COVID-19 pandemic and the strong rebound in labour demand since that time as the economy and business activity have recovered.

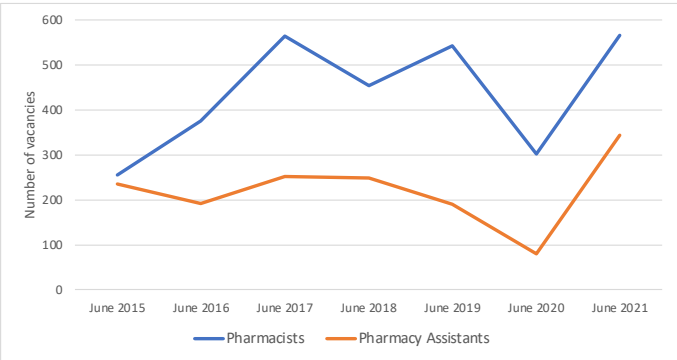

Chart 3: Number of job vacancies advertised on the internet: pharmacists and pharmacy assistants (annual, number)

Source: National Skills Commission

Future Employment

One of the impacts of the tight labour market as vacancies are at high levels and unemployment amongst pharmacists at its traditional low level, will be wages pressures to recruit and retain pharmacists. This pressure on wages may ease somewhat by immigration as international borders re-open and pharmacists are now on the Federal Government's Priority Migration Skills Occupation List which mainly expedites the visa process. There is the potential for overseas-based pharmacists that are not currently employed overseas to seek employment as pharmacists in Australia; however, the annual number of pharmacists in current employment overseas and looking for work in Australia as pharmacists has been relatively small if we consider the pre-COVID-19 pandemic period (Chart 4).

Moreover, Chart 4 shows there has been a larger annual number of people employed in Australia outside of their registered profession as pharmacists and not looking for work in Australia as pharmacists. This is a potential source of additional supply of pharmacists if working as a pharmacist becomes attractive enough for these people to potentially seek and gain (re)employment as pharmacists.

	Growth
Pharmacists	9.0
Pharmacy Assistants	7.7
All occupations	9.1

Table 2: Projected employment growth (% growth, five years to November 2026)

Source: National Skills Commission

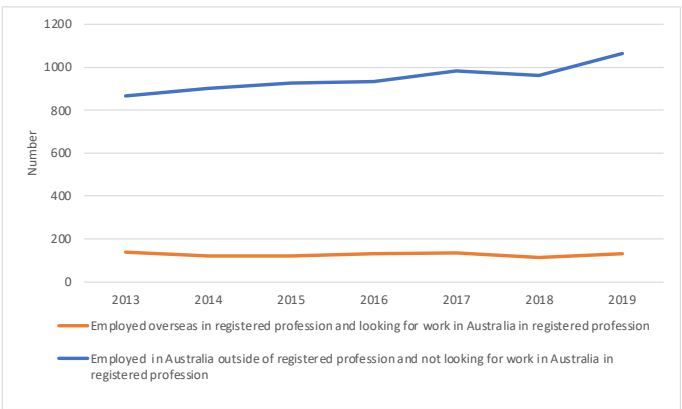

Chart 4: Status of pharmacists either employed overseas as pharmacists or not employed in Australia as pharmacists (number)

Source: National Health Workforce Dataset. https://hwd.health.gov.au/datatool/

STRATEGIC EDUCATION PARTNERSHIP

The Australasian College of Pharmacy (the College) and Guild Learning and Development (GuildEd) have formed a strategic partnership to take the pharmacy industry's education and training to new heights. The announcement was made by the Australasian College of Pharmacy President, Ms Michelle Bou-Samra, at the recent 2022 Australian Pharmacy Professional Conference & Trade Exhibition on the Gold Coast.

Ms Bou-Samra said that the strategic partnership would support pharmacists and pharmacy assistants to reach new heights in their careers through a modernised and diverse education and training offering.

> **"FROM THE FORMER AUSTRALIAN INSTITUTE OF PHARMACY MANAGEMENT (AIPM) AND AUSTRALIAN COLLEGE OF PHARMACY PRACTICE (ACPP), TO THE COLLEGE, WE'VE CONTINUALLY EVOLVED OVER FORTY YEARS TO MEET THE NEEDS OF THE PHARMACY PROFESSION,"**
>
> *- Ms Bou-Samra*

"The evolution continues today with the birth of this exciting new strategic partnership between the College and GuildEd.

"The partnership will simplify the education journey by enabling the entire pharmacy industry so everyone can easily access their education and training through one leading provider, at any stage of their career.

"Great partnerships take time to build, and over the coming months GuildEd will combine it's continuous professional development (CPD) services with that of the College on a new, more contemporary learning management system.

"We look forward to keeping the industry updated."

The Pharmacy Guild of Australia National President, Professor Trent Twomey, said that the College and GuildEd had discussed this partnership for some months with the aim of delivering additional member benefits to both organisations.

"Education and training are life's great enablers, raising us up to open new opportunities and enhance pharmacy careers, while locking in a brighter future for patients, pharmacists and their families," Professor Twomey said.

"By having one leading independent education provider, pharmacists and pharmacy assistants will be able to access world-class education and training to benefit the lives of our patients.

"Over the years, GuildEd users have commented on the need for a greater breadth and depth of education. The partnership will provide a single home for continuing professional development (CPD) through a new and improved technology experience."

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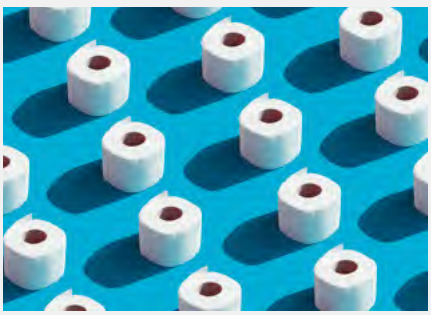
The use of castor oil as a therapeutic option first appeared in the Ebers papyrus of ancient Egypt – that's over 3,500 years ago.[1]

The castor oil plant (Ricinus communis) is one of the oldest known cultivated crops in the world.[2]

The use of castor oil was mentioned by Pliny the Elder in his encyclopedia published over 1000 years ago. In it he listed 16 remedies, one of which is still used today![2,3] What Pliny didn't mention, was the ability of castor oil to also relieve skin dryness.[4]



The particular type of fatty acid that makes up 90% of castor oil (rinoleic acid) acts on the walls of the intestines to encourage bowel movements – which is the first remedy Pliny outlined all those years ago.[1-3]

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When managing constipation with laxatives, there are two main types – agents that increase the absorption of water by the stool and bowel stimulants.[5] Castor oil acts as the second type – causing the muscles in the intestinal walls to contract.[1] This might be why Grandma and Grandad don't have fond memories of being given castor oil – it can really get things moving!

If you have a patient who is looking for a natural option to help relieve constipation, take a leaf out of Mary Poppins' book and direct them to a (tea)spoon full of Gold Cross Castor Oil 100%.

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For more information, reach out to your FarmaForce representative. Stay tuned for the next edition!

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PERIODONTITIS AND ALZHEIMER'S DISEASE (DEMENTIA)

Is There A Connection?

If someone is affected by progressive memory loss and their linguistic expression, sense of direction, thinking and judgement are impaired, they might have Alzheimer's disease. When researching the cause, aperiodontal pathogen is also in focus. This indicates that good oral hygiene should be considered a preventive measure.

Words | Dr Ralf Seltmann Senior Manager Clinical Affairs, TePe
| Lina Gassner Kanters RDH, Educator Odontology TePe

Introduction

Alzheimer's disease is the most common form of dementia. It can occur as early as around 65 years of age but is more common in older people. In those over 90 years of age, 40–50% are affected. Worldwide, 24 million people are assumed to be affected,[2] and in 2022, an estimated 487,500 Australians are living with dementia.[1] Alzheimer's disease leads to a permanent degeneration of nerve cells and, thus, progressive personality changes. These changes impact the patient's ability to perform daily life activities, which causes considerable stress for the individual and their relatives.

Risk Factors for Developing Dementia

High blood pressure, circulatory disorders in the brain and pollutants are considered causes for the development of dementia. Interestingly, other factors such as age, diabetes, genetic predisposition and lifestyle, for example diet, are also risk factors for periodontitis (inflammation of the gums andbone supporting teeth). After evaluating numerous studies,an English team concluded that the evidence for the connection is still insufficient, but that dementia or cognitive impairments and poor oral hygiene are mutually exclusive risk factors.[3]

A Pathogen Connects Dementia and Periodontitis

Accordingly, the evidence of cause–effect relationships is ambiguous, but recently, it has been confirmed that periodontal pathogens are involved. Porphyromonas gingivalis (Pg) is a typical lead pathogen for gum disease which rarely occurs in healthy people, but is all the more present in a chronically damaged periodontium (the supporting structure for the teeth). Researchers have detected the bacterium and its neurotoxins in the brains of 70 percent of deceased Alzheimer's patients and inthe saliva of all patients–higher concentrations were present in more pronounced neuron damage.[4]

How the Pathogen Spreads

In cases of periodontitis, pathogenic oral microorganisms can enter the bloodstream via inflamed gingival pockets and access the entire organism.This can occur during dental procedures such as professional teeth cleaning or extractions, but also during chewing and toothbrushing. Many years, even decades, can pass between the manifestation of chronic periodontitis in middle age and the first symptoms of Alzheimer's. The Pg pathogen triggers and maintains inflammatory processes in the brain, causing brain cells to decay, which then leads to Alzheimer's disease. Signs of Pg activity were found when there were signs of Alzheimer's disease in the brain, but no dementia symptoms. This was taken as evidence that poor oral hygiene was not a consequence of dementia but rather a triggering factor.[5]

The Importance of Maintaining Oral Health

Oral hygiene can be a challenge for all elderly, but even more so when they start forgetting to take care of their teeth or lose interest in doing so. Poor oral health status can affect wellbeing and quality of life and can also cause local pain or, more seriously, aspiration pneumonia. Therefore, as soon as possible after diagnosing Alzheimer's, oral health care should be considered, planned for and included in the patient's routine health care.

It is encouraging that advances in Alzheimer's research could lead to new therapies. In addition, preventing the development of oral diseases through proper oral hygiene could, besides contributing to a better quality of life, most likely also benefit general health in the elderly. Doubtlessly, the healthcare sector has an important mission in creating and spreading public awareness of the connection between oral health and general health

For more in-depth knowledge on the oral health and general health relationship, please visit TePe Share www1.tepe.com/share-au

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High blood pressure and stroke

What is stroke

A stroke occurs when the supply of blood to the brain is suddenly disrupted by a clot, plaque or a bleed when an artery bursts. When blood stops flowing, the brain does not receive oxygen it needs and therefore brain cells in the area die and permanent damage may be done. The good news is stroke is largely preventable and treatable.

What is blood pressure?

Blood pressure is the pressure of your blood on the walls of your arteries as your heart pumps (systolic) and relaxes (diastolic).

Although blood pressure can vary throughout the day such as during exercise or with stress, our body aims to maintain our blood pressure in a tight range.

Sustained high blood pressure (hypertension) puts a strain on blood vessels over time and is an important risk factor for stroke. It is the most preventable cause of stroke worldwide.

What causes high blood pressure?

There are a number of risk factors that have been linked to high blood pressure. These include:

- A family history of high blood pressure.
- Getting older
- Men are more likely to have high blood pressure than women.
- Being overweight.
- Lack of exercise.
- Drinking alcohol.
- Smoking.
- Diabetes.
- A diet high in salt. All types of salt that contain sodium can significantly impact blood pressure.

Why does blood pressure matter?

High blood pressure puts a strain on blood vessels all over the body, including the arteries that lead to the brain. This means the heart has to work much harder to keep the blood circulation going.

High blood pressure can lead to a stroke in several ways:

- It damages blood vessel walls and makes them weaker which can then burst leading to a bleed in the brain.
- It can cause blood clots or plaques to break off artery walls and block a brain artery.
- It can speed up common forms of heart disease such as an irregular heart rhythm (Atrial Fibrillation) which can lead to clots forming and travelling to the brain.

Know your numbers*	Recommended action
Severe blood pressure BP 180/100mmHg or higher	**IMMEDIATE ACTION – DO NOT IGNORE** See your doctor urgently.
High blood pressure BP 140/90mmHg or higher	**SEE YOUR DOCTOR FOR A FULL RISK ASSESSMENT** Please take this brochure to your doctor.
Normal blood pressure BP 120-140/80-90mmHg	**MONITOR YOUR RISK FACTORS** If you have identified other risk factors or your BP is at the high end of this range, talk to your doctor about a full risk assessment at your next appointment.
Optimal blood pressure BP 120/80mmHg or lower	**MONITOR YOUR RISK FACTORS** If you have identified other risk factors above talk to your doctor about what you can do to stay healthy.

**This is an assessment only considering blood pressure risk. You should also consider if you have other factors listed above (such as smoking, older age etc) which will increase your risk of stroke, heart disease or type 2 diabetes. Please consult your doctor for a full risk assessment.*

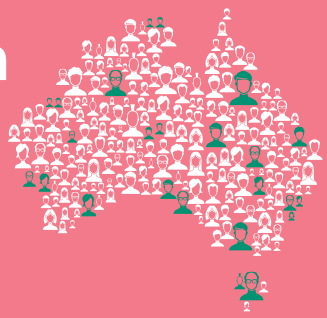
High blood pressure is treatable

It is important to see your doctor immediately if your blood pressure is greater than 160/100mmHg.

If you have high blood pressure or multiple risk factors for heart disease or stroke, your doctor may recommend medication, lifestyle changes or a mix of both to lower your blood pressure.

Medication does not cure high blood pressure, it can only help control it. Most people who are treated for high blood pressure will need to keep taking medication over a lifetime.

4.7 million
Australians live with HIGH BLOOD PRESSURE



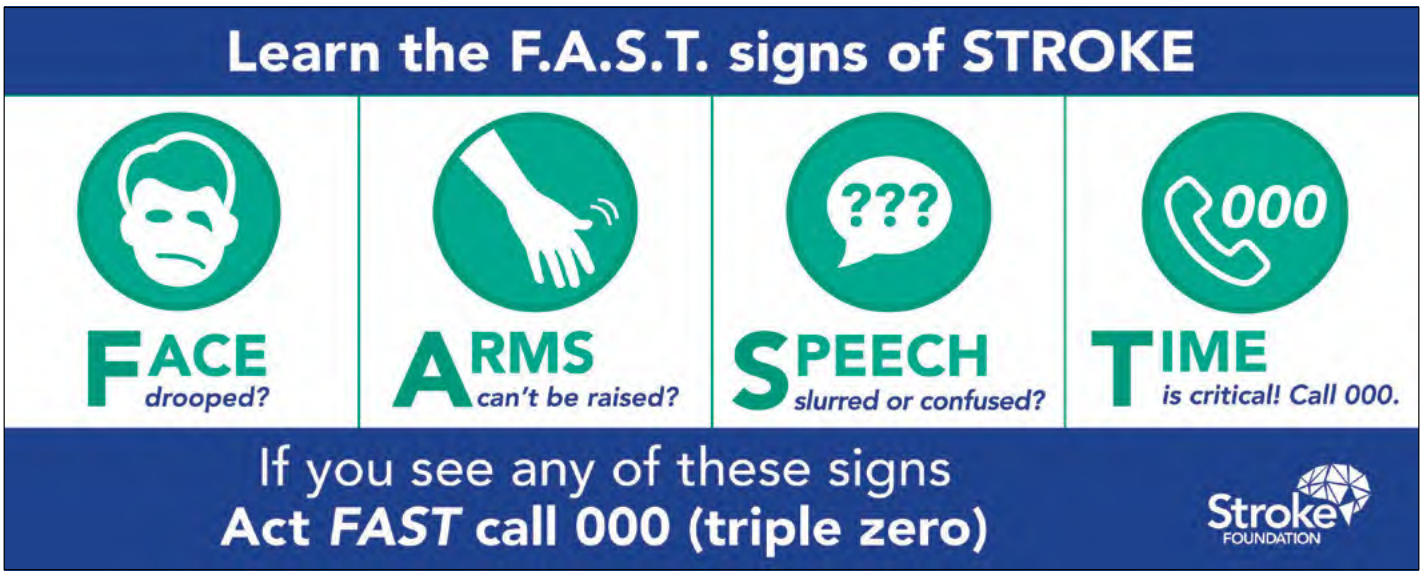
Things you can do to lower your risk

There are a number of factors you can control to help reduce your blood pressure and chances of having a stroke.

- **Know your blood pressure.** The lower your blood pressure the lower your risk of stroke. Get it checked by a GP or Pharmacist.
- **Healthy eating.** Enjoy a variety of foods especially plant based foods including fresh fruit and vegetables, legumes and wholegrain breads and cereals.
- **Get active.** Try to engage in at least 30 minutes of moderate physical activity on most days of the week. Every move counts, through being active at a higher intensity will result in a greater health benefit.
- **Drop the salt.** The more fresh food you eat, the less salt you'll get. Don't add salt when you cook or when you eat. Check the salt content in all processed foods and aim for 400mg/100g of sodium or less.
- **Avoid alcohol.** Your doctor can talk to you about alcohol and your stroke risk.
- **Be smoke-free.** Quit smoking. Call Quitline on 13 7848.

Signs of stroke

F.A.S.T. is an easy way to remember and recognise the signs of stroke.



About us

Stroke Foundation partners with the community to prevent, treat and beat stroke. We do this through raising awareness, facilitating research and supporting survivors of stroke.

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SF897_0422

SLEEP: THE LOST PRESCRIPTION

While the majority of people recognise the importance of a good night's sleep, on average only two-thirds of Australian adults are reported to be achieving the recommended 7–9 hours of sleep per night.[1] Despite being widely acknowledged that a lack of sleep can cause fatigue, forgetfulness, irritability and ineffectuality,[1] the impact sleep deprivation has on weight management is frequently overlooked.

Words | Bridget Scrogings Accredited Practising Dietitian (APD), Accredited Sports Dietitian

Introduction

When examining the available research, it becomes apparent that there is an obesogenic profile linked to a lack of sleep. Studies show an association between sleep deprivation, defined as sleeping <6 hours per night[1] and chronic disease, such as diabetes, heart disease and obesity.[2]

In order to educate patients on the importance of sleep hygiene for weight management, health professionals should seek an understanding of the potential mechanisms by which sleep deprivation may impact weight control.

Hormal Consequences

In normal conditions, healthy adults produce two opposing hormones, ghrelin and leptin, which act to control appetite in such a way that an optimal caloric intake can be achieved.[3] Ghrelin is an orexigenic compound able to stimulate appetite, while leptin is an anorexigenic compound that suppresses appetite by signalling satiety.[2]

Clinical and epidemiological studies have demonstrated that sleep deprivation disrupts the normal regulation of these appetitive hormones, reducing circulating levels of leptin and elevating levels of ghrelin.[3,4,5,6] Consistent with these findings, when questioned, subjects have reported experiencing higher rates of hunger and increased appetite after being deprived of sleep.[3]

Cognitive Implications

While hormonal alterations can leave individuals feeling more hungry, cognitive implications can make smart food choices more difficult. Sleep deprivation has been found to disrupt the functional activity within the frontal cortex, the part of the brain responsible for higher-order cognition, ultimately impairing judgement and decision-making abilities.[7]

These neural disruptions have been found to be accompanied by a significant increase in appetitive desire for weight gain, promoting high-energy foods (e.g. foods high in sugar and fat content).[7,8] One study found as much as a 45% increase in high-calorie food cravings when subjects were sleep-deprived.[5]

Recent research has also suggested that these symptoms of increased hunger and cravings for high-calorie foods are amplified through the activation of the endocannabinoid system (ECS).[9] The ECS is a complex cell-signalling network of compounds that exists to regulate various biological processes, including but not limited to appetite.[10] It is the same system that mediates the pharmacological effects of cannabis.[10] It has been demonstrated that circulating concentrations of appetite-regulating endocannabinoid compounds are elevated following sleep restriction.[9] A novel 2019 study found that the compounds act through directly modulating neural activity in olfactory circuits, altering the brain's response to food odours and shifting food choices toward energy-dense food items.[9]

Ultimately, research has demonstrated that the cognitive implications of sleep deprivation can result in an increased calorie intake which has been associated with significant gains in body weight.[7,8]

Insufficient Weightloss

Even with strict dietary practices which would empower an individual to combat cravings, it is unlikely to outwit a sleep-deprived body. Studies that have investigated the impact of sleep-deprivation on subjects following a low-calorie diet and/or increased energy expenditure have found that body composition is adversely impacted.[11] Despite weight loss being similar between subjects with adequate sleep and subjects with restricted sleep, subjects who slept less lost statistically significantly less fat mass and more fat-free mass than their counterparts.[11]

It is theorised that, when sleep-deprived, the body produces a catabolic hormone that may mediate muscle atrophy.[11] Although the hormone has not been demonstrated explicitly in humans, these hormonal alterations have been identified in studies with rats.[12]

Recommendations

For patients who are concerned about their weight, pharmacists should feel confident in initiating conversations about the weight-related consequences of sleep deprivation.

While pharmacists should recommend safe and effective OTC sleep medications when appropriate, this should not be the initial treatment. Pharmacists should first review medications to

determine whether any could be interfering with sleep and then offer suggestions in which patients can work to improve sleep habits. According to the Australian Sleep Health Foundation, these suggestions should include encouraging patients to:

- keep a regular sleep schedule
- avoid caffeine, nicotine and alcohol before bed
- exercise frequently throughout the day
- avoid excessive daytime naps
- avoid excessive fluid before bed
- avoid screen time within one hour of bedtime
- ensure a comfortable bedroom, including mattress, pillows, temperature etc.

Conclusion

Weight management is a multifaceted and complex issue to tackle, therefore individuals should always be referred to a dietitian when possible. Traditionally, health professionals will address weight management issues through monitoring an individual's dietary pattern and activity level, yet the evidence we have available today indicates that sleep should not be overlooked as an essential piece of the weight management puzzle. At minimum, pharmacists should be prescribing sleep when discussing weight management with patients.

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SOCIAL PRESCRIBING

A 21st Century Approach to Wellbeing

In a world operating beyond the pandemic, traditional approaches to health and wellbeing might no longer be enough. Helping people fulfill their social needs can offer an alternative route to recovery, with pharmacies a natural place to start.

Words | Joanne Winwood Feros Care

Introduction

This foreword from the Global Social Prescribing Alliance playbook prefaces guidelines for leaders, organisations and communities to look at health care in a different way, focusing on: 'What matters to me?', rather than 'What's the matter with me?' – what's called a Personalised Care Approach. As one of the playbook's authors, James Sanderson, Director of Personalised Care in the UK's NHS told me over coffee in London recently, 'Our outdated approach to health care pretty much goes straight from, "Don't smoke, don't drink, don't get fat" to "Let's amputate your leg because of your diabetes". There's a whole lot that can be done throughout the health system in between those two ends of the spectrum.'

So, What Could That Be?

Drawing from the masses of research linking physical or mental illness with unfulfilled social and other needs, it stands to reason that helping a person to get what they need across all aspects of their life is highly likely to help prevent disease and often help them recover more quickly.

Let's take social connections and loneliness as a starter since its beyond doubt that COVID-enforced social isolation has caused millions of Australians to experience unwanted feelings of loneliness over the last two years. Unable to meet their social needs, we have seen what researchers have been telling us for decades – loneliness makes people sick. Heart disease, insomnia, diabetes, blood pressure, obesity, addiction, anxiety and depression. Most pharmacy team members will have noticed someone whose health is declining through loneliness and probably made the connection.

So, what if, either as an early intervention or route to recovery, we helped the patient identify what relationships and connections they are missing, those that they would like to have and offer some strategies to get them there? That's what social prescribing does. In a formal, personalised care approach, such as that operating right across the UK's primary care system, link workers are often attached to GPs and co-produce a social plan with those patients whose medical symptoms might be addressed in ways beyond a pharmaceutical script – linking someone to Rotary, Men's Shed, local arts classes or volunteering for example. Here in Australia, we are still working out how to formally embed such an approach into national health care, with just a handful of localised programs operating. But that doesn't mean we can't find other ways to notice those showing signs of loneliness and help them find ways to connect to support good health.

Here's a case in point. Social prescribing changed the life of NEWCASTLE-BASED SONIA, an older Australian who for a decade had attended senior-specific gym classes to help her manage her anxiety and panic attacks and enjoy social interaction. These closed during the pandemic and Sonia became withdrawn and anxious. Referred to Beating the COVID Blues, a social prescribing program specifically aimed at helping seniors improve their social connections as an early intervention mental health strategy, Sonia was supported by a Wellbeing Coach/Link Worker to identify and attend new activities, re-build her confidence and physical strength. Sonia said, 'I've become rather shy over the last two years as I've been cooped up at home, and it's been no good for my mental health. So, it's great that Simon is coming (with me), and we're actually going places now.'

Teams in pharmacies play a critical part in social prescribing, either as referrers where schemes like Beat the COVID Blues exist or simply as advocates for the importance of social health. Not only are pharmacies the ultimate hub for community health and one of a few outlets, like banks and supermarkets that cut right across society and stay open – especially in a pandemic. Pharmacy staff are very likely to encounter people with health issues regardless of whether they are in the health system or not. As trusted advisors, it's a great opportunity to start conversations about wider health challenges across all the social determinants of health and what's behind the cardboard box.

What's In It For Us?

There is a commercial reality that parallels the social purpose of a pharmacy – whatever we spend time on has to make business sense. So, what are the benefits of pharmacies getting involved?

While there are few direct financial incentives to get involved with social prescribing, advantages include:

- Social Prescribing is coming to Australia – your pharmacy can demonstrate your pivotal role in the health and wellbeing ecosystem and claim your stake in the social prescribing movement and future funding.
- Show your patients that you care about what matters to them, not just what's the matter with them as competitive advantage.
- Create opportunities to support patients in new ways.
- Learn about what's going on in local population health so you can adapt your services accordingly.
- With training to spot the signs, pharmacy staff can play an essential role in preventative health and especially social prescribing, which can be much more satisfying than dispensing medications and checking compliance.

In her article,[i] AN UNLIKELY CONNECTION: LONELINESS AND MEDICATION ADHERENCE, Jenny Hirschner says, 'Pharmacists should screen their patients for the social determinants of health to understand the barriers to care management. In doing so, they can move on to identifying the strategies that will help their patients remain adherent to their medication plans.'

Training and awareness are key: 'Who is most at risk of loneliness and isolation?' 'What are the signs we need to look for?' and importantly, 'What guidance should pharmacy staff give?' if any. How do we know what's available in our community?

Social prescribing training has been developed specially for pharmacists (UK but still relevant), https://www.udemy.com/course/socialprescribing/ and over the coming articles we will look at some of these important topics, as well as the evidence of the impact of social prescribing.

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i. https://ajp.com.au/columns/an-unlikely-connection-loneliness-and-medication-adherence/

Feros Care is a reputable, registered charity, providing a broad range of services in both the ageing and disability sectors across Australia with a mission to helping people live happier, healthier, connected lives. Feros is committed to tackling loneliness, now cited as the 'greatest social issue of our time', as a strategic imperative.

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VITAMIN D

The Sunshine Vitamin

Unlike other vitamins, vitamin D is neither exclusively nor prominently available through the diet. Instead, an estimated 90–95% of vitamin D is provided endogenously through skin synthesis after exposure to ultraviolet B (UVB) light from the sun.[1]

Words | Bridget Scrogings
Accredited Practising Dietitian (APD),
Accredited Sports Dietitian

Introduction

Despite an abundance of sunshine in Australia year-round, as our winter season comes to a close each year, it is estimated that almost a quarter of adults have a mild or moderate vitamin D deficiency,[2] with deficiency levels rising to as high as half the population in south-eastern states.[1,2]

The Role Of Vitamin D

Vitamin D is available through sunlight, food and supplements and it must undergo two chemical processes in the body before it is considered to be biologically active.[1,3] The first process occurs in the liver when vitamin D is converted to 25-hydroxyvitamin D [25(OH)D], which is also known as calcidiol.[3] The second process occurs predominantly in the kidneys (but also in other tissues) where it is converted to the active form 1,25-dihydroxyvitamin D [1,25(OH)2D], also known as calcitriol.[3]

Vitamin D's role is well established as being essential for musculoskeletal health.[4,5] It is required for calcium absorption in the gastrointestinal tract and plays an important role regulating and utilising serum calcium and phosphorus.[4,5] For this reason, severe vitamin D deficiency impairs bone mineralisation, presenting as rickets in children and osteomalacia and osteoporosis in adults.[4,5]

More recently, achieving adequate vitamin D has been found to support good immune health, possibly playing a role in reducing the severity of the flu[6,7,8] and protecting against some autoimmune diseases.6 There is also growing evidence that it may be beneficial in the prevention and treatment of cardiovascular disease[4,9] respiratory illness[7,8] and depression[10]—although further research is needed before firm conclusions can be drawn.

How Much Sunlight Is Sufficient?

Sun exposure is not without problems, particularly in 'sunburnt Australia' where the sun is harsh and skin cancer rates are amongst the highest in the world.[11] It is therefore paramount to balance the incessant risk of overexposure against the need to be exposed to moderate levels of UVB light to maintain adequate levels of Vitamin D.

Realising the importance of facilitating this vital balance, in 2016 a group of national peak health bodies* came together to provide more specific guidelines based on UV index.[11]

- **In summer and spring** (or when UV index is above 3): 6–7 minutes of sunlight before 10 am or after 2 pm on most days of the week.
- **In the late autumn and winter** (or when some parts of southern Australia experience UV index below 3): 20–40 minutes of sunlight in the middle of the day.

To balance sun safety, the Cancer Council recommends that sun protection be used when the UV Index is 3 or above, which can be year-round in northern areas of Australia.[11] Alternatively, when the UV index is below[3], it is advised that it is safe to go outside for short periods of time without sun protection, with the exception of those at high altitudes or near highly reflective surfaces like snow.[11] respiratory illness[7,8] and depression[10]—although further research is needed before firm conclusions can be drawn.

	Region and city	Time of year and day	
		Dec - Jan, 10am or 2pm	July - Aug, 12pm
Northern	Cairns	6 - 7	7
	Townsville	5 - 7	7
Central	Brisbane	6 - 7	11
	Perth	5 - 6	15
Sourthern	Sydney	6 - 8	16
	Adelaide	5 - 7	19
	Melborune	6 - 8	16
	Hobart	7 - 9	29
New Zealand	Auckland	6 - 8	24
	Christchurch	6 - 9	40

Table 1: 2 Minutes of sun exposure needed for people with moderately fair skin to achieve about one-third of a minimal erythemal dose (MED)

Food Sources For Vitamin D

While diet can also provide vitamin D, intake through diet alone is considered to be insufficient.[1,2] But this isn't to say that food intake should be disregarded, as dietary consumption can play an important role in maintaining adequate vitamin D stores. Food that can provide vitamin D includes: plant sources (vitamin D2) such as mushrooms, in particular mushrooms that have been treated with UV radiation; animal sources (vitamin D3) such as oily fish (e.g. salmon, tuna, mackerel), fish oils, egg yolk and beef liver; and fortified foods, which include milks, cereals, breads and margarines.

Supplementation

Serum concentration of calcidiol is currently the best marker for clinical assessment of vitamin D status.[3] While optimal levels of vitamin D are disputed worldwide, Australian organisations generally define levels <29nmol/L as deficient and >50nmol/L as sufficient, with anything in between considered suboptimal.[3,5]

For patients who are diagnosed with vitamin D deficiency, pharmacists should be recommending supplementation as a means to achieve adequate levels.[1,3,5] Currently, Osteoporosis Australia recommends a dose of 3,000–5,000IU/d for 6–12 weeks.[5] Once patients have reached sufficient levels, if appropriate, they should be encouraged to maintain their status through a combination of moderate and safe sun exposure alongside the consumption of vitamin D-containing foods.[1,5]

For patients who are not vitamin D deficient, but are at risk of vitamin D deficiency, supplementation should be considered at a lower dose. Osteoporosis Australia recommends 1000–2000IU/d.[5] Individuals who are considered at risk of deficiency include:

- people with naturally darker skin
- people who are elderly, housebound or in a residential care facility
- people who cover up for religious or cultural purposes
- people who deliberately avoid sun exposure for cosmetic or health reasons
- people who spend long hours indoors, including people in occupations where they predominantly work indoors
- babies who are born to vitamin D deficient mothers
- people who have had gastric bypass surgery
- people with anorexia nervosa.

For patients who are not vitamin D deficient and are not at high risk of deficiency, there is insufficient evidence to warrant supplementation for general wellbeing.[3]

Covid-19 Considerations

Discussions on the importance of vitamin D come at an appropriate time given the current COVID-19 pandemic. As sun exposure is the major determinant of vitamin D status, experts have questioned the impact home isolation may have had on the population levels of vitamin D. In addition, studies have shown a possible association between low vitamin D serum levels and poor lung function,[6,7] which has spiked interest in the possibility of vitamin D status impacting COVID-19 mortality. There is thought amongst the scientific community that a deficiency in vitamin D could increase one's risk of contracting COVID-19 or may lead to a more severe disease course.[12]

While data regarding the prevention and treatment of COVID-19 with vitamin D supplementation is not yet available, vitamin D is an essential nutrient, and healthcare professionals should promote recommended intakes of vitamin D for patients who are concerned.

Through being able to recognise those at risk and being familiar with current avenues and recommendations for attaining adequate vitamin D, pharmacists can play an integral role in preventing and treating vitamin D deficiency. Ultimately, pharmacists should be confident in educating and guiding patients towards appropriate supplementation and lifestyle interventions.

***Cancer Council Australia, the Australasian College of Dermatologists, the Australian and New Zealand Bone and Mineral Society, Osteoporosis Australia and the Endocrine Society of Australia**

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Reference: 1. Levoxine Product Information. 2. PBS. Schedule of Pharmaceutical Benefits - Effective 1 February 2022. Department of Health, Canberra. ww.pbs.gov.au.

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SUNL001c Date of preparation: January 2022 LEV2021/12ITK

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A CUSTOMER JOURNEY

For a Tailored Automation Solution

Angelo Dadalias, who is the owner/partner in four pharmacies in Melbourne, has recently taken the journey of redesigning his AMCAL Ashburton Pharmacy. Find out what he has to say about optimising his workflow design to enhance the customer experience in his pharmacy.

Angelo, could you please share a little background on yourself and your business – and for how long you have been running it?

I registered as a pharmacist in 1990 and purchased my first pharmacy at age 25 in the Frankston Shopping Centre. I then moved to The Glen Shopping Centre after which I moved onto a community pharmacy in 1999 in Ashburton. I have been there ever since. I both enjoy and appreciate the community and village feel of Ashburton and being a local. My other pharmacy in Rowville also has this sense of local community.

You have just ordered a BD Rowa™ Vmax 160 with an internal BD Rowa™ ProLog. What prompted you to talk to the BD Rowa™ Team in the first instance? What challenges do you currently face in your pharmacy and what goals do you want to achieve?

Space has become an issue in the pharmacy, and with the new focus on professional services, we were looking at ways to bring a consulting room from upstairs to downstairs. We decided that by taking a part of the dispensary upstairs this could offer an opportunity to create more space and make the dispensary processes more efficient. I have the advantage of a largely under-utilised first floor and thought that if there was a way to make better use, it would add value to my business and make our workflow easier.

Could you please take us on a journey and describe how the BD Rowa™ Team worked with you to create a tailored solution? Did you know where to place the BD Rowa™ Robot in advance?

Kelvin, the BD Rowa™ Territory Manager, and Pooja, the BD Rowa™ Architect and Workflow Designer, came out and looked at the store design and layout along with Trevor from the Sigma Design Team. Together, they came up with the solution to place the machine upstairs, alongside the stairwell, with a conveyor to the dispense points hidden in the ceiling. My other option was to move the pharmacy, but there was not a site in the area that would give me extra space, so I stayed where I was with the solution I was provided. This option allows me to use an under-utilised space upstairs, to increase my footprint downstairs to better serve my customers and increase my revenue.

What did you especially like about the design and communication process and what did you find especially helpful? How did the BD Rowa™ Team support you to keep the process seamless?

There were a lot of concepts and ideas brought to me, and it felt that there was no rush to make me decide as the team was there to carefully take me through the design process – it's all new to me. The BD Rowa™ Team provided four different concepts, each one positioning the BD Rowa™ Vmax in a different position. Both the BD Rowa™ and the Sigma Teams worked collaboratively to present a clear concept that benefited my situation. It wasn't a 'one-size-fits-all' presentation.

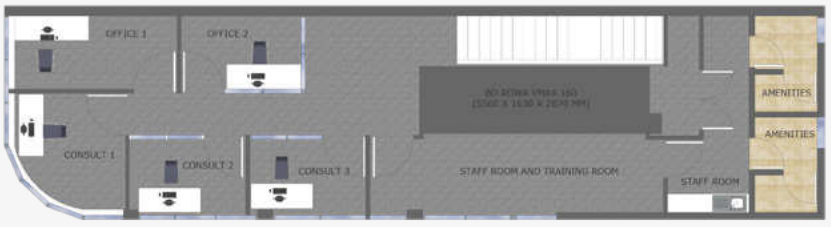
I found the site visits organised by the BD Rowa™ Team and talking to other BD Rowa™ Robot owners in their pharmacies invaluable. This provided me with real information that pharmacies have experienced and how 'the Rowa' has transformed their pharmacy practices.

What options have been provided to you by the BD Rowa™ Team, and how did you find them? How did you choose between the options?

The ability to tip stock, including round items, onto the autoloader without having to manually load it into the robot and automatically checking off stock were big attractions for me. Another attraction was the option to move the dispensary stock storage upstairs, thereby removing the old carousel and drawers, which as anyone who has used them would know, can be pinch points when trying to access medications quickly.

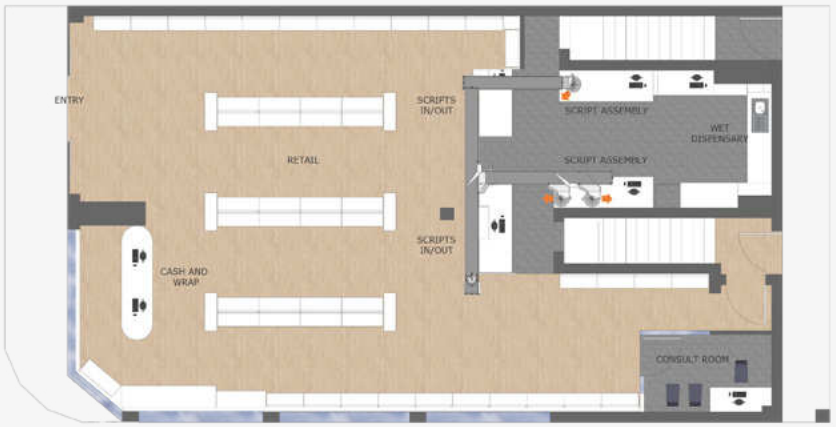
How do you envisage your pharmacy after the integration of the BD Rowa™ Automatic Dispensing Robot?

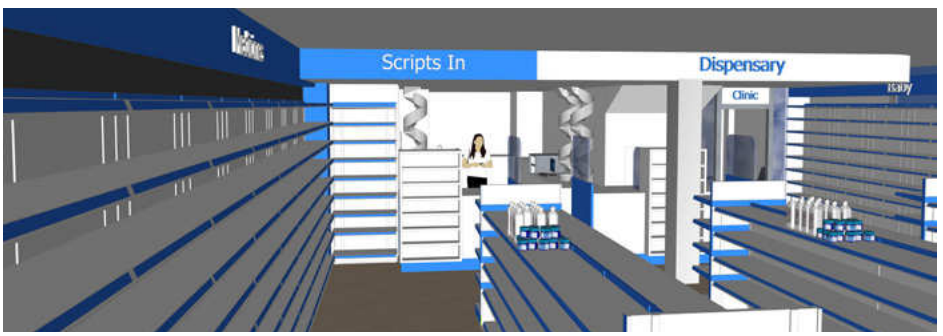
Less cluttered and more space to promote professional services and more time for pharmacists to talk to people. A separate delivery point for Dose Administration Aid (DAA) packing will also make the dispensary workflow smoother with less crossing of paths for the pharmacists and dispensary technicians.



FIRST FLOOR PLAN

GROUND FLOOR PLAN





FIND OUT MORE

To learn more about BD Rowa™ solutions, you can visit the website: **bd.com/rowa**

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PLANNING FOR CHANGE

Whenever we hear the word planning, we're always reminded of Benjamin Franklin's famous quote, '***If you fail to plan, you are planning to fail***'. Unfortunately though, over time and for many healthpreneurs, hearing this so often has made this quote become somewhat of a cliché – overused to the point where we actually ignore the power and true meaning behind these words, and by virtue, ignore the importance of planning altogether.

Words | Zamil Solankior

Put simply, we don't care about, or appreciate the power of planning and the role it plays to ensure our businesses thrive today and tomorrow.

The net result: we wake up one day and wonder why we haven't achieved what we set out to achieve years ago, full of regrets and statements starting with 'I wish ...'.

But wishing is one thing.

While wishing, dreaming or thinking are still part of the planning process (just ask Mark Zuckerburg what he spends a significant amount of his day doing), these areas of planning are more about aspirational thoughts and considerations rather than a definitive way to achieve these goals.

Intentions on the other hand are a bit more defined than a wish.

For example, 'I intend to go to the gym this morning' is more defined than 'I wish I went to the gym'.

Intentions form the basis of what we need to do, and when tied to a reason (a why), they become more motivating for us to work to achieve.

But there's still a lack of the practical components and the overall *how* to make the intention a reality.

And without the how, we end up giving up on intentions because we don't understand the steps we need to take to turn them into reality.

This can be illustrated using our earlier example. If I haven't defined when I'll be at the gym, worked out how I'm going to get there, set my alarm earlier to ensure I wake up on time, have my clothes ready to go, et cetera, then the chances of achieving my intention are much more limited.

So, how do we actually achieve what we set out to do?

This is where planning comes in.

Planning is the *how*. It's the missing link between setting an intention and identifying the actual steps to reach our goal.

But You Already Know This, Right?

If you're thinking this and saying, 'Well I know all of this", let me ask you one question: When was the last time you spent dedicated and uninterrupted time **out of your business to plan for change?**

If you've answered, 'I don't know', but also said, 'I know all of this', then what's stopping you from dedicating the time, energy and resources to actively plan in your business?

What obstacles are standing in your way from using what is one of the most powerful, yet underutilised tools in your business?

Because here's the reality – many healthpreneurs disregard the power of planning, or simply don't place enough value on it to spend the time, energy and resources to plan.

> **"THE MORE TIME YOU SPEND CONTEMPLATING WHAT YOU SHOULD HAVE DONE...YOU LOSE VALUABLE TIME PLANNING WHAT YOU CAN AND WILL DO."**
>
> - Lil Wayne

And don't just take my word for it.

Why is it that some health businesses thrive while others barely survive?

Why are the world's greatest leaders, entrepreneurs and businesspeople constantly spruiking the power of planning and the results from it?

It's because planning allows you to celebrate how far you've come, reflect on the lessons learned along the way and leverage the opportunities and trends that are here today, and on the horizon tomorrow.

In essence, it allows you to **plan your future in advance.**

And that's exactly what I did.

I'm Proof That Planning Works

Just look at the results we were able to achieve:

- Developed Australian first and award-winning workflows, processes and systems
- Grew our pharmacy by $4m turnover within 8 years
- Sold it for 3x the industry average multiple

I'm not mentioning this to brag but to instead illustrate one key thing – planning works.

But this didn't happen overnight. In fact, it took over 18 months of rigorous planning to achieve this. And at first, many people say, 'Damn, that's a long time to plan for a shopfit.'

But here's the kicker – I wasn't planning for a shopfit!

Let that sink in for a bit.

So, if we weren't planning for a shopfit:

- Why were we planning in the first place?
- What were we actually planning for (what was our actual objective)?
- How could we achieve our objective?

These aren't rhetorical questions.

If you were in my shoes, needing to do a shopfit with 13 other pharmacies within a 3 km radius around you, what would be your objective?

The Mission

If you jumped to your first thought and answered straightaway, just pause for a second.

Think a little bit deeper.

If I could wave a magic wand and transport you to 5 or 10 years from now, what would you see? What would you be doing? Who would you be with? How would you feel?

What would you have achieved?

> **"SOMEONE'S SITTING IN THE SHADE TODAY BECAUSE SOMEONE PLANTED A TREE A LONG TIME AGO."**
>
> - Warren Buffett

This is where the Mission comes in.

The Mission is our 5-year to 10-year goal. It's a SMART goal, so it's specific, measurable, achievable, relevant and time bound.

The problem for many health entrepreneurs is that we don't think about what we want to achieve that far ahead.

Instead, we focus primarily on the present and ignore what lies ahead. Opportunities that could be identified and leveraged aren't capitalised on because we aren't looking up to see them, or even asking the questions to find them.

In essence, we spend our days putting out fires rather than planting trees. And when we do plant trees, we pay little attention and give little thought to the process. As such, we often plant trees that don't altogether fit our needs, purposes and long-term goals.

Having a clearly defined and well thought out Mission ensures that your needs, purposes and long-term goals are truly considered. Often, we jump to the first thing we think of, but as we know, the first solutions aren't always the best.

Take the Mission in our pharmacy for example.

Our Mission was not: 'In 10 years' time, we have a pharmacy that looks well stocked, neat and tidy, provides great service and allows our customers to easily shop with us.'

Instead, we looked at what we truly needed to achieve which was: 'By 2020, I have successfully exited my family out of the pharmacy in a way that guarantees my parents' retirement and financial security.'

See the difference?

The first example is what most healthpreneurs generically aspire towards. It's not unique. It doesn't inspire action. It doesn't motivate you to really achieve what you want to achieve.

And that's just it. **It's not what you really want to achieve.**

We need to identify the root objective – the actual reason for why we are willing to dedicate the time, energy and resources on all the individual tasks needed to succeed over the next 5 to 10 years.

And once articulated, it's vital that we test it against the principles of a SMART goal:

- Was it specific, yet simply articulated and significant enough to stretch us to achieve it?
- Was there a way I could measure whether or not I achieved this goal with a simple 'yes' or 'no'?
- Was it attainable within the time frame I set for myself?
- Was it driven by a specific result or outcome?
- Was it clear when I needed to achieve this goal by?

Taking this into consideration and looking at what you first wrote when I asked, 'What will you have achieved in 5 or 10 years' time?', what would it be now?

What changed?

Why did it change?

And importantly, **what didn't change?** These are the non-negotiables that must be achieved in order to give you the life you not only want but need and deserve.

So, what's your Mission?

And while you answer that, let's take a step back to our discussion about our roles as leaders to embrace planning. If you haven't yet read the article about Leading to Change, scan the QR code.

Creating Certainty

As humans, and even more so as healthpreneurs, there's one key human need that stands higher than most others – certainty.

Certainty that we're doing no harm.

Certainty that we're following all the Quality Use of Medicines principles.

Certainty that we can keep our lights on today and tomorrow.

But when it comes to change, doing things differently and improving our businesses, we crave certainty to know that our decisions and the choices we make are the right ones.

So, how does one get the levels of certainty needed for change?

Planning.

If we have a plan, we can plan for both what we know and what we don't know yet.

We can also develop contingencies for when things go wrong and we can identify, build upon and leverage what we do well.

Through planning, we gain clarity on the path we need to take and the actions we need to make to ensure we achieve our goals.

And through clarity, we gain certainty and the confidence to follow through on our plans, even when things don't go as planned.

Not A Report You Shove In A Drawer

It's important to note that while I'm talking about planning, the actual process itself is not simply a feel-good day out where the team comes together, gets pumped up for a day, makes a fancy report and soon forgets all about it.

The power of planning and creating certainty comes from doing it regularly – even to the point of daily planning activities. This would involve quarterly planning days, weekly catchups, daily huddles and frequent debriefs.

There are many ways to do this. I have my own way, but ultimately, the choice is yours.

The key though is to be consistent. Just like it takes a long time to get the fitness gains by regularly working out at a gym, so does planning. But as soon as you stop working out, you quickly lose everything you've worked so hard for.

So, what date will you dedicate to planning?

Because, guess what? It will take 7,000 to 11,000 steps or tasks to achieve your 5-to-10-year goal.

That's a lot. And when looked at as a big lump sum of tasks, that seems nearly impossible to achieve.

But what if we broke down that number into days, not years? That would mean we would only need to complete around 3 tasks a day. Does that sound like something you could do?

I'll answer that for you ... YES!!!

It's Time To Do The Work, And Keep Doing It

So, you said 'YES' and you have now got a plan that you and your team have created together and are aligned to.

And we know it's not perfect because there's no such thing as perfect.

But we're OK with that because we know that seeking perfection will ultimately lead to procrastination.

And procrastination leads to not getting things done.

But right now, the plan is just words on paper. No amount of wishing, dreaming or intentions are going to bring those words to life without work.

So, how do we start ticking off tasks today? We can break this down to 4 simple steps:

Step 1: Brief the team and identify and resolve any obstacles preventing the task from being completed.

Step 2: Execute the task.

Step 3: Review what happened together.

Step 4: Brainstorm ideas to improve the outcome better next time.

Step 4 is by far the most important. Even if we completed the task, **there is always a better way for next time.**

This process allows us to constantly assess what we're doing and to build efficiencies along the journey. This will take time to dedicate to each and every day.

But the quicker we get, the more efficiencies we create. And this leads to achieving more in a shorter period of time.

And isn't that what we ultimately want at the end of the day?

More time on the things that matter, rather than on the things that don't. And with that, I leave you with Today.

Today being the first day you start creating the business of your dreams.

Today being the first day to reach your 5-to-10-year goal.

Today, your Plan for Change starts, and continues tomorrow, and all the days after that!

FIND OUT MORE

To find out how you can further develop your holistic entrepreneurial skills, including mastering the power of planning, head to **zamilsolanki.com/foundations**, or scan the QR code to the right.

To become part of our global community supporting healthpreneurs from all walks of like, head to **facebook.com/groups/zamilsolanki**, or scan the QR code below. As we're growing a like-minded community that truly values health, be sure to answer all of the questions to gain entry. There's no right or wrong!

ABOUT THE AUTHOR

Zamil Solanki works with healthpreneurs – from individuals to large multinational organisations – to help them overcome unique challenges and achieve their goals through curated training programs and tailored holistic solutions. Unlike other coaches and consultants, we pair global research and techniques with our own experiences, having grown our own pharmacy by $4 million and exiting it for 3x the industry average multiple. To do this, we focus holistically using 5 key pillars – mindset, planning, leadership, marketing and sales, and specialize in workflow, innovation, automation and systems.

Zamil Solanki
Pharmacist, Business Strategist & Entrepreneurial Coach

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ASSESSMENT Q'S | **P.59**

ASSESSMENT Q'S | **P.60**

48 Cultivating Staff Engagement and Teamwork

- Discuss how providing a psychologically safe workplace can positively impact on staff engagement and teamwork
- Explain how Maslow's Hierarchy of Needs can assist in highlighting staff needs and how fulfilment of these needs can potentially promote staff engagement and optimise team culture in the workplace
- Outline strategies that can be used in a community pharmacy setting to promote a team culture that cultivates staff engagement and teamwork.

53 Chronic Stress and Cortisol

- Describe the pathophysiology of the stress response (the sympathomedullary response and the neuroendocrine Hypothalamic-Pituitary-Adrenal (HPA) axis response).
- Outline the role of cortisol in the healthy body.
- Discuss some of the potential consequences of prolonged exposure to stress.
- Highlight the techniques that can be used to manage chronic stress and lower cortisol levels.

CULTIVATING STAFF ENGAGEMENT AND TEAMWORK

Why the Workplace Environment Matters

While it is true that management should set the tone and provide the parameters to facilitate staff engagement and teamwork, each employee has a role to play in being aware of what promotes engagement and understanding, and how their contribution to the workplace can promote a beneficial impact within the team.

Words | Chantelle Turner TURN Pharmacy Leadership

Learning Objectives

After completing this activity pharmacists should be able to:

- Discuss how providing a psychologically safe workplace can positively impact on staff engagement and teamwork
- Explain how Maslow's Hierarchy of Needs can assist in highlighting staff needs and how fulfilment of these needs can potentially promote staff engagement and optimise team culture in the workplace
- Outline strategies that can be used in a community pharmacy setting to promote a team culture that cultivates staff engagement and teamwork.

Competency standards addressed:
2.2, 4.3, 4.6.

apc | ACCREDITED CPD

Accreditation Number: A2205ITK2

Expires: 30/04/2024

This activity has been accredited for 1 hour of Group One CPD (or 1 CPD credit) suitable for inclusion in an individual pharmacist's CPD plan which can be converted to 1 hour of Group Two CPD (or 2 CPD credits) upon successful completion of relevant assessment activities.

> "THE MORE SITUATIONAL AWARENESS WE CAN CREATE, THE BETTER EQUIPPED OUR WORKPLACES WILL BE TO MAKE THE CHANGES WE DESIRE TO ENSURE THAT TEAMWORK IS A GIVEN, NOT A LUXURY."

The *Gallup State of the Global Workplace: 2021 Report*, highlights that 80% of the global population are either not engaged or actively disengaged at work.[1] This lack of engagement costs the global economy US$8.1 trillion, nearly 10% of Gross Domestic Product (GDP), in lost productivity each year. Australia and New Zealand together recorded a mere 20% engagement. This means we, as two nations, follow the concerning global trend of less than 20% engagement at work.[1] While there are limited specific pharmacy-related examples of staff engagement statistics, it is highly likely that pharmacy follows the overall global pattern outlined in Gallup's 2021 Report.

GALLUP OUTLINES THREE DIFFERENT LEVELS OF EMPLOYEE ENGAGEMENT:

Engaged Employees – are highly involved in and enthusiastic about their work and workplace. They are psychological 'owners,' drive performance and innovation, and move the organisation forward.[1]

Not engaged employees – are psychologically unattached to their work and company. Since their engagement needs are not being fully met, they are putting in time, but not energy or passion into their work.[1]

Actively disengaged employees – aren't just unhappy at work – they are resentful that their needs aren't being met and are acting out their unhappiness. Every day, these workers potentially undermine what their engaged co-workers accomplish.[1]

Keeping these three definitions in focus, it becomes obvious that everyone's level of engagement, attitude and interactions directly influence how the team functions. It also highlights that when the focus is on creating a culture that helps meet the team's needs, rather than being task-oriented or fixing individual problems, engagement can be increased and therefore teamwork improved.

While there are many methods that can increase engagement, improve team culture and encourage teamwork, this article will focus on two fundamental theories and how they can be used to guide increased engagement and teamwork within the workplace.

Theory 1: Work from the Inside Out – Ensure Psychological Safety

It is often heard that customers or patients should be the number one priority. While this is true to some extent, evidence shows that team members who feel psychologically safe are more engaged and open to giving and receiving feedback, translating into happier customers through positive interactions.[2,3] Team psychological safety is defined as '*a shared belief that the team is safe for interpersonal risk-taking*'.[2] Practically, this looks like increased creative thinking, willingness to give things a go, the ability to provide and receive feedback and going the extra mile or pushing outside the comfort zone as they feel the team has their back. It has also been shown that when staff feel they work in a psychologically safe workplace, they are more willing to put their hand up when errors occur, without fear of retribution.[2] This is crucial to ensuring patient safety as well as encouraging ownership and accountability – vital attributes of engaged team members.

While psychological safety may seem like a 'buzz term' that is discussed regularly, psychological safety is often not something that is given direct attention by either individuals or the team, rather it is something that is taken for granted and inferred through actions.[2] Irrespective of what individuals say about the psychological safety of the workplace, the level of engagement of the team and their willingness to contribute to teamwork highlights the level that exists within the workplace. This is important to note as 'lip service' alone is not going to create cultural change to increase engagement or facilitate people's willingness to effectively participate in the team.

Theory 2: Maslow's Hierarchy of Needs

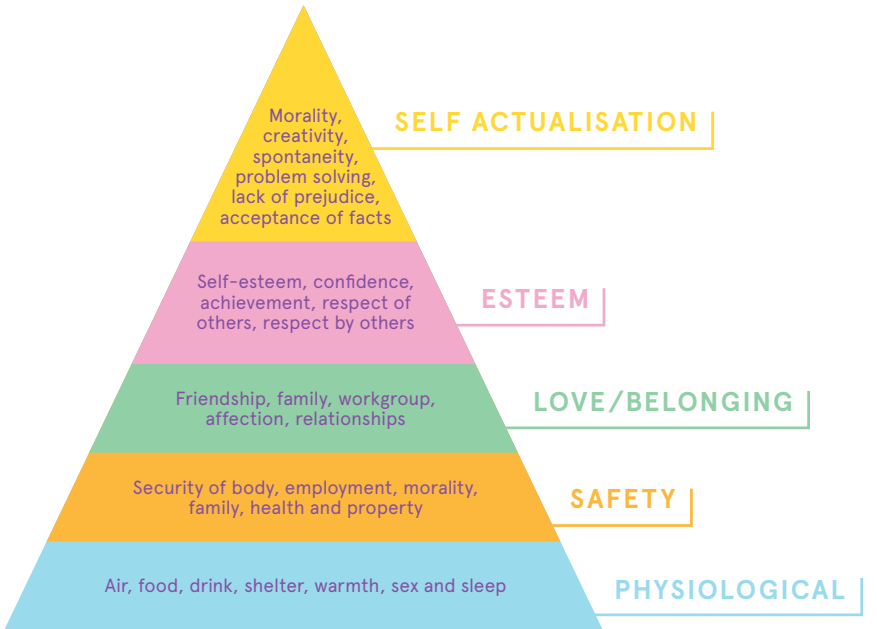
The benefits of creating a psychologically safe workplace may seem obvious and vital from the standpoint of patient safety and even from providing the opportunity for staff engagement. However, when the theory of Maslow's Hierarchy of Needs is laid over psychological safety, it further highlights its importance. Considering the theories together, it becomes even more evident how the platform of psychological safety can be built upon to improve workplace culture and provide opportunities that help to foster the growth of individuals and the team.

By creating psychologically safe workplaces, people's primal need to feel safe is provided. This can be explained further by looking at Maslow's Hierarchy of Needs. Abraham Maslow proposed that, first, people are motivated to fulfil basic biological needs, then, once their basic needs have been met, the primary motivator becomes the need to fulfil their higher potential – self-actualisation.[4] To be able to reach the pinnacle of self-actualisation and fulfil our self-esteem, our needs need to be met in order, from the most basic need first. After physiological needs, the next is the need for safety, then social connection, growth of self-esteem and then self-actualisation.[4] Maslow's Pyramid can be seen in figure 1.

In a workplace context, people need to feel safe and valued as an individual and as part of the team before being able to build their own relationships and expand their capabilities to help and care for others. In other words, if staff do not feel safe, cared for and valued by their workplace, it is unlikely that they will have the capacity to become actively engaged or feel safe enough to participate positively within the team environment. Rather, staff will tend to do the bare minimum in an attempt to fly under the radar and stay unseen. This looks like: the staff member who rarely offers an opinion or is always reluctant to contribute to a conversation. These staff members can be identified as often saying, 'I don't know' or just nodding along to whatever is being said. They may also be reluctant to share other parts of themselves that do not pertain to work.

Conversely, if staff feel safe, this then allows them to explore the opportunity of fulfilling higher needs, such as gaining a sense of belonging, building relationships within the team and then moving on to engaging in work that helps to build their self-esteem and confidence, creativity and problem-solving skills. These skills in turn allow people to communicate assertively, with confidence, and detach their worth as a human from differences of opinion or times when they fall short of the intended outcome.[5] This is vital because it allows people to navigate conflict or varying viewpoints pragmatically, without it eroding their confidence or team morale. People who have higher self-esteem can keep thoughts and discussions objective about the problem at hand.[5] This minimises them fusing with the emotion and feeling personally attacked.[5] Workplace cultures that focus on growing individuals in turn allow for stronger and more engaged teams.

MASLOW'S HIERARCHY OF NEEDS



IN THE PHARMACY

The opportunity to have a go at the things, problem-solve their own solutions, be involved in personal and professional development.
Be provided opportunity to acheive success, master tasks, have independence, the opportunity for growth and leadership in some areas of the store.
To feel part of a team, be valued as a person rather than just a staff member.
A physically and psychologically safe workplace.
A fridge to put their lunch, a tap, a chair, access to a toilet.

Figure 1: Maslow's Hierarchy of Needs and its application in a pharmacy workplace (adapted and modified from: https://www.slideshare.net/Sternaugen/fom-mediation-and-conflict)

Implementing These Concepts to Increase Engagement and Teamwork

As per the *Gallup State of the Global Workforce: 2021 Report*, employees' basic needs are met when they have a chance to contribute, have a sense of belonging and are provided opportunities to learn and grow.[1] Evidence also suggests that the cornerstones of psychological safety are trust, respect and care for people as complete beings as opposed to 'just colleagues'.[2]

When combining these two powerful facts, it is evident that focusing on providing the framework for psychological safety and an environment for people's needs to be met can optimise engagement and the capacity for teamwork. Let's focus on how these theories can be implemented as strategies to promote staff engagement and teamwork within a workplace.

01 GIVE STAFF SOMETHING TO BELONG TO. A PURPOSE, A CAUSE, A 'WHY'.

To allow staff to become engaged, they must understand why they do what they do. For example, why a professional service is offered, or why there is an emphasis on offering to keep patient scripts on file. In the bigger picture, it may be why the store prioritises individualised patient care over faster, less personalised, quicker transactions or why staff are continually asked for their insight even when they think their opinion doesn't matter. When people understand the vision, the underpinning reason 'why they do what they do', it allows them to buy into it. When the vision is clear, a deeper understanding and connection with the cause can occur.

In community pharmacy, having a clear vision and understanding of 'why you do what you do' can be difficult as the general business model is multifaceted. There is a clinical offering, a retail offering, professional services and also the need for stock control and administration. Confusion about the store's vision or overall purpose for existence is unsurprising. Some pharmacists and managers may sometimes feel that they too don't know what the store's purpose is. This can be amplified, especially if working in a franchise or if a direct connection with the owners of the store is limited. If you don't know what the purpose of the store is, what can you do? Seek to find the answer. Talk to your managers or owners and see what their vision is. If you are the manager but are confused about what the vision is or do not have one, consider making one with your team. This provides a great opportunity to set a collective instore vision, aligned with the values of the store. This will be something that staff can belong to and collectively work towards as a team.

Examples of an instore vision may be to provide exceptional advice and value to every patient who walks through your door. Perhaps it could be striving to create an environment at work that appreciates everyone, encourages creativity and values the wellbeing of each staff member. Whatever it is, having an underpinning purpose for the store helps lay a platform for expectations and priorities as a foundation. Also, with this underpinning purpose, each action or task within the store can be tied to the vision. For example, if it is understood that a store's vision is to appreciate every staff member and encourage creativity, seeking insight from a staff member suddenly becomes a clear action that is carrying out the vision as opposed to possibly interpreting this as an interrogation.

02 'GIVE' HAS A SEAT AT THE TABLE, HAS A VOICE IN A MEETING … AND IS HEARD.

To ensure everyone has a chance to contribute, has a sense of belonging and has the opportunity to learn and grow, everyone has to have a seat at the table, a voice in a meeting and an opportunity to be heard. Include staff in conversations that involve creating the plan for the vision or identifying problems and solutions. Show them that they are respected and valued as contributing members of the team, whether it is creating a daily plan or a bigger goal.

To increase engagement and the opportunity for teamwork, fostering a culture of inclusion and involvement is vital. To further empower a team, allow staff autonomy to have ownership over the outcome of the process that is taken to achieve it. This helps to facilitate creative thinking and problem-solving and in turn provides an opportunity to fulfil the need for self-esteem. To enable this to occur, regular two-way conversations need to be had to keep everyone abreast of what needs to be done and how it will be achieved. This is not micromanaging, but rather providing an effective support system to allow staff members to thrive. Finally, to ensure people feel safe enough to speak up, they need to be heard, and it must be shown that their input and work are respected and valued.

To show staff that they are safe, approach feedback or viewpoints from a place of curiosity and encourage others to do the same. 'That's an interesting viewpoint, can you tell me more?' is supportive, as opposed to, 'I disagree. That won't work.' Keeping lines of communication open and fluid can assist in keeping the door of opportunity open. Remember, psychological safety is underpinned by people feeling safe enough to speak up. If no-one feels safe enough to speak up, engagement does not occur and teamwork suffers.

03 ELIMINATE THE GUESSWORK. PROVIDE SYSTEMS AND PROCEDURES THAT ARE CLEAR, ACCESSIBLE AND EXECUTABLE.

When people don't understand the expectations of how to show up in the team, they can be left feeling confused. This confusion can lead to a feeling of insecurity and therefore cause staff to retract from the group or show up more tentatively. Just like giving people an understanding of the vision helps them appreciate and commit to it, providing systems and procedures gives staff a framework of how to show up. This lends itself to increasing engagement by providing people with the opportunity to learn and contribute. It helps provide psychological safety by giving staff a stable platform to communicate and participate from. When these systems are shared freely, explained and understood, it also facilitates a sense of belonging as shared information fosters inclusivity. Conversely, withheld information can leave staff feeling like they are outside the team.

Systems and procedures in the pharmacy can vary greatly and be used in various scenarios. For example:

Standardise the start of the day communication, so it is rolled out, discussed and implemented the same way each day. This can include the expectations for the day or the tasks, as well as the priorities for the day.

Have written and accessible procedures and checklists that people can access to assist with completing orders or completing tasks they are not yet comfortable with.

Automate certain parts of the day that set a level of expectation. For example, what time the order is marked off, the times of the day vaccinations occur or when all staff are to be available for serving patients only.

Ensure staff are aware of the feedback systems available to them if they have concerns, queries or complaints.

Having these systems and procedures in place helps support the leader in setting the expectations and priorities for the team. While these factors may not necessarily motivate the team, without them in place the team can become more dysfunctional. These systems, along with verbal communication, help to guide the team collectively throughout individual tasks or when coordinating multiple tasks. They make up the practical execution of the day and minimise the confusion that can occur when they do not exist.

The other benefit to having clear, well understood and accessible systems and procedures is that it allows increased autonomy within the team. It provides an opportunity for people to learn, build their confidence and problem solve without the direct involvement of a superior or colleague. Thinking back to Maslow's hierarchy, situations such as this are required to help give opportunities to increase self-esteem and move towards self-efficacy.

04 WEAVE THE WEB OF TRUST, RAPPORT AND TRANSPARENCY.

Finally, evidence suggests that the cornerstones of psychological safety are trust, respect and care for people as complete beings.[2] To practically execute this, we need to consider not only the collective culture of the store but how we as individuals show up in our teams.

> **"WE CHANGE THE CULTURE IN ANY WORKPLACE, ONE CONVERSATION AT A TIME. IN THESE CONVERSATIONS, WE CAN FOSTER TRUST, RESPECT AND CARE BY BUILDING RAPPORT AND BEING TRANSPARENT."**

When built authentically, trust can galvanise a team, solidifying the desire for the team to achieve success together. Practically, trust can be built by having honest and respectful conversations. Trust can also be developed by authentically caring for people, acknowledging that they have strengths and struggles outside of the workplace, just like ourselves. Transparency also increases trust. Being transparent is sharing relevant information and trusting that colleagues, like ourselves, can handle the truth and will use the information judiciously. Remember though, transparency is not sharing *everything*, things shared in confidence should remain confidential.

Finally, there is rapport. The definition of rapport is *'the "state" that is developed between individuals when they are aligned in thought and purpose'*. When there is rapport, there is mutual trust and support. Trust, rapport, respect and care are required to be developed long before they are relied upon for the benefit of engagement or teamwork. Rapport is generated through meaningful conversations which come from trust and transparency. Without rapport, it is very difficult to have strong relationships within teams as trust and common ground will be hard to come by. Simply put, without rapport, trust and respect, there can be no psychological safety, and a sense of belonging is unlikely to occur. This means people's fundamental needs for engagement are not met and teamwork will continue to suffer.

Conclusion

Leaders should invest in an environment that fosters psychological safety and encourages trust, respect and team belonging. Building this foundational platform will allow staff members to engage, extend their skills and capabilities, take responsibility, provide constructive feedback and commit to the vision and values within the workplace. Staff engagement is often closely linked to opportunities to contribute, having a sense of belonging, opportunities to develop and upskill, and an environment that supports team members. These strategies can promote the confident team players that contribute to the vision of the pharmacy. Disengagement is a growing concern in the workplace and taking steps to promote a culture of teamwork and staff engagement can have numerous positive benefits at a staff, customer and business level.

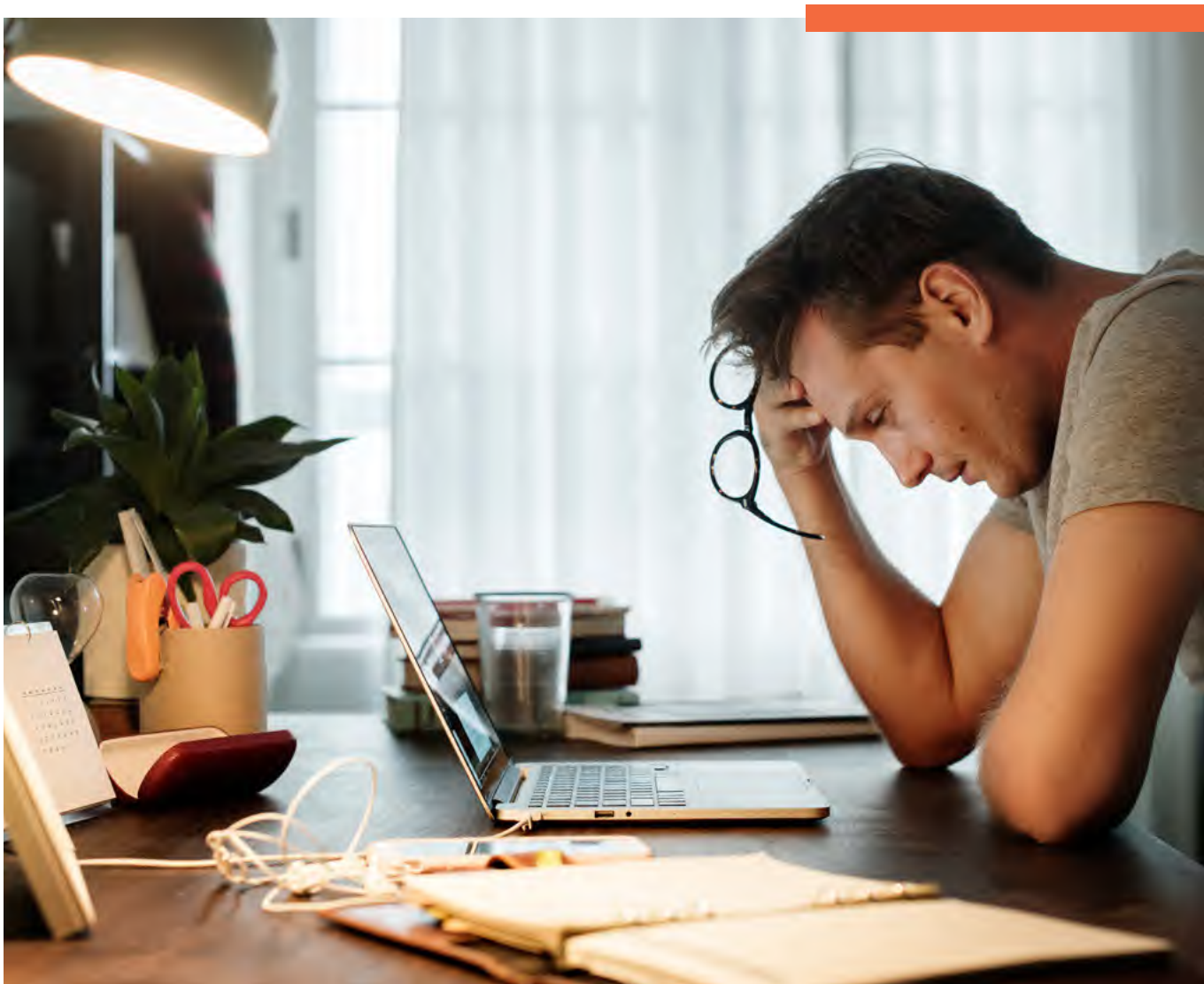
TURN PHARMACY LEADERSHIP
TRUST. UPSKILL. REIGNITE. NURTURE

Chantelle Turner from TURN Pharmacy Leadership is a Pharmacist Leadership Coach who specialises in coaching and mentoring Pharmacists to show up confidently, positively and sustainably for the benefit of their job satisfaction, their teams and their workplaces. If you would like to know more about TURN Pharmacy's courses or offerings go to **www.turnpharmacy.com.au**

References available upon request.

CHRONIC STRESS AND CORTISOL

Stress is something we all live with to some degree. However, the last two years in Australia have provided unique layers of stress for all of us – a global pandemic, bushfires, floods and air pollution events. The impact of these things on jobs and the economy have all contributed to elevated stress levels and consequently increasing mental health problems. But what exactly is 'stress' and why is it to be avoided?



Words | Prof. Sarah J. Spencer RMIT University, VIC, Australia

Learning Objectives

After completing this activity pharmacists should be able to:

- Describe the pathophysiology of the stress response (the sympathomedullary response and the neuroendocrine Hypothalamic-Pituitary-Adrenal (HPA) axis response).
- Outline the role of cortisol in the healthy body.
- Discuss some of the potential consequences of prolonged exposure to stress.
- Highlight the techniques that can be used to manage chronic stress and lower cortisol levels.

Competency standards addressed:
1.4, 3.6, 5.3.

apc ACCREDITED CPD

Accreditation Number: A2205ITK1

Expires: 30/04/2024

This activity has been accredited for 1 hour of Group One CPD (or 1 CPD credit) suitable for inclusion in an individual pharmacist's CPD plan which can be converted to 1 hour of Group Two CPD (or 2 CPD credits) upon successful completion of relevant assessment activities.

Introduction

Stress is ubiquitous and the perception of it is actually very useful. The concept of stress was originally adapted from physics where it literally meant a force. Such forces in physiology can be associated with things like hunger or thirst (useful in reminding us to eat and drink); fear (useful in reminding us to stay away from the dark alley); or even the actions of our immune system (essential in fighting pathogens). Together, these psychological (threat of harm) or physical (actual harm) forces or stressors activate various bodily systems to combat the stressor and then restore the usual set point.[1]

Terminology

Sympathomedullary response to stress: the pathway via which the sympathetic component of the autonomic nervous system activates to stimulate cardiorespiratory activity and to release adrenaline and noradrenaline to amplify this in response to acute stress.

Neuroendocrine: The interactions between the nervous system and the endocrine (hormonal) system. The neuroendocrine response to stress is principally via the hypothalamic-pituitary-adrenal axis (HPA axis).

Hypothalamic-pituitary-adrenal axis (HPA axis) response to stress: During stress, corticotropin-releasing hormone (CRH) and arginine vasopressin (AVP) neurons in the medial parvocellular region of the paraventricular nucleus of the hypothalamus become activated and release CRH and AVP into the median eminence where they activate corticotropes to release adrenocorticotropic hormone (ACTH) into the bloodstream. ACTH circulates in the blood before acting on the adrenal cortex to stimulate the release of cortisol. Cortisol co-ordinates a global non-specific stress response and negatively feeds back onto the pituitary gland and hypothalamus to curtail further HPA axis activation in the short term.

The Pathophysiology of the Stress Response

THE SYMPATHOMEDULLARY RESPONSE

In the context of an acute stressor, the sympathomedullary system is quickly activated, leading to adrenaline release from the adrenal medulla. Adrenaline encourages active stress-combating strategies like increased heart rate, respiration, skeletal muscle blood flow and glucose utilisation so that we might flee from or fight the assailant.[1,2] When the assailant happens to be a chronic disease or inflammatory status, or even chronically juggling excessive workloads, such adrenaline-driven strategies can be injurious, putting extra strain on the heart and other organs.

THE BEHAVIOURAL RESPONSE

Collectively, these responses result in the classic `fight or flight' behavioural response to stress. In some cases, though, parasympathetic mechanisms may also encourage withdrawal behaviours and, in women in particular, oxytocin can also contribute to protective and bonding responses (the `tend-befriend' response).[1,3]

THE NEUROENDOCRINE RESPONSE

The second major system that is engaged by a stressful event is the neuroendocrine system, principally the hypothalamic-pituitary-adrenal axis (HPA axis), which becomes activated not quite as rapidly as the sympathomedullary, but still within minutes. In this case, the hypothalamus, located towards the base of the brain, is activated, releasing the neurotransmitter corticotropin-releasing hormone (CRH) into the anterior pituitary gland. The anterior pituitary is then stimulated to release adrenocorticotropic hormone (ACTH). ACTH circulates in the bloodstream and causes the release of cortisol from the adrenal cortex, leading to a cascade of downstream stress-coping effects.[1,2]

Activation of the HPA axis acutely suppresses appetite, with CRH neurons acting at feeding centres in the hypothalamus to suppress the feeling of hunger, likely in favour of more urgent stress response strategies. Cortisol has the effect of acutely enhancing memory, potentially helping us avoid the stressful event in the future. Cortisol also contributes to cytokine generation in the case of an immune challenge, promoting an environment that is unfriendly to the invading pathogen. And importantly, cortisol feeds back onto the brain to shut the HPA axis stress response off.[1,2]

High Levels of Cortisol in the Body

As with adrenaline and noradrenaline, while an acute and regulated cortisol increase is beneficial, chronically elevated cortisol is not, potentially causing a range of problems throughout the body. A few examples of this are:

OBESITY

Chronically elevated cortisol promotes appetite and energy storage. This is likely an adaptive mechanism in the short term, to make up for the excess energy used in combating the stressor. In the long term, however, obesity can result. Chronic cortisol can contribute to obesity by causing the release of the appetite-stimulating hormone, ghrelin, which not only increases food intake but increases the feeling of reward obtained from calorie-rich foods.[4] Chronic excess cortisol can also reduce the sensitivity of the hypothalamus to leptin, in a process known as leptin-resistance. This has the effect of simulating starvation-like conditions in the brain since leptin levels typically drop when fat stores become depleted. Again, this enhances appetite and eating. In addition, cortisol promotes energy storage as fat, stimulating the growth and maturation of adipocytes.[2] Long periods of high cortisol as a result of ongoing stress can therefore lead to overeating, excess energy storage as fat and obesity.

MEMORY IMPACTS

Excess cortisol on a chronic basis can contribute to poor working memory, poor memory storage and loss of long-term memories. Cortisol regulates many genes in the brain that are related to neuronal plasticity, the strengthening of synapses and the generation of neurotransmitters. Typically, these systems enhance memory in association with acute stress, but this process becomes dysregulated with prolonged excess stress.[5] Excess cortisol can reduce the number of dendrites and dendritic spines in the prefrontal cortex, a key brain region for executive function and memory processing. Excess cortisol may also reduce the activity of this brain region, together resulting in a loss of working memory. Glucocorticoid receptors are also reportedly involved in memory retrieval, and excess cortisol can downregulate these in brain regions like the hippocampus, leading to impairments in this process. Ultimately, key brain regions in memory and learning, such as the hippocampus, can even atrophy with prolonged high cortisol.[5] Therefore, ongoing stress and the elevated cortisol associated with this can disrupt memory and higher order executive function.

MENTAL HEALTH DISORDERS

Ongoing stress and chronically high cortisol can also lead to mental health disorders, including anxiety and depression.[6] It does this by altering neuronal circuitry in limbic pathways that integrate emotional stimuli. About 30% of people with major depressive disorder have elevated morning cortisol levels and disruptions in their ability to suppress or turn off the HPA axis in response to its activation.[7] Notably, post-traumatic stress disorder is actually associated with low cortisol, although the glucocorticoid receptors may be hypersensitive to the cortisol that is present and so the HPA axis response to stress is suppressed very quickly.[7] Changes in the sensitivity of the glucocorticoid receptor in the brain are also thought to play a key role in the development of depression. The causative link between HPA axis dysregulation and depressive disorders is well illustrated by the case of Cushing's disease. Cushing's disease is the collection of symptoms caused by prolonged exposure to glucocorticoids, usually due to a tumour on the pituitary gland causing excess ACTH secretion. 66% of people with Cushing's have mental health disorders, including depression, and treatment for hypercortisolemia can reduce statistics by two-thirds within one year. Treatment to correct the excess cortisol can also reverse hippocampal atrophy in this population.[8]

Individualised Responses to Stress

Notably, the same stressful event can impact different individuals very differently. Just as we can all be experiencing ostensibly the same global COVID-19 pandemic, some of us may be seeing it through in good physical health and economic security with strong social support, while others might be impacted by the virus itself, job losses or social isolation. A single stressful event may impact very differently depending upon the plethora of experiences occurring alongside.

WINDOWS OF VULNERABILITY

There are also specific windows of vulnerability when our stress responses can be shaped in a lasting and difficult-to-reverse way. One such window of vulnerability is the early life period. In utero and in infancy, the baby's neuroendocrine stress axis is still maturing and is relatively hyporesponsive to stress.[9] Strong social support from the mother can maintain this stress-hyporesponsive period and cushion against the effects of stress, but nonetheless significant stress experienced at this time can render the stress axis more sensitive to future stressful events.[9] Likewise, poor diet in early life can also accelerate the maturation of the HPA axis and impact on stress responses long term – an effect that may be sex-specific.[10] The adolescent period may be another phase of vulnerability, one that is presently under-studied.

LIFESTYLE

Certain environmental or lifestyle factors can also alter the way we respond to stress. Obesity, for instance, can both contribute to as well as be exacerbated by an overactive stress axis. As mentioned, acute stress leads to rapid energy utilisation followed by a tendency towards energy conservation, stimulated appetite and energy storage as fat. Under intermittent stress conditions, this might not be such a problem, but if the stress and consequent energy conservation mechanisms become chronic, this can lead to overeating and lowered metabolic function, leading to obesity. Conversely, obesity per se can lead to elevated cortisol responses to stress. For example, the cortisol response to public speaking is greater in obese women, and women who develop obesity following a stressful event gain weight significantly faster than those who become obese with an associated stress.[2] Interestingly, while many individuals show a propensity to overeat during times of stress, others do not. This response is likely to be due to the satiety-hormone, ghrelin, and how it responds to cortisol. Thus, 'emotional eaters' have persistently high ghrelin after stress, but in 'non-emotional eaters' the ghrelin response to cortisol recovers quickly after a meal.[11]

BIOLOGICAL SEX

How we respond to stress can also depend on whether we are female or male. For instance, women have higher cortisol responses to social stress challenges, while men tend to have higher responses to achievement-based challenges. Females typically display greater HPA axis responses to the same stress than males and this can be modified by sex hormones, with increased resilience to stress in females when estrogen is low and progesterone high. The impact of early life stressors on long-term HPA axis function is also sex dependent. For instance, adult males, but not females, are hyperactive, anhedonic and have greater HPA axis responses to stress after a prenatal exposure to stress. This resilience in females may be related to the placental response to stress, with evidence suggesting that the male placenta becomes pro-inflammatory while the female placenta does not. However, postnatal stressors can also have sex-dependent effects.[12]

Techniques to Manage Chronic Stress and Lower Cortisol Levels

So, on top of whatever was stressing us in the first place, we now have the possibility of obesity and brain atrophy to worry about, compounded by the knowledge that childhood events might have left us with an overactive stress axis. What can we do to combat chronic stress and reverse some of its effects?

The most well-documented successful strategy for combating stress and improving mental health is social support. Those with positive family and/or friendship environments report better mental health outcomes in a number of domains and even live longer.[2] By extension to this, there is evidence that pets can provide a degree of social support to some people. However, as stress and the degree of our responses to it is quite individualised, so too are the strategies that people find beneficial.

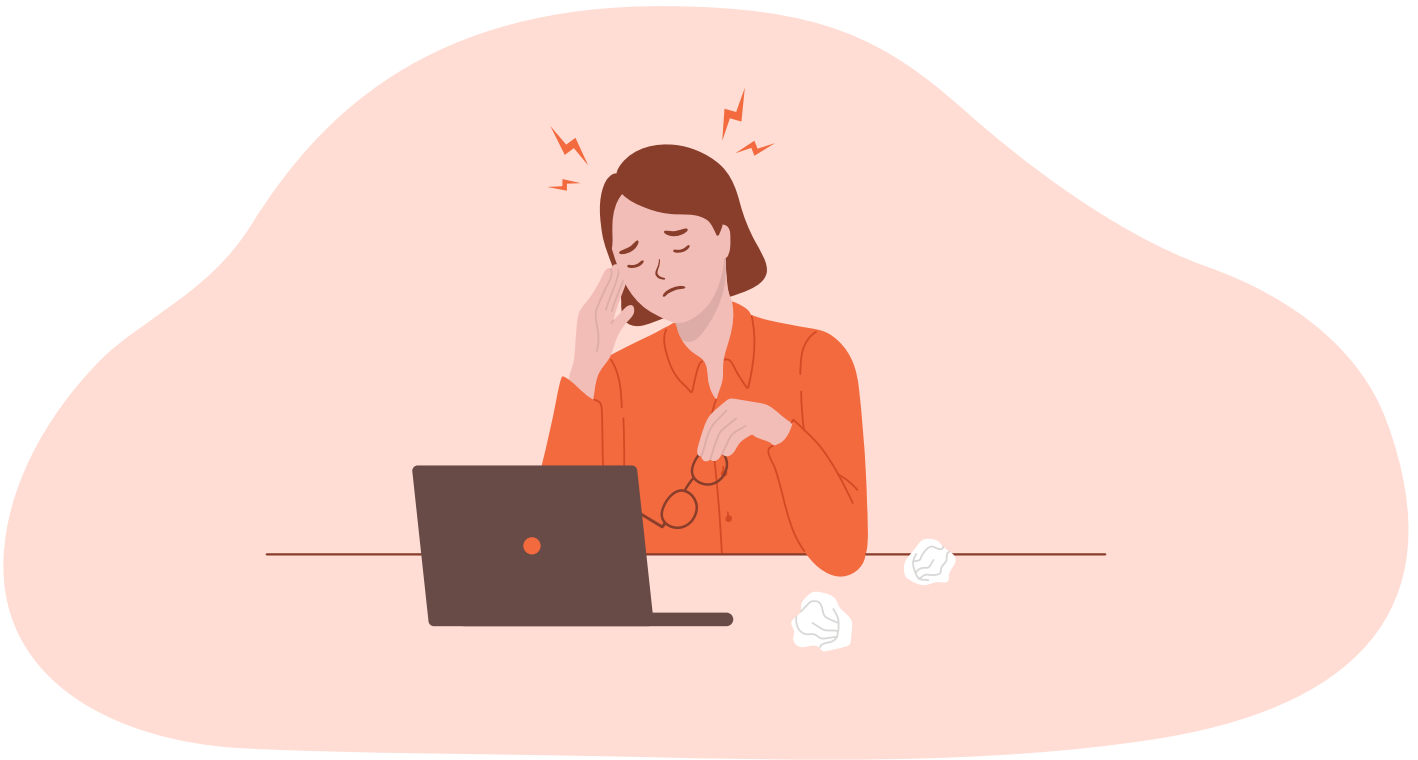
For moderate stress, simple cognitive strategies to cope with the stressor can help. For example, identifying what it is that you find stressful and mentally partitioning this into: elements you can deal with now versus later and elements that are outside your control. Likewise, putting the event into context by imagining the most catastrophic outcome and examining how likely and how bad this actually is can help to make the stressor seem less significant. A formalised approach to this is cognitive behavioural therapy (CBT). CBT is a psychotherapeutic method aimed at reframing people's perceptions of a situation so that they think and act more positively.

Of course, lifestyle interventions like practising good sleep hygiene (no internet before bed), a balanced diet, exercise and prioritising time for enjoying social relationships are important. Cognitively speaking, distractions are useful for minimising focus on the stressful event. Broadly, anything that is tricky enough to capture your attention without being so difficult that it becomes stressful itself can help. So, learning a new language or a musical instrument, even the daily crossword, a novel, or TV show should not be underestimated as stress-relief exercises.

For more substantial or ongoing stressors, mindfulness-based exercises, such as meditation, are useful for some although the effectiveness of these is likely to be related to the individual's expectations of the technique. Mediation, yoga and other relaxation-based approaches focus on controlling breathing or attention to achieve a state of deep relaxation or specific attention. Systematic reviews report a small to moderate improvement in anxiety levels.[13]

A more recent development in non-invasive stress management techniques is immersive virtual reality. A more recent development in non-invasive stress management techniques is immersive virtual reality. This technique encompasses not just visual virtual reality (VR), but auditory, olfactory, and even vibrations can be felt in VR. Immersive virtual reality has been used clinically to alleviate patients' fear and stress in relation to invasive procedures, including colonoscopy and spine surgery. As the technology becomes cheaper, its adoption in people's homes may be useful in the context of chronic stress.

These stress-relief exercises can be useful in ameliorating mild to moderate ongoing stress, but for those with major stress-related impacts, including mental health sequelae like depression, anxiety, post-traumatic stress, advice should be sought from your medical doctor.



Considerations for Providing Support to Patients with Chronic Stress

01 What are the necessary laboratory tests that can be undertaken to diagnose and monitor the patient's cortisol levels/stress?

Cortisol is most commonly measured in saliva (acute) or hair (cumulative). Salivary cortisol is useful to assess waking (morning cortisol) and cortisol changes across the day. Stress responsiveness can be assessed using a Trier Social Stress test (an imposed stressor) or a dexamethasone/CRH suppression test (cortisol recovery to stimulation of parts of the HPA axis).

02 What medicines can impact cortisol levels in the body?

Prednisone, methylprednisone, cortisone and dexamethasone are used in treating rashes, asthma, allergies, inflammatory disorders like inflammatory bowel syndrome and arthritis. Corticosteroids also treat Addison's disease where not enough cortisol is made. Estrogen-based oral contraceptives can also increase cortisol.

03 How can chronic stress (and high levels of cortisol) be managed?

Refer to the section titled: 'Techniques to manage chronic stress and lower cortisol levels'. For those with major stress-related impacts, including mental health sequelae like depression, anxiety and post-traumatic stress, advice should be sought from your medical doctor.

04 At what stage should the patient be referred for further investigation in the acute and chronic forms of stress? Which healthcare professionals can the pharmacists refer the patient to?

Patients indicating stress that is impacting quality of life, particularly over a chronic period; patients that are indicating symptoms of anxiety, depression, or tendency to/thoughts of self-harm, and patients with very little social support should be referred to a medical doctor. A general practitioner can then recommend assessment by an endocrinologist or therapist.

05 What non-pharmacological approaches can be used to manage chronic stress, e.g., diet, exercise and relaxation techniques?

As previously mentioned, lifestyle interventions like practising good sleep hygiene (minimum use of devices before bed), a balanced diet, exercise and prioritising time for enjoying social relationships are important. The relative success of these will be individualised. They should not be suggested as treatments for depression or other mental illness without advice from an medical doctor.

06 What resources can the pharmacist use to help improve patient understanding about chronic stress and its management?

- In an emergency call triple zero (000) and ask for an ambulance.
- For crisis support call Lifeline 13 11 14.
- For Beyond Blue's support service call 1300 22 4636.
- https://www.lifeline.org.au/
- https://www.beyondblue.org.au/
- https://www.blackdoginstitute.org.au/

References available upon request.

Cultivating Staff Engagement and Teamwork

ASSESSMENT

Sarah is a Pharmacist Manager who, despite her best efforts thus far, has struggled to have her team engage and work cohesively. She describes the dynamic between the staff as reserved, with limited sharing of knowledge and, in certain instances, this causes conflict and confusion amongst the team. She has been finding this draining as she feels she has had to provide all of the enthusiasm and momentum just to keep the pharmacy afloat. While each team member does their job, Sarah feels few individuals are engaged, citing that while tasks are completed, they just go through the motions as opposed to injecting any passion into their work. Sarah has recently started to explore what's going on and how she may improve staff engagement and teamwork within the store for the benefit of everyone.

01 Which one of the following statements about promoting staff engagement is INCORRECT?

a) Situational awareness is important in a workplace setting and this includes employees recognising how they can contribute to a conducive workplace.
b) Based on global statistics, a lack of staff engagement has no impact on the global economy.
c) Based on Gallup's State of the Global Workforce 2021 Report, actively disengaged employees are often resentful and can exhibit negative behaviours, especially towards their actively engaged co-workers.
d) None of the above

02 Team psychological safety is defined as a shared belief that the team is safe for interpersonal risk-taking. Which of the following is an example of traits that are held by team members that contribute to a feeling of psychological safety?

a) Increased creative thinking
b) The ability to provide and receive feedback
c) A willingness to push outside the comfort zone
d) A willingness to admit mistakes
e) All of the above

03 Based on the pyramid for Maslow's Hierarchy of Needs, which one of the following options correctly outlines the order in which the outlined needs appear from the base of the pyramid (basic needs) going upwards?

a) Love/belonging, esteem, physiological, safety, self-actualisation
b) Self-actualisation, physiological, safety, love/belonging, esteem
c) Physiological, self-actualisation, safety, esteem, love/belonging
d) Physiological, safety, love/belonging, esteem, self-actualisation
e) Esteem, physiological, love/belonging, self-actualisation, safety

Sarah recently held a team meeting and encouraged everyone to share what they felt was negatively impacting the team's ability to work together. The consensus was that no-one knew what was meant to be happening daily and that they had nowhere to turn to find information quickly, short of interrupting another staff member. As everyone was busy, a lot of staff felt it was easier not to ask than interrupt someone else.

04 What could Sarah implement to improve teamwork?

a) Provide written, understandable and accessible procedures and checklists for everyone to access to minimise the need for interrupting someone else.
b) Standardise the start of the day communication to remove the confusion about where or how to access the information they require.
c) Tell everyone to figure out the plan for the day themselves.
d) A and B only
e) A, B and C

05 Through Sarah's exploration of what has been impacting engagement and teamwork, she has noticed that there are some trust issues amongst the team. When it comes to building trust, which one of the following statements about building trust is LEAST APPROPRIATE?

a) Have honest and respectful conversations.
b) Be transparent and tell everyone everything about themselves and other team members.
c) Be transparent and trust that colleagues can handle the truth and use the information judiciously.
d) Care for people as whole people, acknowledging they have strengths and struggles outside the workplace like everyone else.
e) Build rapport.

SUBMIT YOUR ANSWERS TO EARN CPD CREDITS

Answers can be submitted through GuildEd at guilded.guild.org.au. Australasian College of Pharmacy members can submit answers online at acp.edu.au in the CPD Library.

Accreditation Number: A2205ITK2 | *This activity has been accredited for 1 hour of Group One CPD (or 1 CPD credit) suitable for inclusion in an individual pharmacist's CPD plan which can be converted to 1 hour of Group Two CPD (or 2 CPD credits) upon successful completion of relevant assessment activities.*

Chronic Stress and Cortisol

01 Abdul is a healthy 30-year-old man. He is attacked by muggers on a dark street. His body responds with a characteristic acute sympthomedullary and neuroendrocrine activation. This causes:

a) memory loss.
b) obesity.
c) cortisol release from the anterior pituitary.
d) cortisol negative feedback to the hypothalamus.
e) reduced heart rate and blood pressure.

02 Josephine has a normal HPA axis response to stress. This acutely involves:

a) corticotropin-releasing hormone neurons signalling to the posterior pituitary; cortisol release from the adrenal cortex; appetite suppression.
b) corticotropin-releasing hormone neurons signalling to the anterior pituitary; appetite suppression; cortisol negative feedback to the hypothalamus.
c) adrenocorticotropic hormone release from the anterior pituitary; memory loss; cortisol negative feedback to the hypothalamus.
d) adrenocorticotropic hormone release from the posterior pituitary; fight or flight; cortisol negative feedback to the hypothalamus.
e) release of ghrelin into circulation; leptin resistance; increased eating.

03 Robin and Leigh are a married couple in their 40s. They eat the same types of food and do similar amounts of exercise. Robin has a stressful job and a long commute, whereas Leigh's job is not demanding and is only a 10-minute drive away. Robin is more likely to become obese because:

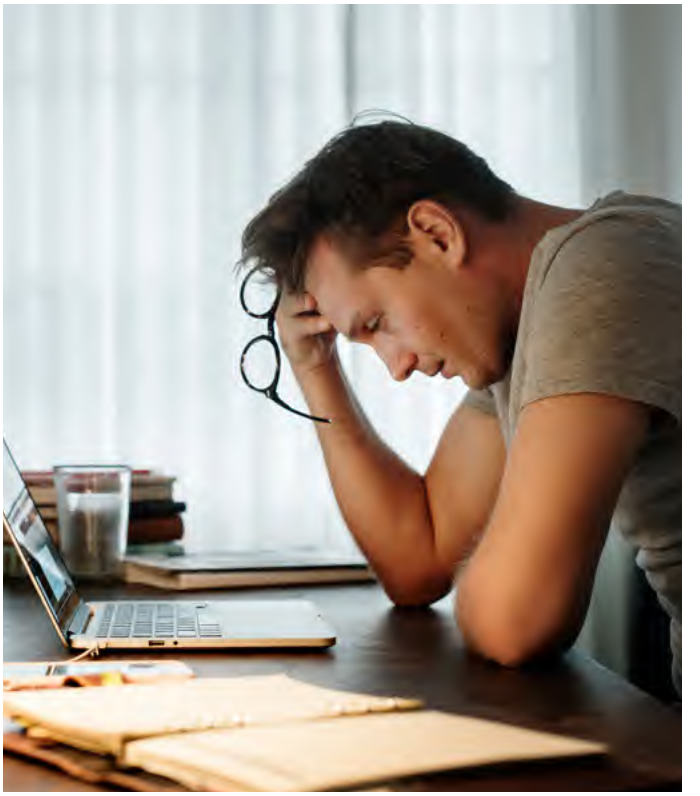
a) Robin's cortisol levels are chronically increased, and this promotes energy storage as fat.
b) Robin's CRH levels are chronically increased, and this stimulates ghrelin to encourage appetite.
c) Robin's ghrelin levels are suppressed, and this causes an appreciation of energy-dense foods.
d) Robin's sensitivity to leptin is increased and this causes food intake.
e) Robin's adipocytes are producing more leptin, and this reduces metabolism.

04 Samantha is a woman in her 20s with major depressive disorder. Dimitris is a man in his 20s with obesity. Which of these is likely to have a hyper-active HPA axis response to the stress of sitting a university exam?

a) Samantha because she is a female, and females are more likely to hyper-respond to achievement-based challenges.
b) Dimitris because he is obese, and obese people are likely to have elevated cortisol responses to stress.
c) Samantha because she has depression, and depression is associated with hyperactive HPA axes.
d) Dimitris because he is a male, and males are more likely to have Cushing's disease.
e) B and C are correct.

05 Ashleigh comes to ask for some advice on how to reduce ongoing mild stress. What do you do? Choose the most correct answer.

a) You advise Ashleigh to meditate because a systematic review shows a moderate improvement in anxiety levels.
b) You advise Ashleigh to buy a dog because pets can provide social support.
c) You suggest a range of techniques and let Ashleigh choose which works best since effective stress-reduction strategies are individualistic.
d) You advise Ashleigh to try immersive virtual reality because it is a recent development in stress-reduction techniques.
e) You advise Ashleigh to learn Spanish because mildly tricky distractions can improve stress responsiveness.



SUBMIT YOUR ANSWERS TO EARN CPD CREDITS

Answers can be submitted through GuildEd at guilded.guild.org.au. Australasian College of Pharmacy members can submit answers online at acp.edu.au in the CPD Library.

Accreditation Number: A2205ITK1 | *This activity has been accredited for 1 hour of Group One CPD (or 1 CPD credit) suitable for inclusion in an individual pharmacist's CPD plan which can be converted to 1 hour of Group Two CPD (or 2 CPD credits) upon successful completion of relevant assessment activities.*

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