Driving healthy actions in pharmacies through Al and Behavioural Economics

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Executive Summary

Australia has arguably one of the best healthcare systems in the world. Yet, despite being one of the top-performing countries in the 2021 Commonwealth Fund healthcare report¹, Australians continue to suffer under a growing burden of chronic conditions such as cancer, diabetes, heart disease, strokes and respiratory diseases. These conditions are often linked to lifestyle-related behaviours like smoking, drinking too much alcohol and not exercising enough.

While we cannot change our genetic makeup, we can change our behaviour and modify our risk of developing chronic conditions and, importantly, the complications that arise from them. For example, a person with high cholesterol and high blood pressure can lower their cholesterol levels and manage their blood pressure by going for regular screenings, being physically active, eating a healthy diet, and taking their medication as prescribed.

Turning one's health around sounds easy enough, right? Perhaps in a perfect world where everyone made rational decisions; but we do not live there. Doctors and pharmacists know that patients often forget or neglect to pick up a script or take their medication as prescribed, for various reasons. Australia may have a world-class healthcare system, but that does not mean that everyone is doing what they should to stay healthy.

This paper proposes a patient-centred communication approach to healthcare professionals who use artificial intelligence, data, and behavioural economics to drive healthy actions such as health screenings, vaccinations and medicine adherence.

I hope you find the information and case studies presented in this paper valuable and relevant to your own environment. Please feel free to reach out to discuss any of the findings and solutions with us.

Max Mito and Dr Craig Nossel

StrongRoom AI

¹ https://www.commonwealthfund.org/publications/fund-reports/2021/aug/mirror-mirror-2021-reflecting-poorly

Introduction

Chronic diseases are prevalent in Australia, posing significant pressures on the healthcare delivery system, the healthcare funding system, individuals, and society as a whole. This paper delves into the multifaceted landscape of chronic diseases, highlighting the critical role of early diagnosis through clinically appropriate screening, and prevention of complications through medication adherence and monitoring.

The global healthcare landscape faces multiple challenges today. While advances in medicine and technology have provided real enhancements to the quality of care that patients receive, the cost of healthcare continues to rise, becoming unaffordable.

The issue has been compounded by a growing burden of chronic diseases, many of which are linked to lifestyle-related behaviours such as poor diet, lack of physical activity, insufficient sleep, smoking, and excessive alcohol consumption. Doctors often do not have sufficient time to explain a patient's condition and the treatment they require. As a result, patients often have poor knowledge of their condition and its potential risk and do not feel supported through the process of managing their health.

The first section of this paper explores the burden of chronic diseases in Australia; in particular, the causes and impact of non-adherence to medication. The second section investigates interventions to support medicine adherence and the role of behavioural economics in guiding healthy behaviours. The third section examines case studies of pharmacies that have tackled the challenges of non-adherence and poor lifestyle choices through an innovative communication strategy that combines behavioural economics with data and artificial intelligence.

The burden of chronic disease in Australia

Australia's healthcare landscape is grappling with a rising burden of chronic conditions², including cardiovascular diseases, diabetes, respiratory illnesses, and mental health disorders. Statistical data underscores the pervasive nature of these diseases, emphasising their profound impact on public health and the economy.

Health issues in Australia, particularly non-communicable diseases (NCDs), present a significant challenge for public health. The Australian Institute of Health and Welfare (AIHW) highlighted the following critical aspects and consequences of NCDs in its Australian Burden of Disease Study 2023³:

1. Australians are losing healthy years

Healthspan refers to the length of time a person spends in good health, free from chronic diseases and disabilities. In 2023, Australians lost 5.6 million years of healthy life to diseases and injuries. This measure, known as the total burden or disability-adjusted life years (DALY), combines years of healthy life lost as a result of living with ill health (non-fatal burden) and dying prematurely (fatal burden).

2. Chronic diseases are the major contributors

Chronic diseases cause the majority of the burden in Australia. In 2023, the six leading disease groups accounting for about two-thirds of the total burden were:

- Cancer
- Mental health conditions
- Substance use disorders
- Musculoskeletal conditions
- Cardiovascular diseases, and
- Neurological conditions.

² <u>https://www.aihw.gov.au/getmedia/8f7bd3d6-9e69-40c1-b7a8-40dca09a13bf/4_2-chronic-disease.pdf.aspx</u>

³ https://www.aihw.gov.au/reports/burden-of-disease/australian-burden-of-disease-study-2023/contents/summary

3. Australians often have two or more chronic conditions at once

Multimorbidity, the presence of two or more chronic conditions in a person at the same time, is a significant concern. In 2017–18, it was estimated that 4.9 million (20%) of people in Australia had multimorbidity⁴ and evidence is growing that one chronic condition negatively impacts the risk of developing others, particularly as people age. Notwithstanding that, multimorbidity is more common in women and also tends to be more prevalent in areas of socioeconomic disadvantage. Collectively, these multiple chronic conditions, when coupled with existing lifestyle-related risk factors, are set to rise if no action is taken.

4. Common chronic conditions

Chronic conditions were responsible for nearly 9 in 10 deaths (89%) in 2021 and around 66% of the total disease burden in 2023. Furthermore, the AIHW found that when compared to those without long-term chronic conditions, adults with multiple conditions had higher levels of:

- Disability (50%)
- High psychological distress (35%)
- Bodily pain (88%), and
- Fair or poor health (32%)

Chronic conditions pose significant health problems for individuals, which may lead to a poorer quality of life and diminished productivity at work; thus impacting their earning potential and the Australian economy.

Importance of early diagnosis and prevention

Unlike acute injuries or infections, chronic conditions generally worsen or progress over time resulting in complications, disability and even death. As such, early detection and diagnosis of chronic diseases are pivotal in altering disease trajectories, allowing for timely interventions, improved health outcomes, and avoidance of premature death. Discussing the significance of

⁴ <u>https://www.aihw.gov.au/reports/australias-health/chronic-conditions-and-multimorbidity</u>

screening and vaccination programs is crucial in elucidating the benefits of early diagnosis and disease prevention.

Cancer screening

Australia is one of the world leaders in the early detection and prevention of cancer; however, the disease remains one of the leading causes of premature deaths, accounting for 30% of the deaths in Australia.

Early detection of cancers through screening can significantly increase five-year survival rates. Specifically, AIHW data⁵ have reported that people diagnosed with the earliest stage (stage I) of colorectal cancer and breast cancer in women had a five-year relative survival rate close to 100%. When diagnosed at their latest stage (stage IV), the survival rate dropped to 13% and 32% respectively.

Despite the highly successful Australian screening programs — the National Bowel Cancer Screening Program (NBCSP), BreastScreen Australia (BSA), and the National Cervical Screening Program (NCSP) — only approximately half of the nation participate in them. With the potential to lower the risk of death from breast cancer by 63% and bowel cancer by 40%, the case for such screening programs is unquestionable.

Furthermore, the potential to guide behavioural science models by collecting national data through such programs would lead to the identification of health trends and targeted interventions enabling people to receive personalised correspondence, tailored to their circumstances. Additionally, Australia's national prevention strategy includes the complete elimination of cervical cancer by 2035, which further motivates the call for early diagnoses and effective screening and vaccination programs.

Vaccinations

Australia's National Immunisation Program offers free essential vaccinations to people who qualify, including infants, children, adolescents, pregnant women, adults, seniors, First Nation people, and people with underlying medical conditions that increase their risk of disease severity.

⁵ <u>https://www.aihw.gov.au/reports/australias-health/cancer</u>

An AIHW study published in 2019 on the *Burden of Vaccine-Preventable Diseases*⁶ found that five diseases accounted for almost 95% of the overall burden:

- 1. Influenza (36%)
- 2. Pneumococcal disease (24%)
- 3. Human papillomavirus (24%)
- 4. Shingles (7%), and
- 5. Meningococcal disease (4%).

Furthermore, the results showed a 31% reduction in the rate of newly diagnosed cases of human papillomavirus (HPV), pneumococcal disease and rotavirus between 2005 and 2015, owing to vaccines added to the National Immunisation Schedule.

However, until recently, Australia had a paucity of data with which to estimate vaccination coverage in adolescents and adults. In 2021, the Australian Immunisation Register⁷ (AIR) released data on adult vaccination coverage which showed that only 30% of adults aged 70 had been vaccinated for shingles in 2020. Furthermore, the results suggested that influenza vaccine coverage was:

- 23% of adults aged 20 to 49 years
- 36% of adults aged 50 to 64 years
- 64% of adults aged 65 to 74 years
- 70% of adults aged 75 and older

These findings demonstrate the efficacy of timeous vaccines as well as the necessity of advanced data processing models to provide accurate and detailed reports of vaccination coverage in Australian adults. Furthermore, it highlights the potential for behavioural science models to help reduce preventable diseases through strategic vaccination campaigns.

⁶ <u>https://www.aihw.gov.au/reports/immunisation/the-burden-of-vaccine-preventable-diseases/summary</u>

⁷ https://www.aihw.gov.au/reports/australias-health/immunisation-and-vaccination

Medication adherence: challenges and impacts

Medication non-adherence remains a persistent challenge in managing chronic diseases, leading to disease progression, suboptimal treatment outcomes, increased hospitalisations, and a substantial economic cost. Examining the complexities behind non-adherence, including socio-economic factors and healthcare system barriers, sheds light on the multifaceted challenges stemming from individual, systemic, and medication-specific factors. Distinctions have been identified between unintentional non-adherence; for example, forgetting to take a dose, and intentional non-adherence; that is, deliberately omitting doses or having 'treatment holidays' where individuals actively choose to stop taking their medication for some time.



Figure 1. The most commonly reported medication adherence barriers across chronic conditions based on the WHO taxonomy (2003).

Individual and psychological challenges

Why do some patients take their medicine incorrectly or not at all? Researchers have identified some of the following common barriers to medication adherence:

1. Forgetfulness and cognitive barriers

Many individuals, especially the elderly, struggle with forgetfulness. Remembering to take medication, particularly when the regimen is complex or involves multiple doses throughout the day, can be challenging. Solutions like dose aids or mobile reminders can help, but they may not be enough for all patients, especially those with significant memory loss or cognitive decline where carer support becomes important.

2. Poor health literacy

Patients often do not understand why a specific medication is necessary, its benefits, and the potential risks of non-adherence. This lack of awareness can lead to a lack of motivation to adhere to the prescribed regimen. Effective patient education and regular communication with healthcare providers are essential to addressing this issue.

3. Psychological resistance

Some individuals may experience psychological resistance to taking medication, often owing to a desire to avoid dependence on drugs or denial of the severity of their condition. Education and support from pharmacists can provide the necessary psychological support to overcome these barriers.

4. Mental health conditions

Certain mental health conditions can have an impact on medication adherence. This is sometimes compounded by the patient feeling well when their medication is working, so they decide to stop taking it. Integrating mental health support into the treatment plan is crucial for these patients, along with regular check-ins from the pharmacist.

Medication-specific challenges

In addition to individual and psychological barriers, the broader healthcare context may also present barriers to adherence for the following reasons:

1. Cost and accessibility

Australia's Pharmaceutical Benefits Scheme (PBS) subsidises the cost of medicine for most medical conditions and is available to all Australian residents with a Medicare card. However, co-payments can be a prohibitive factor for patients, leading to skipped doses or unfilled prescriptions. Similarly, the distance that a patient lives from a pharmacy creates another barrier to medication adherence.

2. Side effects

Adverse side effects of medications can discourage patients from continuing their treatment. This is particularly true for medicine with noticeable or uncomfortable side effects. Regular follow-ups with pharmacists to manage and mitigate side effects can improve adherence, as can ongoing education and expectation setting.

3. Complex regimens

Complex medication regimens that require multiple doses at different times of the day can be overwhelming and confusing, especially for patients with multiple chronic conditions. Simplifying the medication regimen, where possible, and providing clear, written instructions can aid in better adherence. Involving a carer or family member can further assist.

4. Health system limitations

Inadequate follow-up or support can leave patients feeling lost in their treatment journey. Establishing an empathetic environment in the pharmacy where patients feel comfortable and receive relevant guidance, is vital.

5. Cultural and language barriers

Diverse cultural beliefs about medication and health can influence adherence. Additionally, language barriers can prevent patients from understanding their medication instructions. Cultural competence training for healthcare providers and the availability of multilingual resources can help bridge these gaps.

Next steps: a comprehensive approach

Cutler et al (2018) estimate the annual costings of medication non-adherence in Australia to be approximately AU\$7 billion, whereas inappropriate use of medicines costs the Australian public hospital system up to AU\$1.2 billion per year, representing 2%–3% of all hospital admissions. Furthermore, the economic impact concerning the total national cost of medication non-adherence across three prevalent conditions (hypertension, dyslipidaemia, and depression) was AU\$10.4 billion or AU\$517 per adult in 2019. Despite the commendable Australian health system, Cutler et al (2019) estimate that spending on healthcare by the government as a percentage of gross domestic product will nearly double by 2050 if no intervention is undertaken.

Addressing medication adherence challenges requires a comprehensive approach that considers individual patient needs, systemic factors, and the specific characteristics of the medication regimen. Tailored interventions, effective communication, and support systems are essential to overcoming these barriers and ensuring better patient health outcomes.

Interventions to support medicine adherence and healthy behaviour

Behavioural economics, the science of behavioural change, is a model of human behaviour that seeks to understand why people behave the way they do. Behavioural economists study the human factors behind economic decision-making, such as those leading up to a person buying one product instead of another or choosing this service over that one, with a focus on psychological, emotional, social, and cognitive factors. Unlike the field of classical economics, in

which decision-making is entirely logic-based, behavioural economics allows for and tries to understand irrational behaviour.

Behavioural economists argue that humans are irrational beings driven (at least to some extent) by emotion, intuition, and other behavioural patterns, which influence their decisions. However, as patterns can be identified and also show some consistency, they provide new opportunities for subtle interventions that can yield intended outputs. This is where the idea of 'nudging' was born.

Nudge theory

Professors Richard Thaler and Cas Sunstein introduced the concept in 2008 in their book, *Nudge: Improving Decisions About Health, Wealth and Happiness*. They define a nudge as "any aspect of the choice architecture that predictably alters people's behaviour without forbidding any options or significantly changing their economic incentives".

Nudge theory builds on the idea that there are **identifiable trends in this irrational, emotional, and intuitive human behaviour**. These are commonly known as biases and heuristics, cognitive shortcuts, or rules of thumb that aid decision-making. By understanding these patterns, 'nudges' can be developed to steer behaviour in an intended direction, thereby making use of the 'shortcomings' of human behaviour to yield desirable results. A quantitative review by Hummel and Maedche in 2019 found that behavioural interventions (more specifically nudges) lead to a significant effect 62% of the time with a median effect size of 22%.

Biases and heuristics in behavioural economics

There are over 200 researched biases and heuristics and, since this is an emerging field, the list is continually growing. Below are some common biases that are relevant to healthcare decision-making:

Present bias and hyperbolic discounting

Potentially the most challenging bias in terms of implications for healthy behaviours is the tendency to focus on the immediate costs and benefits of a situation and undervalue the future ones. This leads to choices that are inconsistent over time; people make choices today that their future selves would prefer not to have made, despite using the same reasoning. Within healthcare,

we can see this playing out in people having a natural propensity to procrastinate in undertaking behaviour changes that have immediate costs (such as quitting smoking or getting medication) but significant benefits in the future (lower risk of heart disease or cancer).

Individuals typically will also be more willing to defer committing to a course of action that has costs in the future (for example, going on a diet next week) because those future costs are not as salient in the present and are heavily discounted because they are in the future. While present-biased preferences typically contribute to higher rates of unhealthy behaviour, effective incentive programs can offset this by providing immediate rewards or punishments related to the desired behaviours. People can also be encouraged to 'pre-commit' to medication adherence or a smoking cessation program in the future.

Overweighting of small probabilities

Lotteries are extremely popular because people tend to overweight small probabilities when making decisions. This is because of a 'possibility effect' where people put disproportionate weight on outcomes that have a small probability of occurring. For example, shark attacks get greater airtime and create more fear than heart attacks, despite the risk being significantly less. When it comes to certain health conditions like cardiovascular disease, people tend to underestimate their risks and don't take action as a consequence. Recognising people's tendency to underestimate their health risks can help healthcare providers design more effective communications and use appropriate incentives to drive action.

Optimism bias

This is the tendency for people to overestimate the probability of positive events and underestimate the probability of negative events happening to them in the future. As mentioned above, we generally underestimate our risk of suffering a heart attack and therefore have little motivation to take our medication. Healthcare providers can increase the likelihood of a patient taking action by giving them more personalised messages and relevant risk-related information.

Loss aversion

The principle of loss aversion is when the cost of giving up an object is greater than the cost associated with acquiring it. In other words, people put much greater weight on losses than gains;

they feel losses more intensely than they experience equivalent gains. Studies have shown that a loss has roughly twice the drawback of an equivalent dollar gain. Healthcare providers can nudge healthy behaviours by referring to certain health metrics (for example, reaching a target cholesterol or blood pressure level) as a 'gain'. As a result, patients will work harder not to lose what they have gained.

Status quo bias

The default or status-quo bias refers to people's tendency to prefer things to stay relatively the same. This plays out in taking 'the path of least resistance', continuing to do what they have always done, or selecting the default option even when other (potentially better) alternatives exist. In Australia and New Zealand, opt-in and opt-out policies for superannuation and financial planning have also been pursued as well as default options for investment choices. Well-chosen defaults can be used to help people engage in healthier behaviours at higher rates, such as vaccinations and screening, medical appointments, and medication purchasing.

Framing effect

This bias shows how people can draw different conclusions from the same information depending on how that information is presented. The literature on framing is extensive and highlights the importance of testing different types of messaging, as the same information conveyed in different ways can have different effects. It seems clear that setting the frame of reference for choices is a powerful influence on decision-making. Messaging patients to take medication to improve their health versus messaging to take their medication to avoid getting sick will have different outcomes.

A 2021 mega study of text-based nudges encouraging patients to get a flu vaccine at their next doctor's appointment by Milkman et al compared texts with the same message (get the flu vaccine) framed in 19 different ways. Some examples included:

- Getting a flu shot is an easy way to be healthy
- Share a joke about the flu
- Don't forget to get a flu shot
- Reply to receive the flu shot reserved for you

• Flu shot reserved for you

The messages that performed the best were the ones framed as a reminder to get the flu shot reserved for the patient, which illustrates the importance of framing and user testing in health communications.

Ambiguity effect

This bias refers to our tendency to avoid options for which missing information makes the probability seem 'unknown'. The ambiguity effect can play a big role in healthcare. Berger et al (2013) analysed treatment decisions under ambiguity. They found that if a patient is diagnosed with an illness. Still, there is uncertainty about the effects of treatment, the ambiguity effect leads to a reduction in the propensity to choose treatment and may result in no treatment at all.

Social proof

This refers to how people assume the actions of others in an attempt to reflect correct behaviour in a given situation. Social proof is considered prominent in ambiguous social situations and is driven by the assumption that the surrounding people possess more knowledge about the current situation. It is a form of conformity or compliance. This can be a powerful bias to use when trying to get patients to behave a certain way. By demonstrating 'others', 'people like you', and 'everyone else' performing the desired action, you can motivate individuals to do the same.

Nudging healthier actions

Behavioural economics offers a nuanced understanding of patient behaviour, providing insights into effective strategies for encouraging preventative health checks, doctor's visits, medication adherence, and healthy lifestyle changes. Delving into behavioural nudges, personalised interventions, and habit-forming approaches underscores the role of behavioural economics in promoting healthier actions.

The next section highlights case studies where pharmacies used a tool that combines artificial intelligence with the principles of behavioural economics to nudge a desired health action.

Case studies: nudging medicine adherence with AI and behavioural economics

Despite living in an increasingly digitalised world, medication management continues to lag behind. In Australia, 70% of medication administration operates on non-digital systems, while 20%–30% of hospital admissions and re-admissions are related to non-adherence and adverse drug events.

The power of AI plus behavioural economics

Founded in 2017 in Australia, StrongRoom Al's vision is to eliminate preventable adverse drug events through the strategic deployment of medication management software such as StrongPro, an Al predictive analytics tool that connects pharmacies to their local communities. The following case studies demonstrate how pharmacies have used StrongPro to engage with patients through SMS, providing medication reminders, relevant health information, and behaviour-improving prompts to empower patients and help them make well-informed decisions about their health.

Pharmacy A: nudging cholesterol medicine adherence

In this case, SMS messages were strategically sent to patients focusing on managing cholesterol levels, leveraging the behavioural concept of frequent event miscalculation.

Frequent event miscalculation: the tendency to underestimate the frequency and severity of potential health risks, such as heart disease associated with high cholesterol levels.

The messages aimed to raise awareness about the importance of cholesterol management and the potential risks of untreated high cholesterol. The messages sought to correct patients' perceptions of the likelihood and consequences of cardiovascular events. As a result of this targeted messaging approach, the pharmacy experienced a significant **28.57% increase in patient visits** and a notable **33.3% increase in prescriptions for cholesterol-lowering medications**. This outcome underscores the effectiveness of combining behavioural insights and data analytics to prompt action and improve patient engagement in managing chronic conditions.

Pharmacy B: promoting the use of dose administration aids

At Pharmacy B, very few patients in high-risk groups used convenient dose administration aids such as pill boxes, despite understanding that these aids could improve medicine adherence. To address this, StrongPro applied loss framing and leveraged the messenger effect in targeted messages aimed at promoting the use of dose administration aids such as pill boxes and blister packs.

Loss framing involves emphasising	The messenger effect refers to the phenomenon	
potential losses or negative consequences	where the credibility and trustworthiness of the	
associated with inaction or non-adherence.	message source influence the persuasiveness of the	
	communication.	

In this context, messages highlighted the risks of medication errors, missed doses, and decreased treatment effectiveness in high-risk populations, compelling patients to consider the potential negative outcomes of not using dose administration aids.

Furthermore, messages were delivered by trusted healthcare professionals to enhance the perceived credibility and authority of the information provided. As a result of these targeted messaging strategies, Pharmacy B experienced a remarkable **82.3% increase in prescriptions** for dose administration aids.

Pharmacy C: driving sunscreen purchases

In a case study conducted at Pharmacy C, a combination of loss aversion and scarcity principles were strategically employed to drive purchases of sunscreen.

Loss aversion is a behavioural concept that	Scarcity, on the other hand, leverages the idea
suggests individuals are more motivated by the	that items perceived as scarce or limited in
fear of losing something than the prospect of	availability become more desirable to
gaining something of equal value.	consumers.

The campaign at Pharmacy C focused on emphasising the potential negative consequences of

sun exposure without adequate protection, tapping into individuals' fear of skin damage, sunburn, and increased risk of skin cancer. Messages highlighted the importance of using sunscreen regularly to mitigate these risks, framing the decision to purchase sunscreen as a protective measure against potential harm. The message coming from a healthcare professional further positioned the credibility.

The campaign strategically targeted population groups most likely to be receptive to the message, considering factors such as:

- Demographics
- Geographic location, and
- Seasonal trends in purchasing behaviour.

By analysing data and leveraging AI elements, the campaign optimised the timing and relevance of the messages, ensuring they reached consumers at the right moment when sunscreen usage was top of mind.

As a result of these targeted messaging strategies, Pharmacy C witnessed an impressive **70.79% increase in footfall**. This significant increase in store visits reflects the effectiveness of combining loss aversion and scarcity principles with data-driven insights and AI optimisation to change consumer behaviour and promote the purchase of sunscreen while having a broader health promotion and prevention value.

Putting patients at the centre of all communication

The patient-centric communication strategy implemented by StrongPro focuses on using tailored patient communications developed by healthcare experts to enhance community health outcomes and behaviours. By integrating principles from behavioural science and healthcare expertise, the approach targets specific demographics and individuals with low adherence to empower community health through a patient-centric communication model. This strategy incorporates sophisticated message techniques such as framing, the messenger effect, loss aversion, and scarcity to engage patients effectively. Furthermore, each campaign is meticulously crafted

considering industry trends, seasonal variations, and environmental factors to optimise behaviour change during these critical periods.

Script-focused campaigns

One pharmacy successfully promoted its new service offering of prescribing urinary tract infection medication to qualifying patients in select states, **emphasising convenience and affordability** over traditional GP consultations. This targeted campaign resulted in an impressive **41.30**% **increase in prescription fills**, enhancing patient engagement and loyalty to the pharmacy.

The same pharmacy observed a substantial **28.57% rise in patient visits** and a **33.33% increase in script fills** following a **cholesterol medication reminder campaign**. These results underscore the importance of effective communication in fostering customer loyalty and improving business outcomes.

Service-focused campaigns

Illustrating the effectiveness of vaccination campaigns, our analysis of one Shingrix campaign [a vaccine for shingles] revealed a remarkable **21.31% increase in prescription fills**. This showcases the campaign's success in driving patient visits for vaccinations under the National Immunisation Program and subsequent medication pickups.

Similarly, another pharmacy achieved notable success with its COVID-19 vaccination campaign, effectively encouraging targeted patients to receive their boosters. This initiative not only led to **increased vaccination rates but also resulted in a significant 37% rise in prescription fills**, demonstrating the positive impact of targeted health campaigns on patient engagement and pharmacy operations.

Conclusion

Combating the burden of chronic diseases in Australia necessitates a comprehensive approach encompassing early diagnosis and improved medication adherence. Implementing multifaceted strategies informed by research, data, technology, and behavioural economics holds the potential to alleviate this burden and foster better health outcomes.

The case studies discussed in this paper underscore the transformative impact of targeted patient-centric communication strategies in enhancing community health outcomes and pharmacy operations. Key takeaways from these studies include:

- Tailored communication initiatives, even when not script-focused, significantly increase prescription fills, demonstrating the power of community engagement in improving adherence and motivating patients to take proactive health measures.
- Leveraging analytics to identify medication with low adherence rates enables pharmacies to design targeted campaigns that effectively reach and engage low-adherence patients, leading to substantial increases in prescription fills.
- By applying the principles of behavioural economics, pharmacists gain a nuanced understanding of patient behaviour. These insights are used to create effective health campaigns to nudge medication adherence, foster patient engagement, and strengthen pharmacist-patient relationships.

In conclusion, this paper highlights the pivotal role of patient-centric communication strategies, supported by data analytics and behavioural economics, in addressing individual, psychological and environmental barriers to medication adherence in Australia and further afield. By leveraging innovative tools like StrongPro, pharmacies can drive meaningful engagement, enhance operational efficiency, and ultimately contribute to better health outcomes within their communities.

Get in touch to learn more about driving healthy actions through AI and behavioural economics:

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