Frequent Attenders in Primary Care:

A complex set of psychosocial and physiological issues which leads to overburden in GP's diaries and increased strain on health resources.

A Narrative Literature Review

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The Inala Primary Care Experience

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INTRODUCTION

Anecdotally, almost all general practitioners (GPs) would attest to having a very small cohort of patients who visit disproportionally frequently. A study of GPs in the UK demonstrated that no respondent reported no experience with a frequent attending patient and that there was a median of 6 such patients per doctor (1). Studies have demonstrated this phenomenon to be true and not a localised phenomenon with similar findings from Australia, Canada, UK, US and several European countries (2–5). Frequent attenders (FA) at GP clinics occupy available consultation slots which lead to an increased workload for practitioners while also reducing available resources to non-FA (2). Counterintuitively, it is consistently reported that FA do not generally fit the "heartsink" stereotype, nor are these patients typically in physical or emotional crises (3). Some studies have demonstrated that frequent attendance itself in a baseline period significantly increases the odds that the same patient will continue to frequently attend in following years (4). Hence, one questions if frequent contact with a GP is even beneficial to the FA cohort. Second, does FA lead to better health outcomes at all? In fact, such patients may have traits that could lead to an increased risk of iatrogenic harm if not recognised or acknowledged (6). Most importantly, a significant contributor to FA behaviour is psychological/psychosocial (5,7,8). If the *status quo* is left unchanged, the efficient and effective use of public health funding cannot be improved neither would the health outcomes for FAs improve.

AN AUSTRALIAN AND A WORLDWIDE PROBLEM

Criteria to determine FA are highly variable. Some studies define the transition from normal attending to FA upon a minimum number of appointments in a given period while other studies define it using a cut-off in a distribution (3). The systematic review by Gill and Sharpe (1999) found that the term "FA" typically applied to patients consulting between 9 to 14 times per year. The alternative was patients with annual consultation frequencies that are in the top quartile or top decile (3).

Frequent attending has been studied for many years (3,9). A review of international literature found that the proportion of FA and number of consultations ranged from 2% of patients using 15% of all consultations to 26% of patients using 61% of all consultations (9). FA can be defined as transient (for example in pregnancy) or persistent (multi-year, consistent frequent attending). It is thought that 40% of transient FA patients continue to frequently attend the following year (9). Given the high variability, a commonly quoted estimate is that 80% of a GP's work is spent on 20% of their patient population (2,5).

In Australia, data on frequent GP attendances is captured by the Australian Institute of Health and Welfare (AIHW). Their last data capture date was in 2013. In 2012-13, across different regions of Australia, approximately 5.1 to 13.1% of the population, age-standardised, consulted with a GP between 12 to 19 times (10). In the same period, 1.8% to 6.3% of the population, age-standardised, consulted with a GP 20 or more times (10). A study of a middle-aged population in Canberra found that 8.4% of patients were responsible for 33.4% of consultations amongst the "transient FA" group and 3.6% of patients were responsible for 15.5% of consultations amongst the "persistent FA" group (11).

WHO ARE THEY? THE CONCEPT OF THE FREQUENT ATTENDER

Understanding the profile of FA may allow for better targeted interventions to improve their health outcomes and health utilisation behaviour. It is easy to stereotype FA into categories such as "heartsink" patients or crisis patients. However, these stereotypes do not allow for meaningful and constructive interventions which understand and act on the roots of the problems which cause FA to primary care. Nor are these stereotypes considered entirely reflective of reality.

Even through the FA phenomenon is well studied, there is no generally accepted definition of what makes a patient a FA. This is largely due to the multifaceted nature of the problem and the heterogeneity in the ways FAs are identified and characterised across existing studies (12). Kivelä et al (2018) reviewed existing literature to build a concept of the FA. The study found that FA had four overarching attributes; the feeling of symptoms, perceived poor health, lower quality of life, frequent visits to a primary health care providers (12). Hence, these patients make demands on primary care providers for solutions and time which can be burdensome, occasionally for matters outside the skillset of healthcare professionals and in some circumstances with limited benefit to the patient.

THE FEELING OF SYMPTOMS - MEDICALLY UNEXPLAINED PHYSICAL SYMPTOMS

Patients who can be characterised as FA tend to present with more medically unexplained physical symptoms (MUPS) (5,7,8). MUPS can be a manifestation of somatoform disorder, however a large proportion of FA patients who present with MUPS do not meet the diagnostic criteria (DSM-IV) for somatoform disorder (13,14). FAs who are negative for somatoform disorder characterised in DSM-IV but present frequently with MUPS are significantly more distressed than the general population. These patients tend to have associated anxiety or depressive disorders (5,6,11,13–17). DSM-V broadens the original diagnostic criteria in previous editions of the DSM and now appears to capture

a much larger proportion of patients with somatic symptom disorder who would not have been classified in previous DSM editions (18). However, there is both strong criticism against the "medicalisation" of somatic symptoms in the latest edition of the DSM and the usage of the terms "medically unexplained physical symptoms" in medical vernacular (19–21). Instead, a more neutral term such as "bodily distress syndrome" (BDS) is preferred, although there is no standardised term yet (21).

"BDS" better describes the concept that the bodily symptoms of such patients may have psychological (including psychosocial) or physiological aetiology or a combination of the two (21). The term also does not focus on a particular aetiology (psychological or physiological) but rather maintains a level of uncertainty (21). For patients, "MUPS" can have a negative connotation suggesting that their somatic symptoms are being ignored by medical professionals. In contrast, the patient finds the symptoms they suffer from are very real (19,21). Thus, in this review, the term BDS will be used in place of less acceptable terms of MUPS, somatisation or somatoform disorder (unless it conforms to DSM-IV criteria), although current and past scientific literature uses these terms largely interchangeably.

A study in 1996 estimated the prevalence of patients with BDS in the general population of the Netherlands as being around 5%. The same study found such patients would represent more than 10% of those in the GP waiting room (6). A study from 2005 that used the Patient Health Questionnaire (PHQ) as a screening tool for BDS found the prevalence was just over 20% in primary care (16). Another study from 2011 revealed 22.9% had BDS in some form (12% fulfilling criteria for a somatoform pain disorder and 10.9% for an undifferentiated somatoform disorder) (14). A review of existing literature identified that the prevalence of BDS depended upon how BDS was defined and detected with a range in prevalence from between 15% to 50% of sampled populations (22). In an Australian study, increased likelihood of FA was associated with more somatic symptoms such as headaches, dizzy spells and sleep problems, increased levels of rumination, reduced mastery (locus of control) and a greater number of reported stressful life events (11).

Compared to patients with non-BDS, patients with BDS typically have double the utilisation rates of emergency department, outpatient and inpatient services and double the healthcare cost compared to those who do not suffer from BDS (8,16,23). Compared to a non-FA population, FAs report a greater number of symptoms with no known physiological cause suggesting BDS is common amongst FA cohorts (4). Another study demonstrated that the prevalence of BDS amongst FA, both short-term and long-term, was between 13.1 to 25.3% compared to 6.8% for non-FA (5). Furthermore, self-reported poor health vastly increases the odds of that patient becoming a FA (OR = 11.18) (11).

PSYCHOLOGICAL DISTRESS

In addition to the increased prevalence of BDS, persistent FAs (repeat frequent attending for more than 2 consecutive years) report feelings of anxiety 5 times and feelings of depression 2.71 times more often than non-FAs (5). The same group had a prevalence of psychological or psychiatric problems just over 4 times more than non-FA (5). Amongst Australian FAs, prevalence of mental health disorders such as depression, sleeping difficulties, worrying about health and personality disorders were all significantly higher than non-FAs (11). Smits et al (2014) found that while health anxiety (degree to which patient worries and fears symptoms, illnesses and death) was not significantly associated with persistent FA, illness behaviour was (degree to which physical symptoms affect work, concentration and enjoyment) (4). More stressful life events, poor locus of control and rumination were also significantly more prevalent amongst persistent FAs than non-FAs (4,11). Persistent FAs also self-report significantly poorer general health (11).

PHYSIOLOGICAL DISEASES

A relatively large survey of patients at multiple practices in the UK revealed that all morbidities (using Read Codes classifications, morbidity Chapter) are associated with frequent attending, although some morbidities show stronger associations than others (24). Endocrine, blood, mental, circulatory, digestive disorders and injury and poisoning had particularly strong associations with FA (24). As all morbidities were associated with FA, the authors suggested that other factors influenced FA patterns. The contrary would be true if a specific disease or diseases could fully explain FA patterns (24).

In general, the literature suggests that the prevalence of physical, including chronic physical diseases amongst FAs are much higher than those who have average attendance rates (3,25). Persistent FAs have over 4 times the prevalence of diabetes, 2.75 times the prevalence of chronic cardiovascular disease and 2.77 times the prevalence of chronic respiratory disease compared to non-FA populations (5). In a smaller study of an Australian general practice cohort, persistent FAs had a significantly higher prevalence of diabetes, asthma, thyroid, arthritis and heart conditions (11).

Having certain diseases with a clear physiological aetiology also increases the odds of becoming a FA shown by an Australian study (11). It revealed that the odds of a patient being a FA is 10 if the patient has diabetes, 2 with asthma, just under 4 with a thyroid disease and just over 4 with arthritis (11). Only heart disease did not significantly increase a patient's odds of FA but does dramatically increase the odds (OR = 6.64) of a transient FA becoming a persistent FA (11). Somewhat contrary to this, but an interesting facet of the FA patient profile, patients suffering from cardiovascular disease (CVD) with

low levels of patient activation (Patient Activation Measure or PAM score 1 or 2) were more likely (OR = 1.7) to be a FA compared to CVD patients with high PAM scores (3 or 4) (26). However, patients with diabetes were dissimilar in that low PAM scoring patients had higher OR of becoming FA but were not statistically different to high PAM scoring patients. It was suggested that even for high PAM scoring diabetics, they are still likely to require the support and continued management of their healthcare provider as they accustom to an effective and safe self-management regime (26). PAM scores are an interesting aspect of frequent attendance as it is a concept of self-management and it is theorised that as patients become more activated they are less likely to frequently attend at their healthcare provider for assistance and management of their condition (26).

Patterns of physical and psychological disease are also supported by prescription patterns of FA. It was found that persistent FAs had just under 5 times the number of antibiotics prescribed, over 5 times the number of prescriptions of hypnotics and antidepressants, 5.7 times the number of analgesics prescribed and 6.5 times the anxiolytics prescribed (5). Within a universal health system, these represent vastly increased costs to society. A study by Smits et al (2013) showed medication costs of persistent FAs alone are an average of €2808[1] (Netherlands) more than non-FA over a 3-year period.

THE COSTS OF FAS

A large study performed in the Netherlands with over 16,000 patients across 39 general practices investigated the costs of FAs to the health system, both primary and specialists care. The study broke down FAs by their persistence; patients were categorised into the number of consecutive years of which they met the criteria for frequent attending. The authors adjusted for patient characteristics (age, sex, ethnicity, etc) and morbidities then averaged the 3-year costs of primary healthcare. They found that a 1st year FA, on average, cost the health system an additional €481[1], 2nd year FA an extra €800 and 3rd year FA an extra €1268 compared to a non-FA (27). The cost increases due to FA was equally dramatic when the same analysis was applied to costs of specialist care. Here a 1st year FA cost, on average, an extra €1242, 2nd year FA an extra €1897 and 3rd year FA an extra €4025 (27). The same authors then categorised the healthcare costs and analysed cost differences for primary care, emergency care in primary care, physical therapy, complementary medicine, laboratory costs, medications, primary care costs due to somatic and psychological symptoms and specialist costs. They found that costs were significantly higher in every category for FAs compared to non-FAs (27). This

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[1] €1 = A$1.60 as at 29 March 2019

clearly highlights that the FA phenomenon is a system-wide issue and is not localised to specific areas of the healthcare sector.

At the time of writing, no relevant studies were found investigating the healthcare costs of supporting FAs in Australia. However, the study by Smits et al (2013) was completed in the Netherlands and fair comparisons can be drawn between the Netherlands and Australia. Citizens living in the Netherlands are required to purchase compulsory standard health insurance (28). Regardless of insurer, the standard package has the same premium which is not dependant on age, gender or state of health and covers a standardised range of healthcare services including no out-of-pocket access to general practice, hospital treatment and prescription medication (28). All Australian citizens, regardless of age, gender or state of health, have access to Medicare (29). Medicare is a public health insurance scheme funded by taxation revenue (30). The scheme covers all necessary medical costs as well as heavily subsidising necessary pharmaceuticals (31). Australian citizens do not technically pay a premium for this cover, per se, rather it is funded through taxes. However, unlike the Netherlands, wealthier Australians do pay an additional levy to their income taxes, but it is not dependant on age once (in a broad sense, they have to be old enough to earn an income to trigger the levy), gender or health status (30). Hence, at the point of service and from the health consumer's point of view, both systems are very similar. Thus, it is fair to assume that the barrier to healthcare access in both countries is low.

QUALITY OF LIFE AND SOCIODEMOGRAPHIC CHARACTERISTICS

In general, FA experience a lower quality of life compared with non-FA populations. Not only do they suffer from BDS and "feel" symptoms, they suffer from an increased number of distressing past life events-especially women, have higher rates of chronic disease and have poor locus of control and mastery (3–6,8,11,16,23–25,32,33). This is summarised by FAs having significantly lower quality of life measures in movement, independence, pain, daily living and anxiety using the EUROQOL tool and other similar measures, compared to non-FAs (33,34). Another study analysed individuals' "sense of coherence" (SOC). It is a scale which evaluates four domains, oneself and one's environment, stressors, health, illness and wellbeing and attitudes and behaviours (35). Essentially, it measures the stressors, health and coping ability of a person and is correlated with general quality of life. It has been found to be reasonably regionally and culturally independent (25,35,36). It found that FAs had significantly lower SOC scores than non-FAs. This finding was also associated with higher risk of disease, increased subjective health complaints, greater symptoms of illness and all-cause mortality (25,37,38).

Several sociodemographic characteristics are associated with FA cohorts. Being female was previously found to be associated, however females generally consult more in general. This trend is not consistent with some studies reporting a significant association with others not showing such association (3,4,11,32,39,40). Not being in paid work, having lower levels of education, being on a disability pension and being under financial pressure were all associated characteristics of the FA cohort (11,25,32,33,39,40). FA was also associated with secondarily single (separated, divorced or widowed) females along with being geographically more mobile (moving outside the survey area) (25,41). These characteristics highlight that FA are under significant psychosocial distress, often compounded by greater physical disease burden.

INTERVENTIONS

Clearly, there are a complex and heterogenous set of issues that contribute to the FA patient. Chronic and complex physical diseases, mental health problems, psychosocial issues and BDS are all associated factors in FA. Hence, each factor needs to be addressed to lessen the impact of FA on health systems. Successful interventions in medicine are measured against improving health outcomes for patients. However, due to the complex and multi-faceted nature of FA, health outcomes are not the only measure against which success of an intervention should be gauged. All health systems operate with limited resources, especially publicly funded, universal access systems such as that found in Australia. Improving health outcomes of FAs while not reducing the number of consultations, could still be considered a successful intervention as it represents better value for healthcare spending. Similarly, a reduction of consultations or healthcare costs without worsening the current health status of FAs would also be a successful intervention. Reducing the consultation rate frees up resources for new and/or acute patients in need of care.

Perhaps another measure of success in any intervention targeting FA is reduced work-related stress for treating physicians or having them feel their care is more effective. GPs report that patients who consult for multiple, unusual, unsolved symptoms or symptoms without clear clinical significance, much like BDS, are difficult and tiresome. Visits typically last longer and are more frequent (42). These consultations lead to poorer job satisfaction and feelings of helplessness and ineffectiveness amongst physicians (1,42).

Due to the heterogeneity of the FA phenomenon in general practice, there have been multiple intervention approaches reported in literature (43). A systematic review was able to categorise interventions into groups based on what "type" of FA was the target population (43). There were five

Inala Primary Care   **Page 7 of 19**
Frequent Attenders in Primary Care
Submission to the Australian Government Productivity Commission - April 2019

distinct categories: older FA, depressed FA, FA with BDS or somatoform symptoms, distressed FA and FAs of no specific sub-type (43). Haroun et al (2016) evaluated a total of 18 studies and found mixed results with most interventions studied having limited improvement in patient outcomes or service use with some leading to increased service use or poorer outcomes (43). Haroun et al (2016) did identify some positive results from two of the 18 reviewed interventions, an additional two did originally show promise, but results were not replicable (43).

One successful intervention identified by Haroun et al (2016) was most interesting as it has potential to address multiple "categories" of frequent attenders by design (43,44). The intervention involves GPs analysing a FA patient's visits and clinical charts using a standardised questionnaire. The GP then assigns one of seven hypotheses; biological, psychological, social, family, cultural, administrative-organisational, doctor-patient relationship as the potential cause of the patient's FA behaviour (44). The hypothesis is then "tested" based on the GPs interpretation of the data (for example, charts) and their self-perception of the situation (for example, their emotional evaluation). The GP is allowed time to confirm their hypothesis if required by seeing the patient again, ordering more tests or seeking the opinion of other professionals (44). Based on the GPs' confirmed hypothesis, a plan is developed using available resources. Plans might be to stretch intervals between visits for stable chronic disease patients, collaborating with nurses, looking for possible causes for their unstable illness and intervening on those, actively supressing face-to-face visits with the doctor for repeat scripts in stable patients, utilising health centre administrative staff or seeking the help from a social worker or other community resources (44). These plans are discussed as part of regular team meetings with the hypotheses and the resultant strategies and approaches planned, ideally to come up with consensus agreement on individual intervention plans. The team meetings also provide the opportunity to reflect and share experiences and to provide emotional and professional support to each other (44). Bellón et al (2008) showed that in 1 year, FAs receiving the intervention significantly reduced their average number of consultations from just above 21 consultations a year to just over 12 (44). Feedback from the participating GPs suggested enthusiasm for the intervention and a strong desire to apply it in everyday practice. However, GPs experienced difficulty committing to a hypothesis due to the complex and heterogeneous nature of FA behaviour (44). Qualitatively, GPs in the intervention group reported improved doctor-patient relationships, although this was not rigorously evaluated by the authors (44).

INALA IN CONTEXT

Inala Primary Care (IPC), a 100% bulk-billing primary healthcare provider, is an independent registered charity located in one of Queensland's most disadvantaged locations-Inala (45,46). 90.6% of Inala's residents are indexed as being the most socioeconomically disadvantaged compared to the Australian population (46). In fact, 100% of Inala's residents are found in the lowest 2 quintiles of socioeconomic disadvantage and has a homelessness rate almost double the state average (46). Naturally, social disadvantage is not only in the financial sense for Inala's residents, but access to stable housing and transport remains major issues (46).

IPC see approximately 4,500 patients from over 100 different ethnicities and continues to grow year on year. Just over 8% of all consultations are supported by an interpreter, over 8 times the national average for GP consultations that use an interpreter (47). Providing timely access to quality care for the growing patient population is a constant challenge to the clinical and administrative staff of IPC. Both physical and financial constraints, especially the "Medicare Freeze" which has been projected at a relative loss of income to primary healthcare providers of an estimated 9.4% by 2018-2020, are continual threats to expansion, quality and viability of a full-access, 100% bulk-billing practice such as IPC (48,49). Hence, the practice is interested in finding strategies to increase access while maintaining quality within the existing constraints.

FREQUENT ATTENDERS AT INALA PRIMARY CARE

Highlighted by literature, the population which IPC serves is at high risk of becoming FA. Being in an extremely disadvantaged area, the local population has higher than national average rates of mental health hospitalisations (50). Over 39% of IPC's patients have 1 or more reported comorbidity (diabetes, respiratory, cardiovascular, musculoskeletal, renal and/or mental health). With the risks of psychosocial and physical disease, the local population's risk of FA is high.

A recent audit of the IPC patient population identified that 11.9% attended the practice between 12-19 times in the year 2018-19. The average for the Primary Heath Network (Brisbane South) area which IPC resides in was 8.8% in 2012-13 with the highest recorded prevalence of FA being the South Western Sydney area at 13.1% (50). FA prevalence at IPC would be the third highest prevalence compared to national statistics (50). The prevalence of very high FA (attendance at the practice ≥ 20 times a year) at IPC was recorded at 6.2% in the year 2018-19. This is just under 1.6 times the Primary Health Network (Brisbane South) area average of 3.8% and is almost on par with the nation's highest prevalence area, South Western Sydney, with 6.3% (50).

To highlight the extremely disproportionate use of resources, the very high FA cohort at IPC, 6.2% of the total IPC population, utilised just over 23% of all consultations completed 2018-19. Combining both FA and very high FA groups (patients visiting IPC ≥ 12 times a year) results in 18.1% of the IPC patient population utilising 47.8% of all consultations completed in 2018-19. It is clear from our own data that access to services for new and non-FA patients become restricted. Of note is that these figures are based of GP visits, not visits to nurses or other health professionals working within the practice. A possible solution being explored by IPC is to identify the FAs whose conditions are stable and divert their contact time to nurses, counsellors or social workers. However, a serious drawback is the complete lack of Medicare and/or external funding to support such initiative given the serious social disadvantage in the locality IPC operates within. Evidence outlined above demonstrated that FA in primary care is cheaper to the health system than FA in specialists care and that FA patients are likely to use specialist care just as frequently if not properly managed.

If GP time is even partially diverted from the FA cohort it could be directed to consultations with new patients and GPs could take a more proactive preventative health role with non-FAs, it also reduces the burden on the care team and improves satisfaction and quality of care. A variety of options could be explored for delivering this result. Alternative care pathways could be provided by nurses, allied health and/or social workers. In addition, the doctors could deliver more comprehensive team-based care with nurses, allied health or social workers creating new handover points for patients which reduce the time involved for GPs. Again, such models of care are unusual in Australian general practice and would need to be affordable within the current Medicare funding arrangements.

The implications for further work with this patient group by Inala Primary Care are significant beyond simple practice sustainability and staff satisfaction. The Quadruple Aim of Healthcare and evidence from studies highlighted earlier shows other potential payoffs (51):
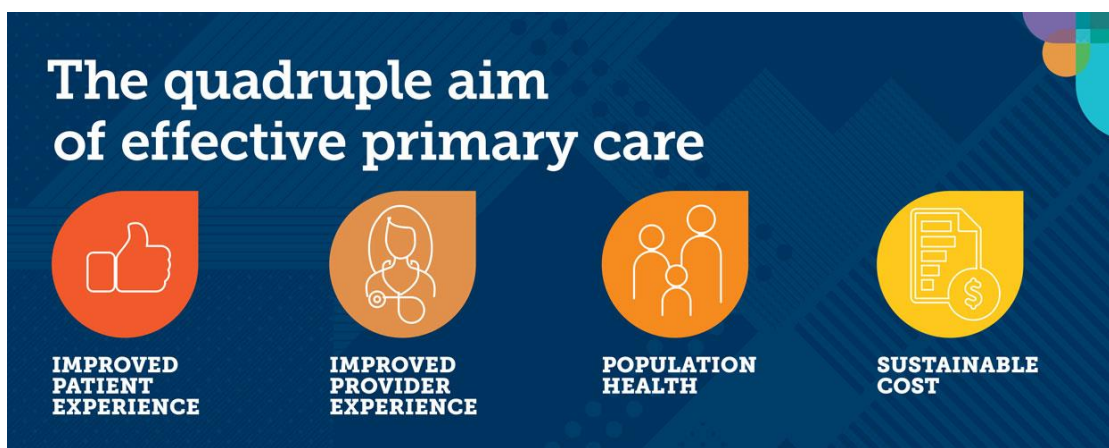

Figure 1: The Quadruple Aim of Healthcare (51,52).

Funders of healthcare in Australia stand to gain from advances which could be made through the potential for less use of medications, pathology and imaging when managing the BDS of this patient group. Clinician satisfaction is also likely to rise, key to cementing agreement from more of IPC's clinicians to work more hours in the practice with much better satisfaction and efficacy. Patient satisfaction and experiences as well as better community health and wellbeing outcomes are also possible by freeing up booking slots which leads to better accessibility in times of need and more capacity for GPs and clinics to deliver quality proactive medicine rather than being constantly under time and funding pressure potentially leading to more reactionary medicine.

CONCLUSION

A relatively small proportion of patients attend a disproportionate number of appointments within primary and secondary care. Worldwide, FAs are estimated to represent 20% of the patient population yet they can consume up to 80% of a GPs workload. In Australia the prevalence of FAs is between 5.1 to 13.1% of the general population, depending on region. At IPC, just over 18% of the patient population consumes nearly 48% of all consultations delivered over a year.

In terms of mental health, a significant proportion of FA suffer from complex psychosocial issues. So complex that it leads to physical symptoms which cannot be traced to a real physical aetiology – referred to as BDS in this review. However, FA are not easily categorised into disease states or behaviours. Some FA are complex, co-morbid patients with only physical diseases and need regular review in order to keep their condition stable, others might have mental health problems or psychosocial problems as descried earlier while others might be transiently FA due to conditions linked to life stage such as during pregnancy. However, it is apparent that many FA patients have a complex mix of the causes described above. Such heterogeneity in the contributors to FA makes interventions difficult to design and implement and this has been shown by low success rate in studied interventions. One possible intervention involves careful identification of the factors on a per-patient basis and a team-based approach to developing a patient-centred intervention for each case. Interventions from this model encourages the use of every resource available to the GP, this means that use of nursing, social or allied health services might be required to address the root causes of a patient's FA. Modest reduction in attendances was reported by the authors of that study.

IPC often questions if FA require *medical* consultations so frequently? Perhaps some of the contact time needs to be with supporting services, nurses, allied health or social workers, to better address the social determinants of health. Perhaps addressing the psychosocial causes of FA patients might lead to better outcomes for patient, practitioner and the health system at large. However, there is little, sometimes no funding or incentive available to implement such changes in primary care. If a fall in FA utilisation is experienced, doctors will be in a better position to proactively address the needs of the many and accessibility to GP and other medical services will improve for the general population. Ultimately such initiatives will drive the primary care system in Australia closer to achieve the Quadruple Aim of Healthcare and become far more efficient overall.

POSTFACE

The tools used to generate IPC-specific data which has been presented in this review were largely developed by IPC. Making available data extraction and analysis protocols to other practices will simplify their attempts to look at population management strategies, an unusual endeavour in Australian general practice. In other OECD countries, such pre-occupation is facilitated by patient enrolment and different funding models. Where practices spend more time identifying patient cohorts and developing models of care suited to their needs, modelling against the Quadruple Aim has consistently shown gains across the spectrum of return. Bodenheimer et al. (2014) developed the 10 building blocks of primary care (53). Data driven improvement which focussed on the needs of a practice's patients are foundational elements in their model for improving primary care outcomes.

The team engagement, model of care design and monitoring which will need to occur to facilitate this transition are also significant. Documentation of stages in the approach and analysis of the results could prove useful as publications used as stimulants for change in other practices. Hence, this journey is just beginning, has potential for positive change at Inala, for IPC's patients and for the wider health system if the work is sustained. Finding such a uniquely complex population and research active practice against which to test propositions and process is worthy of support.

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