A potentially preventable hospitalisation indicator for general practice

Consultation paper

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Contents

Acknowledgments

Abbreviations

ABS	Australian Bureau of Statistics
AIHW	Australian Institute of Health and Welfare
COPD	chronic obstructive pulmonary disease
DRG	Diagnosis Related Group
GP	general practitioner
HITH	hospital-in-the-home
HPV	Human papillomavirus
ICD-10-AM	International statistical classification of diseases and related health problems (10th revision, Australian modification)
METeOR	AIHW Metadata Online Registry
NHA	National Healthcare Agreement
NHMD	National Hospital Morbidity Database
NMDS	National Minimum Data Set
PHN	Primary Health Networks
PPH	potentially preventable hospitalisation
RACGP	Royal Australian College of General Practitioners
WA	Western Australia

Symbols

n.a.	not available
n.p.	not publishable because of small numbers, confidentiality or other concerns about the quality of the data

Summary

This paper aims to support consultation regarding the development of a general practice focused potentially preventable hospitalisations (PPH) indicator.

PPHs represent opportunities for improvement, both within health service delivery and within clinical practice. Early intervention, and long-term engagement with patients may not only reduce burden on tertiary services, but also improve health and wellbeing of individuals seeking these services.

While the current national PPH indicator provides a starting point for evaluating these opportunities, a general practice focused indicator would enable further assessment of mitigation opportunities within general practice activities.

A general practice focused PPH indicator would have a key role in performance evaluation, and on that basis could eventually be incorporated into the national PPH indicator. It would also be valuable for within-state comparisons over time, as some geographically variable determinants of disease may create unique areas of interest that cannot be captured under the national indicator. Similarly, a general practice focused PPH indicator may be useful for clinical education and evaluation, particularly for service planning monitoring within local areas.

This consultation paper was developed in consultation with the Royal Australian College of General Practitioners (RACGP) and the Department of Health. It outlines the process used by the Australian Institute of Health and Welfare (AIHW) to develop a general practice-focused PPH indicator, including relevant definitions and principles, as well as the rationale behind key decisions.

The AIHW, in collaboration with the RACGP and the Department of Health, will be able to use feedback received from this consultation process to inform further refinement of the general practice focused PPH indicator.

For consideration

The initial development process in preparing this paper identified a number of proposals to be considered in developing the general practice focused PPH indicator specification. These included that:

- a long-term view of preventability be taken to account for the role of general practitioner teams in supporting patients by addressing a range of risk factors. Interventions delivered up to 30 years prior were considered in scope for long-term chronic conditions
- conditions and procedures be added to or removed from the specification due to new vaccines, new treatments for conditions, or revised definitions of conditions that may be considered preventable due to general practice care
- vaccine-preventable conditions included in the specification be based on the principal diagnosis only
- assessment of chronic conditions and complications be adopted (for example, separation of infectious respiratory conditions with and without underlying chronic respiratory conditions)
- acute and mental health care be the only care types included, on the basis that other care types require tertiary management (such as palliative care or rehabilitation)

- contiguous hospitalisations (that is, hospitalisations for new care types within a given hospital stay) be excluded on the basis that the original hospitalisation will be counted
- hospitalisations for people aged 75 and over be excluded due to the frequent presence of comorbidities among older age groups (though supplementary analysis of ages 75 to 84 has been provided with caveats)
- same day hospitalisations and hospital-in-the-home care be excluded due to variations in hospitalisation practices and policies.

Chapter 3 of this paper summarises key findings based on the proposed specification, using admitted patient care data from 2006–07 to 2016–17.

Feedback process

Targeted questions have been included throughout this paper to help readers provide feedback to the AIHW about the proposed general practice focused PPH indicator. A variety of supplementary material relevant to this indicator are also provided on the AIHW web site <https://www.aihw.gov.au/reports/hospitals/development-hospitalisation-indicator-gp/> including:

- detailed specifications for the proposed general practice focused PPH indicator
- differences between the proposed indicator and the existing national PPH indicator
- preliminary interactive data visualisations and analyses of hospital admitted patient data for 2006–07 through to 2016–17.

Submissions must be provided via email to the AIHW <PPH_feedback@aihw.gov.au> by **4 November, 2018**.

For further information please email <PPH_feedback@aihw.gov.au>.

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1   Background

The concept of using rates of potentially preventable hospitalisation (PPHs) as performance indicators began with research undertaken in the United States of America in the late 1980s to identify areas where improvements could be made to the health system. Subsequent work focused on the relationship between PPHs and access to primary health care.

PPH indicators are now widely used internationally, though recent research has suggested that the relationship between PPHs and primary health care is variable and complex (Falster et al. 2016).

In 2016, the Royal Australian College of General Practitioners (RACGP) approached the AIHW about collaborating with them to develop a PPH indicator that is better accommodated to the accessibility and appropriateness of general practice activity, while addressing some of the known limitations of the existing PPH indicator. The RACGP argues that the primary care environment has evolved since the time when the indicator was originally developed, and have proposed improvements to the scope and presentation of the indicator. The Department of Health has funded the Australian Institute of Health and Welfare (AIHW) to undertake this work.

A project team comprising representatives from the RACGP, Department of Health and the AIHW was created to oversee the project, and provide the AIHW with advice on the development of the specification, analysis and relevant material prepared.

This project is an indicator development project, and is separate from the Australian Health Ministers' Advisory Council governance structure and/or processes. While any project findings and recommendations will not directly apply to the current nationally-endorsed PPH indicator, it is possible that they could inform future work relating to the national indicator following the implementation of the Australian Health Performance Framework.

The nature of the differences between the proposed general practice focused PPH specification and the nationally-endorsed PPH indicator prevents direct comparison between the two indicators.

Box 1: International indicators

Appendix A in the supplementary material provided with this consultation paper provides some background about PPH indicators used internationally, and outlines indicators used in New Zealand, the United Kingdom and Canada.

This consultation paper provides a summary of the development of the proposed indicator specification, as well as the rationale behind key decisions. It should be read in combination with the supplementary material (including interactive data visualisations) available at <https://www.aihw.gov.au/reports/hospitals/development-hospitalisation-indicator-gp/>.

The paper includes discussions of:

- key definitions and processes used in the development of a general practice focused PPH specification
- the concept of preventability, from the perspective of general practice activity
- changes to the scope of the indicator, and rationales behind the inclusion or exclusion of conditions or procedures
- key findings based on the analysis of admitted patient care data from 2006 to 2016

- future directions and considerations for further development of a general practice focused specification.

PPH indicators in Australia

Australian PPH indicators are defined based on a set of diagnosis codes which relate to the care provide to admitted hospital patients. These codes are derived from the *International statistical classification of diseases and related health problems* (tenth revision, Australian modification, also referred to as the ICD-10-AM).

Conditions which comprise PPH indicators have been reported for many years under several reporting frameworks, including the Aboriginal and Torres Strait Islander Health Performance Framework and the National Healthcare Agreement (NHA) performance indicators. Specific PPH indicators were explored as early as 2002 in *The Victorian ambulatory care sensitive conditions study* (Ansari et al. 2002).

- The existing NHA performance indicator 'Selected potentially preventable hospitalisations' is used primarily as a performance measure of access to, take-up of and quality of primary and community-based care.

PPH indicators were included in the National Health Performance Framework and the Performance and Accountability Framework. These frameworks have now been replaced by the Australian Health Performance Framework (AHPF).

Box 2: Interpretation of health performance indicators

Health performance indicators highlight areas of concern or areas of potential improvement for health system planners.

They do not provide an epidemiological assessment of the prevalence of conditions. Rather, they monitor the performance of health systems in managing prevalent conditions, and can inform health policy.

National Healthcare Agreement performance indicator

The existing NHA performance indicator (PI) includes hospitalisations that could have 'potentially been prevented through the provision of appropriate individualised preventative health interventions and early disease management usually delivered in primary care and community-based care settings (including by GPs, medical specialists, dentists, nurses and allied health professionals)'.

Potentially preventable hospitalisations are divided into three groups:

- vaccine-preventable conditions
- acute conditions
- chronic conditions.

The current NHA PI includes 22 conditions (summarised in Box 3 below). Note that this does not refer to all avoidable hospitalisations, and instead focuses on conditions that could have potentially been prevented or managed through primary care interventions (such as vaccine-preventable infections, or exacerbations of chronic conditions that are managed through primary care).

The current NHA PI for PPHs has been applied by a wide range of stakeholders. For example, in 2017 Queensland Health used PPH reporting to investigate variation in healthcare in

Queensland with a view to improving healthcare pathways, clinical practice and evaluation, consumer literacy, and service delivery (Queensland Health 2018). As a result of this work, the Queensland Clinical Senate recommended that data on PPH variation be shared across local healthcare service clinicians and their provider organisations (such as Primary Health Networks, or PHNs).

PPH measures have been used to identify individual patients who may benefit from additional support (Falster & Jorm 2017) (for example, under the NSW Chronic Disease Management Program), and to identify areas or locations of patients with high levels of preventable hospitalisations (Western Australia Department of Health and WA Primary Health Alliance 2017).

Box 3: The National Healthcare Agreement potentially preventable hospitalisation specification inclusions

Vaccine-preventable conditions:

- Pneumonia and Influenza
- Other vaccine-preventable conditions

Acute conditions:

- Pneumonia (not vaccine-preventable)
- Urinary tract infections, including pyelonephritis
- Perforated/bleeding ulcer
- Cellulitis
- Pelvic inflammatory disease
- Ear, nose and throat infections
- Dental conditions
- Convulsions and epilepsy
- Eclampsia
- Gangrene

Chronic conditions:

- Asthma
- Congestive cardiac failure
- Diabetes complications
- COPD
- Bronchiectasis
- Angina
- Iron deficiency anaemia
- Hypertension
- Nutritional deficiencies
- Rheumatic heart diseases

Further details and diagnosis codes included are available on the AIHW's Metadata Online Registry (METeOR) National Healthcare Agreement: PI 18 – Selected potentially preventable hospitalisations, 2015.

The National Hospital Morbidity Database

Information on potentially preventable hospitalisations in Australia is sourced from admitted patient care data on the National Hospital Morbidity Database (NHMD). The NHMD provides a record of hospital separations (Box 4), including the age and usual residence postcode of the patient, the identification number of the hospital or facility, procedures, diagnoses (principal and additional), and care planning and costing codes.

Even though the indicator specification proposed in this paper is focused on general practice care, it offers a measure of health system performance from the perspective of hospital separations.

Box 4: Unit of measurement on NHMD

The unit of measurement on the NHMD is separations. Hospital separations refer to admissions from a variety of sources (including through emergency departments, by referral from primary care, or elective separations), or a new episode of care (for example, from acute care to rehabilitation, or from another hospital for the same condition) METeOR identifier: 270407.

Individuals with multiple separations over time are not identified.

Limitations of current national indicator

While, as noted above, the existing national PPH indicator is widely used, it has a number of limitations.

Does not account for prevalence

Variation between areas in the PPH rate might be due to variations in the prevalence of the condition in the population rather than system performance. This means that the number of hospital separations can often not be compared against the number of hospitalisations that might have been avoided.

Influence of factors not easily mitigated by health policymakers

The impact of factors such as socioeconomic status and environmental exposures on health are difficult to identify and measure, and are not often addressed directly through health system policy. For example, while air pollution is associated with a higher risk of PPH hospitalisations for respiratory conditions, this factor is difficult to address in health care planning. Such attributable risks are not easily measured through administrative data used in the assessment of potentially preventable hospitalisations and are therefore difficult to adjust for in any model.

Variation in hospital admission practices and policies

Variations between jurisdictions reflect a range of contributing factors and may change over time. For example, some jurisdictions may admit patients with certain conditions while others may treat them as an outpatient or in the emergency department. In these scenarios, non-admitted episodes of care completed entirely in the outpatient or emergency department setting would not be captured in PPH reporting.

Changes in diagnostic classifications

The comparability of PPH indicators over time is impacted by changes in the ICD-10-AM. For example, changes to the Australian Coding Standard for diabetes resulted in fluctuations in the reporting of diabetes over time.

Data are collected by hospitalisations, not individuals

As admitted patient care data reflects the number of hospitalisations rather than the number of individuals hospitalised, PPH indicators should not be used to estimate the number of individuals with specified conditions. This limitation also means that it can be difficult to use PPH data to assess patient pathways to care.

PPH indicators only refer to potentially preventable hospitalisations

PPH indicators do not imply that every hospitalisation for the included conditions is preventable. 'Potential' preventability is therefore an important concept. Not all instances of a condition may be preventable through primary care, however appropriate intervention and care management may be a factor in some cases. For example, there may be debate about whether hospitalisations for chronic obstructive pulmonary disease (COPD) could have been prevented by or are instead related to treatment compliance, age-related factors, disease progression or end-of-life care.

Researchers have disagreed in regards to links between the level of physician supply, access to primary care facilities and rurality, and continuity of care and PPH rates (Falster et al. 2016). Discussions about the concept of 'preventability', especially in regards to chronic conditions, have highlighted that the complexity of socioeconomic factors and access to care are likely to have substantial impacts on the validity of the PPH as a performance indicator. For example, Passey et al. (2015) found that poor socio-economic status, isolation, comorbidity, and health risk behaviours such as obesity influenced the likelihood of hospital admission, with only 40% of total separations considered to be preventable.

The current NHA PPH indicator does not assess the impact of comorbidity or take into account the overlap between some conditions such as COPD and bronchiectasis with increasing age, or with multiple comorbidities. This suggests that the PPH indicator's effectiveness as an indicator of timely and effective access to primary and community care services is limited.

2   Proposed general practice focused PPH specification

The proposed general practice focused PPH specification aims to address some of the limitations identified in the existing NHA PPH indicator. In particular, it adopts a longer-term view of potential preventability, removes older age groups that have increased complexity and less certain preventability of conditions, takes a narrower focus on conditions commonly managed by general practice teams, and re-assesses the types of hospitalisations considered to be potentially preventable due to these conditions.

This specification has undergone review by the RACGP with the aim of developing a more clinically useful measure that may be better applied to education and performance assessment, targeted interventions for problem areas and performance monitoring.

The key change in the new indicator is that it reflects the variety of prevention and management activities done by GPs, and how these occur across the lifespan of conditions. This allows differentiation of the interventions for short-term condition complications (such as hypoglycaemia in diabetes) compared with longer-term conditions resulting from suboptimal control over many years (such as gangrene from diabetes). This differentiation allows better assessment of effectiveness of intervention and management activities.

The specification excludes:

* Same day separations
* Separations involving specific procedures, where appropriate
* Non-acute and sub-acute care types (rehabilitation care, palliative care, geriatric evaluation and management, psychogeriatric care, maintenance care); newborn care; and care other than admitted care (organ procurement – posthumous, hospital boarders)
* Hospital-in-the-home
* Contiguous hospitalisations; that is, hospitalisations for a new care type (such as rehabilitation) which immediately follow the original hospitalisation, or hospital transfers, on the basis that the original hospitalisation would be included.

Box 5: Detailed specification for general practice focused PPH indicator

Appendix B in the supplementary material provided with this consultation paper provides the full specification for the proposed general practice focused PPH indicator.

Appendix C in the supplementary material provides an overview of the differences between the NHA PPH indicator and the general practice focused PPH indicator.

Reporting for the proposed specification will be at a national level for each condition category. Sub-national reporting may require further aggregation into summary condition categories.

At this stage, age-standardised rates will be presented for hospitalisations involving patients aged 0–74 (the main indicator), and 0–84. Reporting of data for patients aged 0–74 will support international comparisons where there is consistency in specifications.

Rates for 0–84 year olds will need to be interpreted with caution due to the increased complexity and likelihood of comorbidity among patients aged 75 and over. Reporting of ages 85 and over are not included in this iteration as an elderly-focused specification may be

more appropriate for evaluation of potentially preventable hospitalisations (see Future directions).

The general practice focused PPH specification aims to explore hospitalisations in a way that may increase capacity for improvement. For example, acute respiratory infections are reported where they occur as a complication of a chronic respiratory condition, and where they do not. This information may allow better understanding of some of the drivers of PPH.

Key definitions and processes for consideration

Potentially preventable hospitalisation

For the purpose of the proposed general practice focused PPH specification, a potentially preventable hospitalisation has been defined as:

> admission to hospital for a condition where the hospitalisation could have potentially been prevented through the provision of appropriate individualised preventative care and other health interventions delivered by general practice teams.

In other words, a PPH occurs if health interventions could have potentially prevented the condition, or prevented an exacerbation or complication of the condition. This definition is consistent with that used for the existing NHA performance indicator, however the focus is on services delivered by general practice teams rather than primary care and community care broadly (which includes care provided by general practitioners, medical specialists, dentists, nurses and allied health professionals). It is important to note that the general practice focused indicator is not aiming to identify all avoidable hospitalisations, rather it aims to capture those which may have been avoidable through general practice activity.

> **?** **Q1. Feedback requested**
>
> Do you agree with this definition of potentially preventable hospitalisation, in light of the purpose of the indicator? Why or why not?

General Practitioner teams

The definition of a General Practitioner (GP) team was developed by the RACGP, stating that:

> The general practice team consists of all people who work or provide care within the practice. Practice teams are often multidisciplinary, made up of GP leaders, nurses and allied health professionals designed to service the unique requirements of each community.

In this context, a general practice team is not limited to a single physical general practice clinic, rather it refers to the co-ordination of care through general practice by GPs. A general practice team may operate out of multiple clinics, or utilise home visits, community clinics, or mobile care facilities.

General practice teams generally operate in general practice surgeries and community health centres and provide primary, secondary and tertiary preventive health services. Common primary preventive activities include vaccination or screening for chronic disease; secondary prevention includes treatment of risk factors such as hypertension, and tertiary prevention includes management of disease to prevent further complications. Other GP interventions include lifestyle interventions, prescription of antibiotics, and acute procedures.

GPs are involved with health/disease surveillance and the coordination of the care, leading and coordinating teams of health professionals such as practice nurses and allied health professionals. A GP may also refer patients to external health professionals, such as allied health professionals or specialists, as part of the management of their chronic condition(s).

> **Q2. Feedback requested**
>
> Do you agree with this definition of general practitioner teams? How could it be improved?

Key processes in the development of the indicator

The general practice focused PPH indicator is intended to inform understanding about the appropriateness of care provided by GPs, and by general practice teams under direction of a GP more generally.

Taking into account the above definitions, the process of indicator development involved reviewing and updating the existing conditions within the scope of the indicator to reflect advances in general practice care and/or changes in clinical practice by the RACGP Expert Committee in Quality Care.

The AIHW identified the relevant code for the condition in the ICD-10-AM—the classification used to report diagnoses in hospital records—while AIHW internal technical and subject matter experts reviewed the codes and rationales for inclusion or exclusion.

In addition to reviewing the scope of conditions included in the indicator, some overarching criteria have also been proposed to address some known limitations of the existing indicator specification, and data analysis (based on 2015–16 national admitted patient care data on the NHMD) was undertaken to examine the impact and appropriateness of these changes. The following chapter provides a summary of the major changes proposed for the indicator, including the results of the analysis.

> **Box 6: Potential disaggregation of general practice focused PPH indicator**
>
> Data for the general practice focused PPH indicator could potentially be disaggregated at a number of levels, such as general practice services, PHNs and at state and national levels, to inform the way services are delivered to improve patient outcomes.

A long-term view of preventability

Preventability, as viewed in this specification, is achieved in practice through a variety of means depending on the condition. These can be summarised as follows:

- Vaccine-preventable conditions are maximally prevented by broad immunisation coverage.
- The acute condition or its complication is preventable by early care or intervention; for example, by antibiotics.
- The chronic condition or its complication is preventable by primary, secondary or tertiary interventions; for example, short (hypertension), medium (myocardial infarction) or long-term (heart failure) complications.
- The hospitalisation was due to overtreatment or inappropriate treatment (quaternary prevention); for example, hypoglycaemia or opioid complications.

- The hospitalisation for a condition may be preventable through a health systems adaption (that is, by alternate models of care); for example, mental health.

In developing the general practice focused PPH specification, a long-term view of preventability was adopted. Interventions delivered by general practice teams up to 30 years prior were considered in scope for long-term chronic conditions, such as chronic respiratory failure due to mismanaged chronic respiratory conditions.

This long-term view takes into account the GP teams' role in supporting patients to address lifestyle risk factors such as obesity, smoking, lack of physical exercise, or substance misuse (including alcohol consumption), as well as their role in the ongoing management of chronic conditions to minimise risk of exacerbation or overall decline. For example, the long-term and complex interactions between lifestyle risk factors, comorbidity, and family history on cardiovascular disease development may present opportunities for intervention and the prevention of unnecessary hospitalisation. Such interventions could include weight loss and exercise support, appropriate management of early indicators of decline, and cohesive care management.

A long-term view of preventability also aims to support longer-term clinical, program and policy-related decision-making. This is particularly relevant to chronic conditions which often develop over a long period of time as a result of long-standing health behaviours. Some potentially preventable hospitalisations for chronic conditions are considered in scope of the indicator because they could have either been prevented through lifestyle interventions, or managed through specific care from, or mediation by, GP teams.

It is important to note that there will be cases in which appropriate GP services, advice, and referrals have been provided but these have not been followed or accessed by patients, or cases in which individuals do not seek GP care. This may occur for a variety of reasons including poor resourcing or access to GP care, poor health literacy, or other social or personal barriers to the utilisation of care (Longman et al. 2018).

Conditions in scope

Using the NHA PPH specification as a starting point, and based on advice from the RACGP, new conditions were added to the general practice focused PPH specification due to:

- new vaccines, such as that for human papillomavirus
- new treatments for conditions; for example, cardiovascular conditions, diabetes and mental health conditions
- revised definitions of conditions that may be considered preventable through GP care, and increased timeframes for prevention and management through general practice.

The inclusion of some new conditions might be contestable and feedback is sought from stakeholders. The separate identification of hospitalisations of patients aged 75 and over acknowledges the added complexity of care in this age group and may help address these concerns, as does the separate reporting of acute conditions which may be a complication or an exacerbation of a chronic condition (for example, the separate reporting of acute respiratory infections with and without comorbid chronic respiratory conditions).

Some conditions included in the existing NHA specification have been excluded from the proposed general practice focused specification on the basis that there is insufficient evidence to support their inclusion (such as iron deficiency anaemia) or where they are not directly applicable to the care provided by general practice teams (such as dental conditions). Conversely, some conditions excluded from the NHA specification due to the perceived inability to manage them through primary treatment to prevent hospitalisation have now been

included. For example, migraine has now been included as a preventable separation as better prevention strategies, improved acute treatment, and improved treatment for patients with recurrent migraine should facilitate decreased separations.

The rationale for some conditions included in the existing NHA specification could also be challenged. For example, acute tubulo-interstitial nephritis is included in this specification as a urinary tract infection even though it is an inflammatory condition of the kidneys often caused by drugs (such as antibiotics, NSAIDs or PPIs). It is therefore arguable whether the condition is preventable other than by decreasing causative drugs in the community setting.

> **⑦ Q3. Feedback requested**
>
> Do you have any comments for condition exclusion, or comments in regards to the listed conditions (for example, vaccine-preventable conditions, acute conditions, or chronic conditions)?

Amendment of vaccine-preventable conditions to principal diagnosis only

The proposed general practice focused PPH specification recommends that 'principal diagnosis', rather than the national indicator's requirement of 'any diagnosis', is used for vaccine-preventable conditions. This decision was made on the basis that if 'any diagnosis' is used, the main reason the patient was admitted for may not have been in scope of the PPH indicator.

> **Box 7: Definitions of variables for admitted patient care**
>
> For further information regarding admitted patient care variable definitions, please see METeOR information relating to the Admitted patient care National Minimum Data Set (NMDS) 2017–18.

This decision is consistent with criteria used for other conditions in the existing NHA PPH indicator, as well as other conditions in the proposed specification. While limiting the indicator to principal diagnosis only might exclude some hospitalisations which could be considered potentially preventable, further detailed analysis of hospitalisations by condition would be required to understand the extent to which this is the case.

The general practice focused PPH specification takes the view that vaccine-preventable conditions should be the prime cause for hospitalisation rather than a complication or comorbidity, however this may require further review. For the majority of vaccine-preventable conditions, less than half of all hospitalisations in 2015–16 had the targeted condition listed as the principal diagnosis. Exceptions to this were tetanus, diphtheria, meningococcal, Q fever and hepatitis B, where more than half of all hospitalisations (in the case of tetanus and diphtheria, more than three quarters of all hospitalisations) showed the targeted condition as the primary diagnosis. For the remaining vaccine-preventable conditions, most showed that the targeted condition was the primary diagnosis in less than a quarter of hospitalisations, with rubella not appearing as a principal diagnosis at all due to its association with pregnancy and delivery.

> **Box 8: Principal diagnoses for vaccine-preventable conditions**
>
> Appendix D in the supplementary material provides the top 5 principal diagnoses when a vaccine-preventable condition is coded as an additional diagnosis (as per the NHA specification) rather than as the principal diagnosis only, based on admitted patient care data from 2015–16.

If, as in the NHA specification, additional diagnoses were included in the general practice focused PPH specification, the number of hospitalisations for most vaccine-preventable conditions would be between 16% and 69% higher depending on the infectious agent involved. However, the degree to which the hospitalisation would have occurred if not for the principal diagnosis cannot be adequately assessed.

> **(?) Q4. Feedback requested**
>
> Do you agree that this approach optimises consistency across the proposed indicator? Please provide comments.

Exclusion of contiguous hospitalisations

The proposed specification will exclude hospitalisations for a new care type, such as rehabilitation, which follow the original hospitalisation, or hospital transfers on the basis that the original hospitalisation would be counted.

As hospitalisations are recorded for each episode of care, a patient may have multiple episodes of care within a hospital stay; for example, if they were transferred from one hospital to another, or if the type of care they received changed. Under the national PPH specification, if the same principal diagnosis (in scope of a PPH) was recorded in two episodes within the hospital stay then two separate hospitalisations are recorded as the national indicator counts all episodes of care separately.

The general practice focused PPH specification aims to capture separations that were potentially preventable through general practice activity (that is, not separations which are more appropriately linked to tertiary care activity). To exclude separations which genuinely require tertiary management (such as rehabilitation and palliative care), only acute and mental health care types (NHMD variable CARE_TYPE 1 and 11) have been included.

> **(?) Q5. Feedback requested**
>
> Do you agree that this approach reduces inclusion of duplicate hospitalisations?

> **Box 9: Restriction of care types**
>
> Appendix E in the supplementary material compares separation numbers and rates by condition under the current NHA specification against separations and rates only including acute and mental health care types.

Exclusion of people aged 75 and over

The proposed specification recommends that hospitalisations for people aged 75 and over be excluded, on the basis that older patients often have a number of comorbidities which make it difficult to relate their hospitalisations to lack of access to appropriate general practice care and/or treatment. This age limit also coincides with the age limit used for some PPH indicators reported internationally—for example, in Canada and New Zealand—and the age limit used to measure avoidable mortality in national reporting.

The exclusion of hospitalisations for older patients was considered in a previous internal review of the NHA PPH indicator. It was ultimately decided to keep hospitalisations for all ages in scope, primarily on the basis that excluding hospitalisations for patients over 75 excluded a relative large proportion of overall potentially preventable hospitalisations. Excluding people aged 75 and over reduces the total number of reported hospitalisations in 2015–16 by 33%.

Consistent with the pattern for hospitalisations overall, people aged 75 and over are over-represented in hospitalisations for many of the PPH conditions when compared to their population representation (6.6% of the estimated resident population as at 30 June 2016) (ABS 2017). Further, complexity of care has been shown to increase with age. In 2015–16, 42% of separations for people aged 75 and over were classed as 'Major complexity' under Diagnosis Related Group (DRG) groupings.

Box 10: Exclusion of patients aged 75 and over

Appendix F in the supplementary material compares separation numbers and rates by condition under the current NHA specification (including patients aged 75 and over) against separations and rates excluding patients aged 75 and over.

Source: Admitted patient care, NHMD.

Figure 1: Complexity of care designation by age group, 2015–16
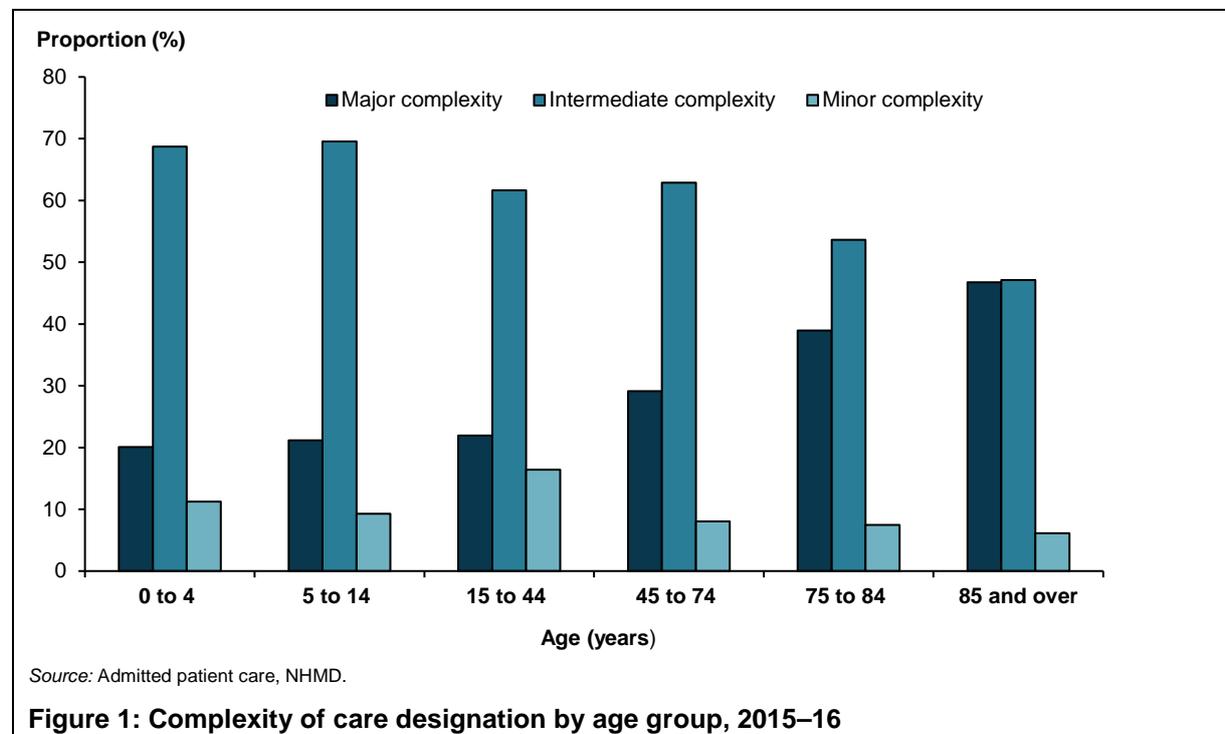
As a result of the decision to exclude hospitalisations involving older patients, some conditions—which could, in principle, meet the definition of potentially preventable used for this project—have not been included as they relate predominately to appropriate general practice management of older patients. For example, hospitalisations for injuries related to a fall, unexpected weight loss, medication errors, gastroenteritis, pressure ulcers, and infectious diseases associated with inadequate hygiene, and perhaps some complications arising as a result of conditions such as dementia in Alzheimer's disease are excluded. These conditions have not previously been listed in the national PPH indicator due to issues regarding imprecision of coding (such as in falls). This requires substantial analysis and evaluation beyond the scope of this consultation process.

To better understand the potential mechanisms underpinning potentially preventable separations, analysis by life-stage (that is, infancy, childhood through to early adolescence, older adolescence through to middle age, middle to older age, and elderly) was performed. Findings from this analysis may inform targeted interventions, or highlight risk factors not currently observable through the national indicator. These life stages have also been delineated to coincide with international reporting in health systems with similarity to the Australian system (such as New Zealand, Canada, and the United Kingdom). This may facilitate international comparisons where similar conditions are reported.

Supplementary reporting for patients aged 75 to 84

As a supplementary indicator, reporting of the proposed general practice focused PPH specification with relevant hospitalisations involving patients aged up to 85 is also recommended, with appropriate caveats for those aged 75–84. Hospitalisations for patients aged 85 and over will not be reported. Further work would need to be undertaken to explore whether an appropriate PPH specification could be developed for this cohort.

> **?** **Q6. Feedback requested**
>
> Do you agree with the proposal to:
>
> - exclude patients 85 years and over, and
> - Separately report those aged 75 to 84 due to increased complexity and potential reduction of preventability of these hospitalisations?

Exclusion of same day and hospital-in-the home

Same day

Variation in hospitalisation practices and policies, whether due to funding or administrative arrangements, affects the comparability of data between hospitals and between jurisdictions. The exclusion of same-day hospitalisations from the general practice focused PPH indicator will result in more comparable data, as consistency and comparability is considered relatively good for overnight hospitalisations.

Note, however, that the resultant data will still not necessarily reflect the true prevalence, as some same-day hospitalisations are likely to be for conditions included in the indicator. In order to provide a more complete picture of all potentially preventable hospital-related events, consideration of PPH along with other indicators (such as potentially avoidable general practice-type emergency department presentations) is required.

> **? Q7. Feedback requested**
>
> Do you agree with the proposal to remove same-day hospitalisations to reduce the impact of variations in admission practice?

Hospital-in-the-home

Hospital-in-the-home (HITH) care is defined as occurring in the patient's (temporary or permanent) place of residence as a substitute for hospital accommodation and is considered an episode of care for an admitted patient (AIHW 2018). In 2016–17, more than 605,000 days of HITH care were reported for almost 107,000 separations for both public and private hospitals (AIHW 2018). As service delivery models differ across jurisdictions, there will also be some variation in the numbers of separations which involve HITH, based on admission practice variation across jurisdictions (AIHW 2017).

Analysis of the most common principal diagnosis codes recorded for HITH same-day hospitalisations in 2013–14 showed that the main reasons for these episodes varied across states and territories (AIHW 2017). For example, in Queensland just under half of all same-day separations in 2013–14 had a principal diagnosis related to mental and behavioural disorders, while in Victoria almost half involved chemotherapy.

If HITH activity is recorded in accordance with the national business rules for data reporting, then if a patient is transferred to services within the same hospital (for example, to HITH from their in-hospital stay or to in-hospital based care from HITH), this is considered one continuous episode of admitted care. These conditions may otherwise be in scope of the PPH specification; however, the use of HITH as a diversionary approach may represent an appropriate use of the hospital system in condition management (that is, an approach to minimise PPHs).

For this reason, the proposed general practice focused PPH specification excludes any hospitalisations for which the entire length of stay was for HITH only. Some of these will be same-day and therefore will already be excluded from the indicator. Given that the overall proportion of hospitalisations solely involving HITH is very small, the impact of this decision on PPH data would be minimal.

Rate

- Same day and Hospital in home excluded
- Same day excluded and Hospital in home included
- Same day and Hospital in home included

Source: Admitted patient care NHMD.

Figure 2: Comparison of same day and HITH inclusion/exclusion, by condition type, 2015–16
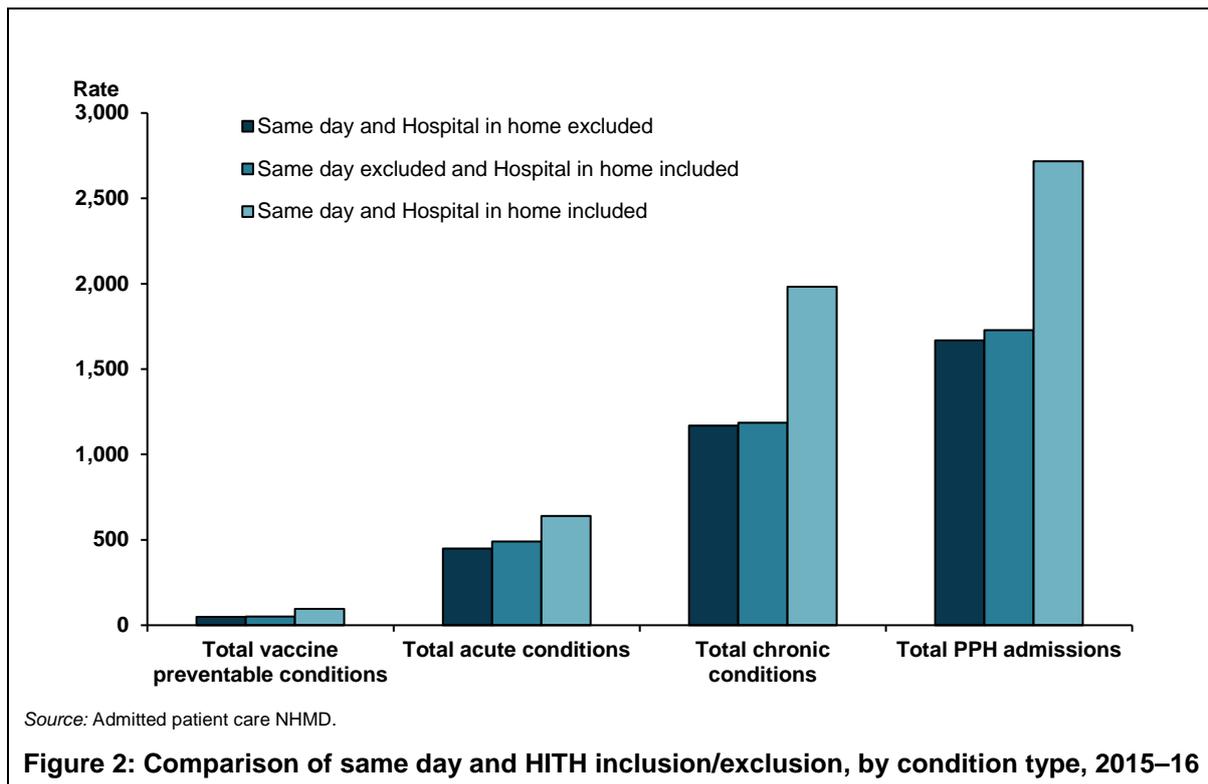
Together, the exclusion of HITH and same day hospitalisations has a substantial impact on the number of PPH hospitalisations for chronic conditions, and for total PPH conditions, with lesser impacts on numbers for vaccine-preventable and acute conditions. In 2015–16, 11,006 hospitalisations were excluded for vaccine-preventable conditions, 46,353 were excluded from acute conditions, and 202,047 were excluded from chronic conditions.

Box 11: Exclusion of same day hospitalisations and hospital-in-the-home

Appendix G in the supplementary material shows separation numbers and rates with and without same day hospitalisations and HITH.

Exclusion of hospitalisations for selected procedures

As the current national data for admitted patients cannot accurately differentiate between truly elective versus acute separations, procedures occurring in separations have been analysed and assessed to determine their usefulness as a proxy to exclude hospitalisations likely to be elective in nature (that is, to represent appropriate use of tertiary care for condition management).

Box 12: Procedures

A procedure is a clinical intervention that is surgical in nature, carries a procedural risk, carries an anaesthetic risk, requires specialised training, and/or requires special facilities or equipment available only in an acute care setting. Procedures are not limited to surgical interventions, with allied health assessments and treatments, and non-invasive monitoring also considered to be procedures.

Appendix H in the supplementary material provides a summary of the most common procedures associated with PPHs under the proposed specification (that is, with mental health and acute care types only, and excluding same day hospitalisations, HITH and persons aged 75 or over.

Procedures associated with PPH are wide-ranging. They can be broad in nature (such as allied health interventions), exploratory (such as nasendoscopy), or relate to specific medical and/or surgical monitoring (such as oximetry).

The types of procedures occurring in separations do not vary substantially where same-day hospitalisations and HITH are included or excluded for most conditions. Exceptions to this general observation however, include:

- pre-cancer and cancer-related conditions—there are higher proportions of biopsy and lesion removal for same-day inclusions
- urinary tract conditions—there are increased proportions of investigative procedures, administration of pharmacological agents and endoscopic destruction of lesions
- respiratory conditions—there is increased administration of pharmacological agents.

These exceptions represent only a small proportion (generally <3%) of procedures associated with PPH hospitalisations.

Analysis suggests that blanket exclusion of procedures may lead to inaccurate reporting of PPH, especially when same-day hospitalisations are excluded, given that most procedures are not invasive in nature and reflect general service delivery during a hospital stay. Exclusion of all instances of a 'procedure' would exclude most separations. There are, however, some conditions where certain procedures represent appropriate use of tertiary care in condition management as advised by the RACGP Expert Committee in Quality Care. These are detailed in the following section.

Consistent with the approach used in the NHA PPH specification, some hospitalisations for some conditions cannot be considered potentially preventable as they may include treatments considered clinically appropriate admitted hospital care when first line care and management options (usually delivered by a general practice team) have already been considered and/or undertaken. In the NHA specification, hospitalisations for some cardiac conditions (hypertension, heart failure, and angina) are not in scope if selected procedures have occurred.

Analysis of the 2015–16 data found that this list of procedural exclusions was still appropriate with the excluded conditions largely occurring in 'elective' separations. Cardiac procedures which were excluded include: procedures involving the atrium and septum, valve procedures, insertion or modification of a cardiac defibrillator or pacemaker, cardiopulmonary transplants, artery and vein procedures. These procedures are consistent with prior reporting; however, ablation procedures have also been added to the list of exclusions following clinical advice from the RACGP Expert Committee in Quality Care.

For the same reason, the proposed general practice focused PPH specification includes some procedural exclusions for the expanded upper respiratory tract infections condition group (pharyngeal abscess, pharyngitis, tonsillitis, scarlet fever, otitis media, complex otitis media [mastoiditis/petrositis]). The procedures in this list—which include the insertion of grommets, tonsillectomy and/or adenoidectomy and other modifications of the ear—are considered clinically appropriate admitted hospital care when first line care and management options, usually delivered by a general practice team, have already been considered and/or undertaken.

The NHA indicator also has procedure exclusions for skin infections such as cellulitis, however these procedures might have been avoided with appropriate care (such as antibiotics and wound management), or performed in a general practice setting. These exclusions have been removed from the proposed specification with the view that early intervention in skin infections may potentially prevent the need for tertiary management.

> **⑦ Q8. Feedback requested**
>
> Do you agree with these procedure exclusions? Would you recommend any further exclusions for these conditions, or for other conditions?

Change to the categorisation and sub-categorisation of conditions

The proposed general practice focused PPH specification includes a more granular categorisation to help inform the appropriateness of general practice care, and to support clinical and other program and policy-related decision making (for example, through more targeted health interventions). The categorisation supports different aggregations of data, such as by short-, medium- and long-term complications of chronic disease, by body systems, or by specific causes resulting in acute illness (for example, vaccine-preventable bacterial diseases; acute conditions related to prescription medications).

> **Box 13: Condition descriptions**
>
> Appendix I in the supplementary material provides clinical descriptions for all the conditions included in the proposed general practice focused PPH specification.

3   Key findings

Application of this proposed specification to the most recent year of data available (2016–17), as well as the 10 previous years (2006–07 to 2015–16) demonstrated the following key findings for people aged 0–74.

Overall, there was a slow decline in the rate of total PPH separations nationally (from 1,749.1 per 100,000 in 2006–07, down to 1,700.5 per 1000,000 in 2016–17). This was observed in the age group 0–74 (3% decline), and in the supplementary indicator data which includes 0–84 years (5% decline). The decrease in PPH separations was mainly due to decreases in separations due to chronic diseases (8% for ages 0–74 and 10% for ages 0–84).

Box 14: Data visualisations and supplementary data

For an in-depth view of the data, as well as supplementary data with 0–84 years included please see the accompanying data visualisation <https://www.aihw.gov.au/reports/hospitals/development-hospitalisation-indicator-gp/>.

It is important to note that this data is included to demonstrate the utility of this proposed specification. Further refinements or alterations to the specification may alter these observed trends, and as such the data presented should not be considered final or used for performance reporting at this stage.

Vaccine-preventable conditions

The addition of new vaccines, improvements to vaccine availability, and expanded vaccine policy expands the number of conditions that can be regarded as potentially preventable. The proposed specification will allow meaningful monitoring of these new and more available vaccines.

For the proposed indicator (that is, excluding persons aged 75 and over):

- at the national level there were 49.2 vaccine-preventable conditions per 100,000 hospitalisations in 2016–17. This is similar to the previous year (49.9 per 100,000) and is the third highest rate observed over the period 2006–07 to 2016–17

- the condition with the largest observed increase over time was vaccine-preventable influenza with a rate of 23.2 per 100,000 in 2016–17, up from of 4.0 per 100,000 in 2006–07. This may reflect changing investigation and detection of influenza coinciding with vaccine-availability

- the largest decrease was for rotavirus (2.0 per 100,000 hospitalisations in 2016–17, down from 19.6 per 100,000 in 2006–07):

  – there were also decreases in varicella and hepatitis B over the period 2006–7 to 2016–17

  – the proposed indicator also allows monitoring of the impact of all vaccinations on the incidence of meningitis, with national data appearing to indicate lower incidence of this disease (0.8 per 100,000 in 2016–17 compared with the 2008–09 high of 1.2 per 100,000)

- analysis of supplementary data reveals the two populations most affected by vaccine-preventable conditions are people aged under 5 and those over 75.

Acute conditions

The proposed general practice focused PPH indicator could provide a comprehensive overview of infective hospital separations in Australia. This will be a necessary component to underpin a national antimicrobial stewardship program. Further, the proposed indicator includes more serious complications of the infective disease process (such as otitis media and mastoiditis, tonsillitis, and pharyngeal abscess) as well as simple presentations.

For the proposed indicator (that is, excluding persons aged 75 and over):

- at the national level, there were a total of 453.8 acute conditions per 100,000 hospitalisations in 2016–17. This rate has fluctuated over the past decade, with a slight increase over the previous four years and a relatively steady increase from 2006–07 (409.4 per 100,000), but a reduction from the 2010–11 peak of 471.6 per 100,000:
    - over the past decade, there has been an increase in separations for skin infections (205.8 per 100,000 in 2016–17, up from 151.2 per 100,000 in 2006–07), particularly for staphylococcal related disease (that is, abscess). Note that this excludes postoperative wound infections
    - conditions of pregnancy, puerperium and neonatal conditions decreased (2.9 per 100,000 in 2016–17, down from 4.0 per 100,000 in 2006–07)
    - lower respiratory tract infections have fluctuated, but have shown an overall decrease (104.5 per 100,000 in 2016–17 compared with 114.3 per 100,000 in 2006–07)

Chronic conditions

The proposed general practice focused PPH indicator provides the capacity to monitor a much broader set of preventable chronic disease presentations.

For the proposed indicator (that is, excluding persons aged 75 and over):

- at the national level there were 1,197.5 chronic conditions per 100,000 hospitalisations in 2016–17, representing a decrease from the 2006–07 rate of 1,288.7 per 100,000:
  - separations from diseases including heart disease, diabetes and asthma have decreased, while other diseases including renal conditions and gastrointestinal disorders have increased
  - hospitalisations due to chronic renal conditions have increased (45.9 per 100,000 in 2016–17, up from 31.4 per 100,000 in 2006–07), with a smaller steady increase also recorded for chronic gastrointestinal conditions (59.4 per 100,000 in 2016–17, up from 52.3 per 100,000 in 2006–07)
  - rates of chronic cardiovascular separations have steadily decreased (313.0 per 100,000 in 2016–17, down from 419.3 per 100.000 in 2006–07)
  - short-term diabetes complications demonstrated mixed results. While there were decreases in hospitalisation rates for hypoglycaemic events and separations for poor control of diabetes, separations for diabetes ketoacidosis showed marked increases (possibly due to a drug effect of SGLT-2 inhibitors). Assessment of diabetes over time is difficult due to changes in hospital coding
  - presentations and separations for migraine are rising despite improvement in recognition of triggers, improved acute treatment options, and improved preventive strategies
  - analysis of supplementary age data reveals hypoglycaemic events in elderly persons with diabetes are high, though improving, while separations for acute rheumatic fever appear to be rising. This data also shows separations for patients aged 0–4 with opioid adverse events.

4   Future directions

This general practice focused specification has aimed to evaluate the role general practice teams play in PPHs across the lifespan, and to address some limitations of the existing NHA specification. However, there were some aspects that were outside the scope of the work and would require further evaluation or the development of a separate indicator. These included specific population groups; complexity of patient needs; linked data; and the impact of policies, procedures and programs.

Population groups

The proposed specification could be adapted specifically for people aged 85 and over, and for Indigenous Australians. As with the current NHA specification, targeted disaggregation and comparisons may also provide valuable insights (for example, into rates by condition type, stratified by remoteness, sex, Indigeneity or primary health network).

> **Q9. Feedback requested**
>
> Are there other population groups you would wish to see in greater detail with respect to potentially preventable hospitalisations, either through specialised indicators or through disaggregation?

Complexity

The degree to which a patient with complex needs can be adequately managed by a general practice team is unclear and further work is required to understand the true preventability of these hospitalisations. There may also be scope to create a further category of PPH that includes divertible hospitalisations; that is, conditions which are currently managed by inpatient care but may be adequately managed by general practice such as minor procedures, sprains, or fractures. The exclusion of people aged 75 and older is a preliminary attempt to reduce the number of cases that may not be truly preventable, however further assessment of complexity using DRGs may permit a more accurate measure.

Linked data

Linked data could be used to explore the relationship of PPHs to comorbidities and socio-economic circumstances. Linked data would also assist in delineating patient pathways from general practice to tertiary care. For example, this analysis may allow assessment of GP team utilisation by patients prior to hospital presentation. This analysis would help to better understand key drivers of PPHs (for example, care provision, reluctance to seek care, other barriers to access).

Policies, procedures and programs

Further investigation of the impact on PPHs of admission procedures, policies and programs at the state/territory and national level may assist in explaining observed trends. It may also contribute to the evaluation of interventions, education programs and clinical training. While inclusion of longer time series (20 years or more) would likely assist in identifying long-term trends, this was beyond the scope of this paper.

? Q10. Feedback requested

Are there any polices or programs that might be of particular interest to the long-term trends for a particular condition or conditions?

This proposed specification aims to be a flexible tool for general practice to evaluate and refine treatment pathways, develop education tools and interventions, and to provide data to better monitor emerging health issues. Further refinement is likely, however it is hoped this specification provides a solid basis for improvement in potentially preventable hospitalisation monitoring and policy.

? Q11. Feedback requested

Would there be other usages for the proposed specification not detailed here?

Glossary

Some definitions in the Glossary contain an identification number from the Metadata Online Registry (METeOR). METeOR is Australia's central repository for health, community services and housing assistance metadata, or 'data about data'. It provides definitions for data for health and community services-related topics and specifications for related national minimum data sets. METeOR can be viewed at <meteor.aihw.gov.au>.

acute: Having a short and relatively severe course.

acute care: See care type.

additional diagnosis: A condition or complaint either coexisting with the principal diagnosis or arising during the episode of admitted patient care, episode of residential care or attendance at a health care establishment. METeOR identifier: 588981.

admitted patient: A patient who undergoes a hospital's admission process to receive treatment and/or care. This treatment and/or care is provided over a period of time and can occur in hospital and/or in the person's home (for hospital-in-the-home patients). METeOR identifier: 268957.

age-standardisation: A set of techniques used to remove, as far as possible, the effects of differences in age when comparing 2 or more populations.

Australian Refined Diagnosis Related Groups (AR-DRGs): An Australian system of diagnosis-related groups (DRGs). DRGs provide a clinically meaningful way of relating the number and type of patients treated in a hospital (that is, the case mix) to the resources required by the hospital. Each AR-DRG represents a class of patients with similar clinical conditions requiring similar hospital services.

care type: Defines the overall nature of a clinical service provided to an admitted patient during an episode of care (admitted care), or the type of service provided by the hospital for boarders or posthumous organ procurement (care other than admitted care). METeOR identifier: 584408.

chronic: Persistent and long-lasting.

Diagnosis Related Group (DRG): A widely used case mix classification system used to classify separations into groups with similar clinical conditions (related diagnoses) and similar resource usage. This allows the activity and performance of hospitals to be compared on a common basis. In Australian acute hospitals, AR-DRGs are used. METeOR identifier: 391295.

elective surgery: Elective care where the procedures required by patients are listed in the surgical operations section of the Medicare Benefits Schedule, with the exclusion of specific procedures frequently done by non-surgical clinicians. METeOR identifier: 568780.

elective separations involving surgery: Separation for which the urgency of admission was reported as elective (admission could be delayed by at least 24 hours) and where the assigned AR-DRG was surgical (excluding childbirth-related AR-DRGs).

episode of care: The period of admitted patient care between a formal or statistical admission and a formal or statistical separation, characterised by only 1 care type (see **care type** and **separations**). METeOR identifier: 584408 (Care type), METeOR identifier: 268956 (Episode of admitted patient care).

estimated resident population (ERP): The official Australian Bureau of Statistics estimate of the Australian population. The ERP is derived from the 5-yearly Census counts, and is updated quarterly between censuses. It is based on the usual residence of the person.

hospital: A health-care facility established under Australian Government, state or territory legislation as a hospital or a free-standing day procedure unit and authorised to provide treatment and/or care to patients. METeOR identifier: 268971.

hospital-in-the-home care (HITH): Provision of care to hospital admitted patients in their place of residence as a substitute for hospital accommodation. Place of residence may be permanent or temporary. METeOR identifier: 270305.

Indigenous status: A measure of whether a person identifies as being of Aboriginal or Torres Strait Islander origin. This is in accord with the first 2 of 3 components of the Commonwealth definition below:

> An Aboriginal or Torres Strait Islander is a person of Aboriginal or Torres Strait Islander descent who identifies as an Aboriginal or Torres Strait Islander and is accepted as such by the community in which he or she lives.
> METeOR identifier: 291036.

International Classification of Diseases (ICD): The World Health Organization's internationally accepted classification of diseases and related health conditions. The 10th revision, Australian modification (ICD-10-AM) is currently in use in Australian hospitals for admitted patients.

non-admitted patient: A patient who does not undergo a hospital's formal admission process. METeOR identifier: 268973.

performance indicator: A statistic or other unit of information that directly or indirectly, reflects either the extent to which an expected outcome is achieved or the quality of processes leading to that outcome.

potentially preventable hospitalisation (PPH) (selected): Hospital separations from a specified range of conditions where hospitalisation could have potentially been prevented through the provision of appropriate individualised preventative health interventions and early disease management usually delivered in primary care and community-based care settings (including by general practitioners, medical specialists, dentists, nurses and allied health professionals). The PPH conditions are classified as vaccine-preventable, chronic and acute (NHA). The general practice specific indicator only includes care provided through general practice teams.

principal diagnosis: The diagnosis established after study to be chiefly responsible for occasioning an episode of admitted patient care, an episode of residential care or an attendance at the health care establishment. METeOR identifier: 588987.

procedure: A clinical intervention that is surgical in nature, carries a procedural risk, carries an anaesthetic risk, requires specialised training and/or requires special facilities or equipment available only in an acute care setting. METeOR identifier: 589101.

rehabilitation care: See **care type**.

remoteness area: A classification of the remoteness of a location using the Australian Statistical Geography Standard Remoteness Structure (2011), based on the Accessibility/ Remoteness Index of Australia (ARIA) which measures the remoteness of a point based on the physical road distance to the nearest urban centre.

same-day patient: An admitted patient who is admitted and separated on the same date.

separation rate: The total number of episodes of care for admitted patients divided by the total number of persons in the population under study. Often presented as a rate, in this indicator a rate per 100,000, and may be crude or standardised.

separations: The total number of episodes of care for admitted patients, which can be total hospital stays (from admission to discharge, transfer or death) or portions of hospital stays beginning or ending in a change of type of care (for example, from acute to rehabilitation) that cease during a reference period. METeOR identifier: 270407.

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List of figures

Related publications

This consultation paper, *A potentially preventable hospitalisation indicator for general practice*, is a review of an existing indicator. The existing PPH indicator forms the basis for reports into potentially preventable hospitalisations, reported through the My Healthy Communities portal. These reports can be viewed and downloaded for free from the Australian Institute of Health and Welfare (AIHW) website <https://www.myhealthycommunities.gov.au/our-reports>.

The current PPH indicator is reported through, and in collaboration with, the Australian Commission on Safety and Quality in Health Care (ACSQHC).

The following AIHW publication relating to, or containing, hospital separations for potentially preventable hospitalisations may be of interest:

- AIHW (Australian Institute of Health and Welfare) 2018. Australia's health 2018. Australia's health series no. 16. Cat. no. AUS 221. Canberra: AIHW.

- AIHW 2018. Admitted patient care 2016–17: Australian hospital statistics. Health services series no. 84. Cat. no. HSE 201. Canberra: AIHW.

- AIHW 2017. Admitted patient care 2015–16: Australian hospital statistics. Health services series no. 75. Cat. no. HSE 185. Canberra: AIHW.

- AIHW 2015. Australian hospital peer groups. Health services series no. 66. Cat. no. HSE 170. Canberra: AIHW.

Please see <www.aihw.gov.au/publications-catalogue/> to access a complete list of AIHW publications relating to Australia's health and welfare. The website also includes information on ordering printed copies of related reports.

This exploration of potentially preventable hospitalisations focuses on conditions that may be prevented or managed best by general practice to minimise likelihood of hospital admission. The proposed specification was developed with the Royal Australian College of General Practitioners for use as a flexible reporting and education tool for care improvement.

Feedback is sought for this proposed specification.

Please send submissions to:
PPH_feedback@aihw.gov.au
by 4 November 2018.

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better decisions,
improved health and welfare