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Working Paper

Measure, monitor, minimize: Reenvisioning a PhilHealth hospital readmission policy for value-based purchasing and financial risk protection for Filipinos

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PIDS DISCUSSION PAPER SERIES 2025-61

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Abstract

Hospital readmissions are often used to measure quality and continuity of care within health systems. In 2024, the Philippine Health Insurance Corporation (PhilHealth) removed its Single Period Confinement (SPC) Rule, a longstanding policy that denied reimbursements for readmissions within 90 days for the same primary case rate or diagnosis. Originally intended to deter unnecessary admission, the SPC Rule drew criticism for hampering access and reducing financing protection.

In this study, we present the first empirical analysis of PhilHealth’s readmission policy using inpatient claims from 2018 to 2023 to assess the magnitude and cost of all-cause, planned, and avoidable hospital readmissions in the Philippines. We compared readmission trends across hospital levels and ownership, and among patient groups. We found that readmission rates were significantly lower than those observed in other countries. The rates of avoidable and complication-related readmissions remained stagnant over the five years for all hospital levels, indicating a lack of significant changes in provider service delivery. Instead, the policy exposed the most vulnerable Filipinos to greater financial risk, as elderly and indigent Filipinos had the greatest share of avoidable readmissions.

The removal of the SPC Rule is an opportunity to systematically redesign how readmissions in the Philippines are measured, monitored, and minimized, and shift to a provider payment system that integrates quality assessments in payment determination. PhilHealth must distinguish planned or routine readmissions from unplanned and avoidable readmissions that may be indicative of hospital-acquired complications. A robust readmission monitoring system can inform value-based purchasing decisions that ensure Filipinos receive quality and complete care without excessive financial risk. Finally, readmission policies must be supported by programs that bridge the continuum of care prior to and after patient discharge. Absent these, PhilHealth will continue to reward avoidable readmissions that come at great cost to patients’ health and financial status.

Keywords: PhilHealth, hospital readmissions, single period of confinement, health policy, avoidable readmissions, quality of care, value-based purchasing

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1. Introduction

A **hospital readmission** refers to rehospitalization of a patient within a defined period following discharge (ACSQHC 2019a). While some readmissions are planned or routine, unplanned readmissions are a strong indicator of suboptimal quality care, which could lead to higher health care costs, and poor patient health outcomes (Anderson and Steinberg 1984; CMS 2024a; Chaleunvong et al. 2020; Gruneir et al. 2011; Khoury et al. 2019). Empirical evidence suggest that about 10% of readmissions are considered unplanned, indicating unmet needs during initial admission, poor discharge planning, and lack of outpatient follow-up (Amritphale et al. 2023; Bose et al. 2023; Carnahan et al. 2017; Considine et al. 2019; Fluck et al. 2021; Henke et al. 2017; Pourat et al. 2019; Tong et al. 2018). Hence, many advanced health systems have adopted hospital readmissions as a key indicator of health care quality and overall health system performance. Several countries use readmission rates to determine financial incentives and guide provider payment mechanisms (AHRQ n.d.; ACSQHC 2019a; James et al. 2023; Kristensen et al. 2015; Mittler et al. 2013).

In the Philippines, the Philippine Health Insurance Corporation (PhilHealth) manages the national social health insurance (SHI) program. PhilHealth does not systematically track readmissions as part of routine monitoring. From 1969 when financial coverage was provided by the Philippine Medical Care Commission, the **Single Period of Confinement (SPC) Rule** restricted local providers' notion of readmissions to *rehospitalizations for the same medical condition or procedure within 90 days* (Republic of the Philippines 1969). In 2013, PhilHealth also applied the SPC Rule (PhilHealth 2013a). Rather than performance monitoring, the SPC Rule was mainly envisioned as a cost-containment measure in claims processing, leading to denying payment for any readmission with few exceptions. However, the policy unintentionally discouraged patients from seeking necessary follow-up care or risk shouldering the cost of their readmissions, drawing criticism from lawmakers (Bosano 2024; Philippine Daily Inquirer 2024; Villanueva 2024).

Due to PhilHealth's limited use of readmissions tracking, there are currently no estimates of national hospital readmission rates. **As one of the first empirical studies to measure national readmissions in the Philippines, we used over 40 million PhilHealth inpatient claims to assess the magnitude and extent of all-cause, planned, and unplanned hospital readmissions in the Philippines from 2018 to 2023.** We also calculated readmission trends for different hospital levels and ownership, and across patient groups.

Measuring and monitoring readmissions will be crucial as PhilHealth pursues universal health care (UHC) reforms. To improve financial protection and enhance support value, the UHC Act of 2019 mandated PhilHealth to pay for inpatient care through a **prospective global budget (GB) based on diagnosis-related groups (DRGs)** (Republic of the Philippines 2019). The

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hospital GB departs from PhilHealth’s current provider payment system, which reimburses each submitted claim. Hospitals will be paid upfront for the fiscal period, based on their historical patient volumes and complexity of cases treated (Mathauer and Wittenbecher 2013; Murray 2022). **Integrating readmissions and other quality of care metrics in payment decisions** is a powerful policy lever to incentivize the delivery of safe, effective, and patient-centered care (Chen and Fan 2016; Milstein and Schreyögg 2024; Sørensen and Burau 2016). As PhilHealth has not enacted a new readmissions monitoring policy after removing the SPC Rule in 2024, we aim to recommend a readmissions monitoring framework that informs value-based purchasing decisions and avoids rewarding perverse provider behavior.

2. Country context

2.1. Overview of the Philippine health system

The Philippine health system is decentralized across 18 regions, where 82 provincial, 149 city, and 1,493 municipal local government units (PSA 2024a), together with the private sector, are the main providers of health care services. Though the Department of Health (DOH) manages 88 tertiary and specialty hospitals, it primarily serves as the national health policy and regulatory body (Dayrit et al. 2018; DOH 2023). Inpatient care is mainly provided through infirmaries and hospitals. Infirmaries deliver emergency care and maternal and newborn services. On the other hand, hospitals are categorized into three levels. Level 1 hospitals provide consultations, emergency and ancillary care, and pharmacies. Level 2 hospitals, in addition to the aforementioned, are departmentalized and have intensive care units and clinical laboratories. Level 3 hospitals offer all the preceding services and are considered end-referral hospitals, with teaching and training programs (DBM 2013; DOH 2005).

PhilHealth is the country’s purchaser of health services through the National Health Insurance Program (NHIP). As of 2024, 97.76% of the 1,338 hospitals and 95.69% of 627 infirmaries in the country were accredited by PhilHealth, with 57.97% of hospitals and infirmaries being privately-owned (DOH 2024; PhilHealth 2024a). All Filipinos were automatically enrolled in PhilHealth following the ratification of the UHC Act of 2019 or Republic Act (RA) No. 11223 (Republic of the Philippines 2019). Currently, 91.02% of 112.88 million Filipinos are registered in the national SHI database (PhilHealth 2024a). Unregistered patients are immediately registered at point-of-care. Membership is broadly divided in two categories: **direct contributors** from the formal- or informal-labor sectors, whose premiums are self-paid or covered by employers, and **indirect contributors** such as senior citizens and indigents, whose premiums are shouldered by government through general taxation revenues or sponsored by private entities (Republic of the Philippines 2019).

PhilHealth pays accredited public and private providers for inpatient services using a case-based payment scheme called “All Case Rates” (ACR), with a fixed amount or “case rate” corresponding to the costs of treating a disease or procedure. Outpatient services are paid through a mix of case rates and capitation payments (PhilHealth 2013a, 2024b).

2.2. Overview of the 90-Day SPC rule

Under the SPC Rule, PhilHealth defined a readmission as a patient being readmitted for the same illness or procedure within a period of 90 calendar days (PhilHealth 2013a; Republic of the Philippines 1969). PhilHealth operationalized this definition as the readmission claim having **the exact same disease or procedure code** as that of the index admission

(PhilHealth 2013a, 2013b). Under Philippine coding convention, diseases are represented using International Classification of Diseases, Tenth Revision (ICD-10) codes, and procedures using Relative Value Scale (RVS) codes. Certain benefit packages also have their own codes. Because PhilHealth allows providers to claim reimbursements for up to two conditions, the ICD-10, or RVS, or benefit package code in the primary position was considered the principal reason for confinement.

The SPC Rule listed several exemptions for conditions. These included procedures requiring multiple expected readmissions within 90 days (e.g., blood transfusions, hemodialysis, and chemotherapy). Special packages for medically and economically catastrophic conditions (e.g., referral package or Z-benefit packages) were also excluded from this rule (PhilHealth 2013a, 2013c, 2014, 2015, 2016, 2024c, n.d.-a). The rule was also suspended during states of calamity or emergency caused by disasters or public health emergencies (e.g., conflict, natural disasters, COVID-19), to ensure patients could access medical care and providers could continue delivering recovery and rehabilitation services (PhilHealth 2020). **Annex A.1** presents the full list of SPC Rule exemptions.

Since the inception of the NHIP in 1969, the SPC Rule had remained relatively unchanged. The policy began as a **cost-containment strategy** to discourage provider-induced overutilization, as providers were paid on a **retrospective or fee-for-service (FFS) basis** (Republic of the Philippines 1968). To prevent paying for unnecessary readmissions, an allotted budget per member covered all hospitalization-related diagnostics, drugs, and professional fees within 90 days. Though PhilHealth changed the fundamental basis of its provider-payment mechanism to the case-based ACR in 2013, it did not systematically amend the SPC policy for the new payment system.

After 55 years, **PhilHealth abolished the SPC Rule in October 2024** (PhilHealth 2024d, 2024e), amid claims from Philippine lawmakers that the rule penalized patients without a sound basis for its policy (Bosano 2024; Philippine Daily Inquirer 2024; Villanueva 2024). Claims in violation of the SPC Rule led to patients assuming the costs of readmissions in a country where 12 million Filipinos do not have enough income to meet their basic needs (PSA 2024b). Aside from the identified exemptions, PhilHealth had no explicit definitions for planned, unplanned, or avoidable readmissions. For instance, pregnancy-related readmissions, which are widely considered always planned, were not covered within 90 days (Horwitz et al. 2015; Philippine Daily Inquirer 2024; YNHHS CORE 2013). The rule also did not account for readmissions caused by unsanitary environments and other structural determinants of health, nor issue sanctions to providers for readmissions due to hospital-acquired complications (HAC) and infections (ACSQHC 2024; Emerson et al. 2012; Nghiem et al. 2022).

3. Methodology

3.1. Conceptual framework

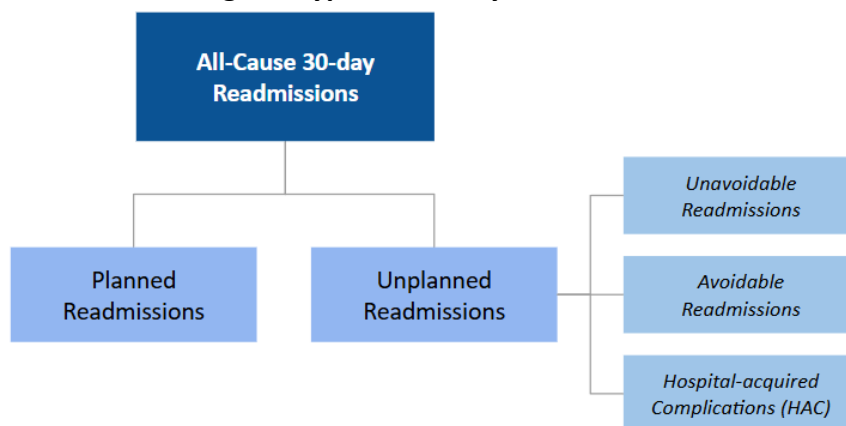
This paper is guided by the UHC health financing framework developed by Kutzin (2013). Health financing is integral to a health system in ensuring affordable, efficient, and equitable health service delivery towards UHC. This framework defines the interconnection of the different functions of a health financing system (e.g., revenue raising, pooling, strategic purchasing) and the goals of UHC (e.g., universal financial protection, quality health services, and utilization based on need) through intermediate objectives (e.g., efficiency, equity in resource distribution, transparency and accountability). This framework shows how financing

systems, such as PhilHealth’s NHIP, can influence improvements in equity and quality of health services, such as through monitoring readmissions. In advance settings, readmission rates are indicators of poor care coordination, ineffective treatment plans, or social disparities. Differences in readmission rates across population groups can indicate inequities in the quality of service delivery.

3.2. Analytical framework

We used a 30-day readmission framework. In contrast to the 90-day SPC Rule criteria, most countries that monitor readmissions use a timeframe of **30 days**, as readmissions within 30 days are likely associated with the quality of care or early transition to non-acute care settings, which can both be addressed through care transition interventions (ACSQHC 2019a; Barrett et al. 2012; Halfon et al. 2002; James et al. 2023; Kristensen et al. 2015; Mittler et al. 2013; Westert et al. 2002). Several countries also distinguish between *types* of readmissions. **All-cause readmissions** refer to readmissions for any cause or procedure. **Planned readmissions** refer to readmissions for a planned or expected cause, based on a defined list or criteria. **Unplanned readmissions** refer to readmissions for an unexpected cause. Using the 30-day all-cause readmissions definition, we also focused on identifying planned and unplanned readmissions. Further, unplanned readmissions were classified as avoidable, unavoidable, or readmissions caused by HACs (**Figure 1**). Differentiating the causes of readmission has financial implications for health system payers. Insurers typically cover planned and unavoidable readmissions. On the other hand, avoidable and HAC-related complications are either not covered or incur provider penalties to incentivize the provision of quality care that minimizes unnecessary readmissions (AHRQ n.d.; ACSQHC 2019a; James et al. 2023; Kristensen et al. 2015; Mittler et al. 2013).

Figure 1. Framework to distinguish types of 30-day readmissions



Source: Authors’ synthesis of global literature

3.3. Data and analysis

3.3.1. Data source

We analyzed PhilHealth inpatient hospital claims filed by 2,018 hospitals from 2018 to 2023, extracted from the PhilHealth eClaims database. Variables included patient characteristics, such as admission and discharge dates, age, sex, PhilHealth membership type, and diagnoses or procedures during admission. PhilHealth data also included hospital characteristics, such as ownership and level.

To provide further context on the development of the PhilHealth SPC Rule, we conducted stakeholder consultations in July 2024 with two senior-level representatives from PhilHealth.

3.3.2. Data processing

From the initial data set of 75,144,047 claims, we excluded claims that did not fall within the scope of the study (outpatient claims, claims from health facilities that were not hospitals, claims paid through payment mechanisms other than ACR), unpaid claims, duplicate claims, referrals and outliers. Claims with a discharge status of "Against Medical Advice" were also excluded, as the hospital or provider had no control over the care the patient received or the outcome after discharge. The exclusions are summarized in **Table 1**.

To classify readmissions according to PhilHealth’s 90-day SPC definition, we also excluded claims with explicit exemptions from the rule, as well as claims paid through special packages (highlighted in yellow in **Table 1**), resulting in 31,816,643 claims for analysis. For the 30-day all-cause readmissions, we excluded only the exemptions of the SPC Rule that were consistent with international literature, resulting in 33,028,557 claims for analysis.

Table 1. Exclusion criteria for the analysis of readmissions on PhilHealth inpatient hospital claims, 2018-2023

| Criteria | Description | Rationale | No. of claims excluded |
|--|---|--|------------------------|
| Outpatient claims | Claims that were tagged as outpatient episodes of care within the PhilHealth eClaims database | The study scope includes inpatient cases only | 34,750,143 |
| Claims from other health facilities | Claims that were from health facilities that are not an infirmary or hospital | The study scope includes health facilities that offer inpatient care and excludes those that do not | 3,720,444 |
| Unpaid claims | Claims that were “denied” or “returned to hospitals” for failing to comply with claims filing rules or were non-compensable | Denied or returned claims may be resubmitted or refiled and may result in double counting | 2,879,215 |
| Duplicate claims | Claims for the same patient, with identical admission and discharge rates and reason for confinement | Duplicate claims lead to double counting hospital admissions; only one copy of the duplicate claim was retained in the dataset | 2,108 |
| Claims paid through capitation | Claims that qualify under PhilHealth’s SDG-Related Benefits packages: Animal bite, Antenatal care, Outpatient HIV/AIDS, TB-DOTS | SDG-Related Benefits cover only outpatient health services, and are also explicitly exempt from the SPC Rule | 45,156 |
| Claims with SPC Rule exemptions* | Claims with conditions that are explicitly exempted from the SPC Rule (<i>Annex A.1</i>) | Exempted conditions are expected by PhilHealth to have multiple readmissions | 962,682 |

| Criteria | Description | Rationale | No. of claims excluded |
|---|--|---|------------------------|
| Claims covered by special packages | Inpatient claims for COVID-19-related services (e.g., isolation, admission)* | PhilHealth exempted COVID-19 benefit packages from the SPC Rule | 221,803 |
| | Other claims for outpatient COVID-19 related services (e.g., testing, isolation, vaccine injury) | The study scope includes inpatient cases only | 232,329 |
| | Services that fall under the Z-Benefits and ZMORPH (expanded Z-Benefits) Packages* | PhilHealth regards claims under Z-Benefits as separate from those of inpatient and outpatient services | 27,429 |
| | Referrals | Referrals may double count a patient's admission since the referral takes place within one episode of care | 13,232 |
| Other outpatient claims | Claims with length of stay (LOS) less than 1 day or 24 hours | In the Philippines, a hospital stay is considered an inpatient admission only if LOS is at least 24 hours** | 471,270 |
| Outliers | Claims with LOS longer than 1 year (365 days); claims with patient age lesser than 0 or greater than 130 | Outliers may indicate errors in data encoding or skew the results of the analysis | 1,593 |

Total number of excluded claims

For the PhilHealth 90-day SPC Rule analysis 43,327,404

For the 30-day readmission analysis 42,115,490

PhilHealth = Philippine Health Insurance Corporation; SDG = Sustainable Development Goals; HIV = human immunodeficiency virus; AIDS = acquired immunodeficiency syndrome; TB-DOTS = Tuberculosis Directly Observed Treatment, Short-course; SPC = Single Period of Confinement; ZMORPH = Z Benefit Package for Mobility, Orthosis, Rehabilitation, Prosthesis Help; HCP-PAS = Health Care Provider Performance Assessment System; LOS = length of stay

* These claims were excluded only for calculating readmissions following the 90-day SPC definition

Source: Authors' analysis

** PhilHealth 2013a

We distinguished patients through the pseudo-PhilHealth member numbers provided by PhilHealth. However, under PhilHealth policy, members and their multiple dependents share the same PhilHealth identification number, and, consequently, pseudo-identification number. To differentiate among them, we further distinguished individuals by their age (in years), sex, and whether they were the contributor or a dependent. Age was used because all claims had a patient's age, while around 14,000 claims did not include birthdays.

3.3.3. Operational definitions of readmissions framework

Given the Philippines does not have a readmissions framework, we classified planned readmissions based on indicators from the United States US Centers for Medicare & Medicaid Services (US CMS) Planned Readmission Algorithm (YNHHS CORE 2013). For avoidable readmissions, we used criteria from the US Hospital Readmission Reduction Program (HRRP)

(CMS 2024b), the Canadian Institute for Health Information (CIHI) (CIHI 2022a, 2022b, 2024a, 2024b, 2024c), the National Health Service (NHS) England (ACSQHC 2019a; Kristensen et al. 2015), and the Danish Health Authority (Birk et al. 2024). We obtained the list of HACs from the Australian Commission on Safety and Quality in Health Care (ACSQHC) HACs List Specifications (V3.1) merged with the Patient Safety Indicator codes (ACSQHC 2019b; Southern et al. 2017). All other unplanned readmissions not classified as “avoidable” or “HAC” were considered unavoidable. We provide the full list of ICD codes for the categorization of planned (**Annex A.2**), avoidable (**Annex A.3**), and HAC-related (**Annex A.4**) readmissions.

As coding standards differed across countries, not all readmissions criteria were documented in ICD-10 or RVS format. We developed a crosswalk to convert Canadian Classification of Health Intervention codes and Clinical Classification Software codes to PhilHealth’s published list of claimable diseases and procedures (CIHI n.d.; PhilHealth 2015, 2016, 2017). A medical expert was consulted to verify that the conversions adhered to the clinical interpretations of the international indicators. Moreover, some criteria could not be applied (i.e., DRGs, other procedures done) due to coding limitations in PhilHealth claims data. Since PhilHealth only allows reimbursements for up to two case rates, providers are not incentivized to code secondary diagnoses or multiple procedures. While this may have underestimated our calculated readmission rates, these claims represented less than 1% of the claims and we believe they did not significantly affect the results.

3.3.4. Data analysis

We calculated descriptive statistics of hospital readmissions in the Philippines from 2018 to 2023 using readmission definitions listed in **Table 2**.

Table 2. Definition and formula for types of readmission

| Readmission Metric | Operational Definition | Formula of Readmission Rate |
|-------------------------------------|--|--|
| 90-day SPC (PhilHealth) | Patient is readmitted with the same case rate code within 90 days after discharge, with several exemptions (<i>Annex A.1.</i>) | $\frac{\# \text{ of readmissions with same code, within 90 days}}{\# \text{ of admissions in the year}}$ |
| 30-day all-cause readmission | Patient is readmitted for any cause or procedure within 30 days after discharge | $\frac{\# \text{ of readmissions for any cause, within 30 days}}{\# \text{ of admissions in the year}}$ |
| Planned readmission | Patient is readmitted within 30 days after discharge for a planned or expected cause (<i>Annex A.2.</i>) | $\frac{\# \text{ of readmissions with planned cause, within 30 days}}{\# \text{ of admissions in the year}}$ |
| Unplanned readmission | Patient is readmitted within 30 days after discharge for an unplanned or unexpected cause | $1 - \frac{\# \text{ of readmissions with planned cause, within 30 days}}{\# \text{ of admissions in the year}}$ |
| <i>Avoidable readmission</i> | Patient is readmitted within 30 days after discharge for a deemed avoidable cause (<i>Annex A.3.</i>) | $\frac{\# \text{ of readmissions due to avoidable causes within 30 days}}{\# \text{ of admissions in the year}}$ |

| Readmission Metric | Operational Definition | Formula of Readmission Rate |
|--------------------------------|---|--|
| <i>HAC</i> | Patient is readmitted within 30 days after discharge due to complication or a cause deemed to be a complication from an index admission (<i>Annex A.4.</i>) | $\frac{\# \text{ of readmissions due to HACs within 30 days}}{\# \text{ of admissions in the year}}$ |
| <i>Unavoidable readmission</i> | Patient is readmitted within 30 days after discharge for any reason deemed unavoidable; these are unplanned readmissions not tagged as avoidable or complications | $1 - \frac{\# \text{ of avoidable and HAC readmissions within 30 days}}{\# \text{ of admissions in the year}}$ |

SPC = Single Period of Confinement; PhilHealth = Philippine Health Insurance Commission; HAC = hospital-acquired complication

Sources: Authors' compilation and analysis of PhilHealth policies and readmission criteria used in other countries (ACSQHC 2019a; Birk et al. 2024; CIHI 2022a, 2022b, 2024a, 2024b, 2024c; CMS 2024b; Kristensen et al. 2015; PhilHealth 2015, 2016, 2017; YNHHS CORE 2013)

We compared differences in readmission rates following the SPC Rule criteria and criteria of the 30-day readmission framework. We noted differences during the suspension of the SPC Rule between March 2020 and December 2022 due to the COVID-19 pandemic. To obtain the costs of readmissions to PhilHealth and direct hospital expenses paid by patients, we also calculated the total and average PhilHealth reimbursements, hospital charges, and out-of-pocket expenses for readmissions.

We then identified the top causes for 30-day planned and unplanned readmissions, and compared readmission rates across hospital levels (Infirmaries, Level 1, Level 2, Level 3 hospitals) and ownership (private and public). Finally, we analyzed readmission trends across patient age groups and PhilHealth membership type to identify which population groups were most vulnerable to readmissions.

4. Results

4.1. Overall and cause-specific trends

Based on the criteria of the 90-day SPC Rule, we observed **readmission rates tripled between 2020 and 2022, when the SPC Rule was suspended nationwide due to the COVID-19 pandemic (Table 3), despite fewer overall hospital admissions during this period.** Total admissions across the three years were 12,558,897, compared to the 19,257,746 admissions in the period preceding and following the pandemic. **Readmissions were highest in 2022, with 37,663 (0.80%) readmissions out of 4,737,240 admissions.**

Following the 30-day readmission criteria, readmissions were not constrained as having the exact same ICD-10 or RVS code as the primary reason for confinement. All-cause readmissions represented 4.59% of the 33,028,557 admissions from 2018 to 2023, **higher than under the SPC Rule's definition, even though the timeframe between index and readmission was only 30 days as opposed to 90 days.** All-cause readmissions remained relatively steady across the study period, **and did not significantly increase during PhilHealth's peak period, with the lowest readmission rate in 2021 at 4.17% (Table 3).**

We observed more heterogeneity across types of readmissions. Planned readmission rates have increased since 2020. Though the rate of unavoidable readmissions was relatively stable over the years, **the rates of avoidable and HAC-related readmissions reached their lowest in 2021 and have since increased to 2020 levels (Table 3).**

Table 4 shows the top causes for unavoidable, avoidable, and HAC-related readmissions. The top ten causes for unavoidable readmissions represented one-fifth (20.99%) of all unavoidable readmissions. On the other hand, **pneumonia alone was responsible for more than half (52.49%) of avoidable readmissions.** Similarly, **infections** (e.g., sepsis, bacterial and viral infections, infections following surgical procedures, implants, or grafts, and post-delivery infections) **accounted for 60.57% of all HAC-related readmissions, followed by respiratory complications (18.81%) and renal failure (7.12%).**

Table 3. Readmission rates following the PhilHealth 90-day SPC Rule definition and a 30-day all-cause definition, 2018-2023

| Readmission type (Total PhilHealth reimbursement, 2018-2023) | 2018 | | 2019 | | 2020 | | 2021 | | 2022 | | 2023 | | TOTAL | |
|---|-----------|-------|-----------|-------|-----------|-------|-----------|-------|-----------|-------|-----------|-------|------------|-------|
| | n | % | n | % | n | % | n | % | n | % | n | % | n | % |
| PhilHealth 90-day SPC | | | | | | | | | | | | | | |
| <i>Readmissions within 90 days that has the same case rate (ICD/RVS/Benefit Package code) as index admission, with several exemptions</i> | | | | | | | | | | | | | | |
| Total number of claims | 6,722,494 | | 7,025,673 | | 4,347,561 | | 3,474,096 | | 4,737,240 | | 5,509,579 | | 31,816,643 | |
| Readmissions (PHP 1,267,821,171.32) | 12,631 | 0.19% | 10,687 | 0.15% | 20,182 | 0.46% | 16,843 | 0.48% | 37,663 | 0.80% | 8,540 | 0.16% | 106,546 | 0.33% |
| 30-day readmission | | | | | | | | | | | | | | |
| <i>Readmissions within 30 days of index admission</i> | | | | | | | | | | | | | | |
| Total number of claims | 6,987,686 | | 7,251,125 | | 4,499,406 | | 3,696,706 | | 4,902,380 | | 5,691,254 | | 33,028,557 | |
| All-cause readmissions (PHP 23,608,148,805.97) | 363,409 | 5.20% | 319,827 | 4.41% | 201,300 | 4.47% | 154,117 | 4.17% | 222,381 | 4.54% | 254,978 | 4.48% | 1,516,012 | 4.59% |
| <i>Planned</i> (PHP 3,143,947,019.51) | 83,327 | 1.19% | 55,722 | 0.77% | 40,591 | 0.90% | 37,365 | 1.01% | 46,900 | 0.96% | 57,425 | 1.01% | 321,330 | 0.97% |
| <i>Unplanned</i> (PHP 20,464,201,786.46) | 280,082 | 4.01% | 264,105 | 3.64% | 160,709 | 3.57% | 116,752 | 3.16% | 175,481 | 3.58% | 197,553 | 3.47% | 1,194,682 | 3.62% |
| Unavoidable (PHP 13,775,624,655.00) | 190,875 | 2.73% | 179,346 | 2.47% | 116,335 | 2.59% | 86,101 | 2.33% | 126,085 | 2.57% | 141,666 | 2.49% | 840,408 | 2.54% |
| Avoidable (PHP 3,710,484,577.23) | 49,356 | 0.71% | 47,584 | 0.66% | 23,354 | 0.52% | 16,235 | 0.44% | 27,091 | 0.55% | 29,475 | 0.52% | 193,095 | 0.58% |
| HAC (PHP 2,978,092,554.23) | 39,851 | 0.57% | 37,175 | 0.51% | 21,020 | 0.47% | 14,416 | 0.39% | 22,305 | 0.45% | 26,412 | 0.46% | 161,179 | 0.49% |

PhilHealth = Philippine Health Insurance Corporation; SPC = Single Period of Confinement; ICD = International Classification of Diseases; RVS = Relative Value Scale; HAC = hospital-acquired complication

Source: Authors' analysis of PhilHealth claims data from 2018 to 2023

Table 4. Top conditions or procedures for 30-day unplanned readmissions, 2018-2023

| Cause for readmission | 2018 | | 2019 | | 2020 | | 2021 | | 2022 | | 2023 | | TOTAL | |
|---------------------------------------|----------------|--------------|----------------|--------------|----------------|--------------|----------------|--------------|----------------|--------------|----------------|--------------|------------------|--------------|
| | n | % | n | % | n | % | n | % | n | % | n | % | n | % |
| Total number of claims | 6,987,686 | | 7,251,125 | | 4,499,406 | | 3,696,706 | | 4,902,380 | | 5,691,254 | | 33,028,557 | |
| Total unplanned | 280,082 | 4.01% | 264,105 | 3.64% | 160,709 | 3.57% | 116,752 | 3.16% | 175,481 | 3.58% | 197,553 | 3.47% | 1,194,682 | 3.62% |
| Unavoidable | 190,875 | 2.73% | 179,346 | 2.47% | 116,335 | 2.59% | 86,101 | 2.33% | 126,085 | 2.57% | 141,666 | 2.49% | 840,408 | 2.54% |
| AGE | 12,111 | 0.17% | 11,061 | 0.15% | 4,206 | 0.09% | 2,269 | 0.06% | 5,783 | 0.12% | 6,842 | 0.12% | 42,272 | 0.13% |
| Other acute gastritis | 5,501 | 0.08% | 4,858 | 0.07% | 3,051 | 0.07% | 1,790 | 0.05% | 2,840 | 0.06% | 3,426 | 0.06% | 21,466 | 0.06% |
| Expanded newborn package ^a | 5,630 | 0.08% | 3,970 | 0.05% | 4,832 | 0.11% | 4,906 | 0.13% | 4,043 | 0.08% | 3,542 | 0.06% | 21,293 | 0.06% |
| Anemia, uns/severe anemia | 3,937 | 0.06% | 3,688 | 0.05% | 2,956 | 0.07% | 2,083 | 0.06% | 2,948 | 0.06% | 3,362 | 0.06% | 18,974 | 0.06% |
| Congenital pneumonia | 3,734 | 0.05% | 4,015 | 0.06% | 1,338 | 0.03% | 1,382 | 0.04% | 2,921 | 0.06% | 4,147 | 0.07% | 17,537 | 0.05% |
| CKD (stage 5) | 2,379 | 0.03% | 2,139 | 0.03% | 2,474 | 0.05% | 1,586 | 0.04% | 3,780 | 0.08% | 2,612 | 0.05% | 14,970 | 0.05% |
| Hypertension (stage 2) | 3,568 | 0.05% | 3,142 | 0.04% | 2,177 | 0.05% | 1,185 | 0.03% | 1,580 | 0.03% | 2,116 | 0.04% | 13,768 | 0.04% |
| Hypertension (essential/malignant) | 3,831 | 0.05% | 3,199 | 0.04% | 2,024 | 0.04% | 1,053 | 0.03% | 1,382 | 0.03% | 1,689 | 0.03% | 13,178 | 0.04% |

| Cause for readmission | 2018 | | 2019 | | 2020 | | 2021 | | 2022 | | 2023 | | TOTAL | |
|--|---------------|--------------|---------------|--------------|---------------|--------------|---------------|--------------|---------------|--------------|---------------|--------------|----------------|--------------|
| | n | % | n | % | n | % | n | % | n | % | n | % | n | % |
| Chronic renal failure (CKD, unspecified) | 3,009 | 0.04% | 2,676 | 0.04% | 2,212 | 0.05% | 1,304 | 0.04% | 2,045 | 0.04% | 1,734 | 0.03% | 12,980 | 0.04% |
| Electrolyte imbalance | 2,407 | 0.03% | 2,301 | 0.03% | 1,502 | 0.03% | 984 | 0.03% | 1,431 | 0.03% | 1,795 | 0.03% | 10,420 | 0.03% |
| Avoidable | 49,356 | 0.71% | 47,584 | 0.66% | 23,354 | 0.52% | 16,235 | 0.44% | 27,091 | 0.55% | 29,475 | 0.52% | 193,095 | 0.58% |
| Pneumonia | 26,324 | 0.38% | 26,527 | 0.37% | 10,718 | 0.24% | 8,125 | 0.22% | 14,824 | 0.30% | 14,832 | 0.26% | 101,350 | 0.31% |
| Stroke | 6,549 | 0.09% | 5,620 | 0.08% | 4,222 | 0.09% | 2,803 | 0.08% | 3,842 | 0.08% | 4,048 | 0.07% | 27,084 | 0.08% |
| Heart failure | 5,116 | 0.07% | 4,600 | 0.06% | 3,140 | 0.07% | 1,904 | 0.05% | 3,068 | 0.06% | 3,469 | 0.06% | 21,297 | 0.06% |
| COPD | 5,590 | 0.08% | 5,560 | 0.08% | 1,992 | 0.04% | 1,141 | 0.03% | 2,063 | 0.04% | 3,102 | 0.05% | 19,448 | 0.06% |
| AMI | 4,475 | 0.06% | 4,186 | 0.06% | 2,658 | 0.06% | 1,560 | 0.04% | 2,224 | 0.05% | 2,782 | 0.05% | 17,885 | 0.05% |
| PCI | 837 | 0.01% | 728 | 0.01% | 423 | 0.01% | 486 | 0.01% | 775 | 0.02% | 916 | 0.02% | 4,165 | 0.01% |
| CABG | 272 | 0.004% | 184 | 0.003% | 89 | 0.002% | 133 | 0.004% | 176 | 0.004% | 185 | 0.003% | 1,039 | 0.003% |
| Hip replacement | 173 | 0.002% | 155 | 0.002% | 104 | 0.002% | 77 | 0.002% | 98 | 0.002% | 132 | 0.002% | 739 | 0.002% |
| Knee replacement | 20 | 0.0003% | 24 | 0.003% | 8 | 0.0002% | 6 | 0.0002% | 21 | 0.0004% | 9 | 0.0002% | 88 | 0.003% |
| HAC | 39,851 | 0.57% | 37,175 | 0.51% | 21,020 | 0.47% | 14,416 | 0.39% | 22,305 | 0.45% | 26,412 | 0.46% | 161,179 | 0.49% |
| Infections ^b | 26,637 | 0.38% | 24,224 | 0.33% | 12,456 | 0.28% | 8,006 | 0.22% | 12,205 | 0.25% | 14,102 | 0.25% | 97,630 | 0.30% |

| Cause for readmission | 2018 | | 2019 | | 2020 | | 2021 | | 2022 | | 2023 | | TOTAL | |
|---------------------------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|--------|--------|
| | n | % | n | % | n | % | n | % | n | % | n | % | n | % |
| Respiratory complications | 6,059 | 0.09% | 6,180 | 0.09% | 3,898 | 0.09% | 3,038 | 0.08% | 4,850 | 0.10% | 6,285 | 0.11% | 30,310 | 0.09% |
| Renal failure | 2,343 | 0.03% | 2,215 | 0.03% | 1,564 | 0.03% | 1,166 | 0.03% | 1,971 | 0.04% | 2,223 | 0.04% | 11,482 | 0.03% |
| Gastrointestinal bleeding | 1,731 | 0.02% | 1,589 | 0.02% | 1,167 | 0.03% | 757 | 0.02% | 1,126 | 0.02% | 1,240 | 0.02% | 7,610 | 0.02% |
| Cardiac complications | 1,010 | 0.01% | 900 | 0.01% | 539 | 0.01% | 341 | 0.01% | 493 | 0.01% | 553 | 0.01% | 3,836 | 0.01% |
| Surgical complications | 597 | 0.01% | 592 | 0.01% | 331 | 0.01% | 332 | 0.01% | 491 | 0.01% | 561 | 0.01% | 2,904 | 0.01% |
| Medication complications | 535 | 0.01% | 516 | 0.01% | 373 | 0.01% | 271 | 0.01% | 405 | 0.01% | 555 | 0.01% | 2,655 | 0.01% |
| Maternal complications | 422 | 0.01% | 402 | 0.01% | 347 | 0.01% | 262 | 0.01% | 341 | 0.01% | 396 | 0.01% | 2,170 | 0.01% |
| Venous thrombo-embolism | 294 | 0.004% | 319 | 0.004% | 188 | 0.004% | 154 | 0.004% | 278 | 0.01% | 282 | 0.005% | 1,515 | 0.005% |
| Others ^c | 223 | 0.003% | 238 | 0.003% | 157 | 0.003% | 89 | 0.002% | 145 | 0.003% | 215 | 0.004% | 1,028 | 0.003% |

AGE = acute gastroenteritis; CKD = chronic kidney disease; COPD = chronic obstructive pulmonary disease; AMI = acute myocardial infarction; PCI = percutaneous coronary intervention; CABG = coronary artery bypass graft; HAC = hospital-acquired complication

^aReadmission rates for 2018 and part of 2019 are for the normal newborn package since the expanded newborn package was implemented in early 2019.

^bInfections and inflammatory reactions due to devices, prostheses; implants, grafts, or catheters; Sepsis, septic shock, or systemic inflammatory response syndrome of infectious origin with acute organ failure; Bacterial and viral infections, including pneumonia; Wound infections following a procedure or surgery, including infections of amputation stump; Resistance to medications; Infections following delivery (see **Annex A** for full list)

^cNausea and vomiting; Constipation; Vomiting following gastrointestinal surgery; Delirium (see **Annex A** for full list)

Source: Authors' analysis of PhilHealth claims data from 2018 to 2023

4.2. Facility trends

Privately-owned facilities at all levels had higher all-cause readmission rates despite having fewer total admissions than their publicly-owned counterparts. Private infirmaries and Level 1 hospitals had readmission rates of 2.90% and 4.00% compared to their public counterparts (2.20% and 2.90%, respectively). Differences were greater for Level 2 (private: 5.70%; public: 3.80%) and Level 3 hospitals (private: 8.00%; public: 6.10%). **This trend persisted across all types of readmissions (Table 5).**

Table 5. Readmission rates for public and private PhilHealth-accredited facilities, 2018-2023

| Readmission type | Public | | Private | |
|------------------------|------------|---------|------------|---------|
| | n | % | n | % |
| Total number of claims | 18,379,303 | 100.00% | 14,649,254 | 100.00% |
| Total readmissions | 730,959 | 3.98% | 785,053 | 5.36% |
| Planned readmissions | 162,270 | 0.88% | 159,060 | 1.09% |
| Unplanned readmissions | 568,689 | 3.09% | 625,993 | 4.27% |
| Unavoidable | 392,491 | 2.14% | 447,917 | 3.06% |
| Avoidable | 95,086 | 0.52% | 98,009 | 0.67% |
| HAC | 81,112 | 0.44% | 80,067 | 0.55% |

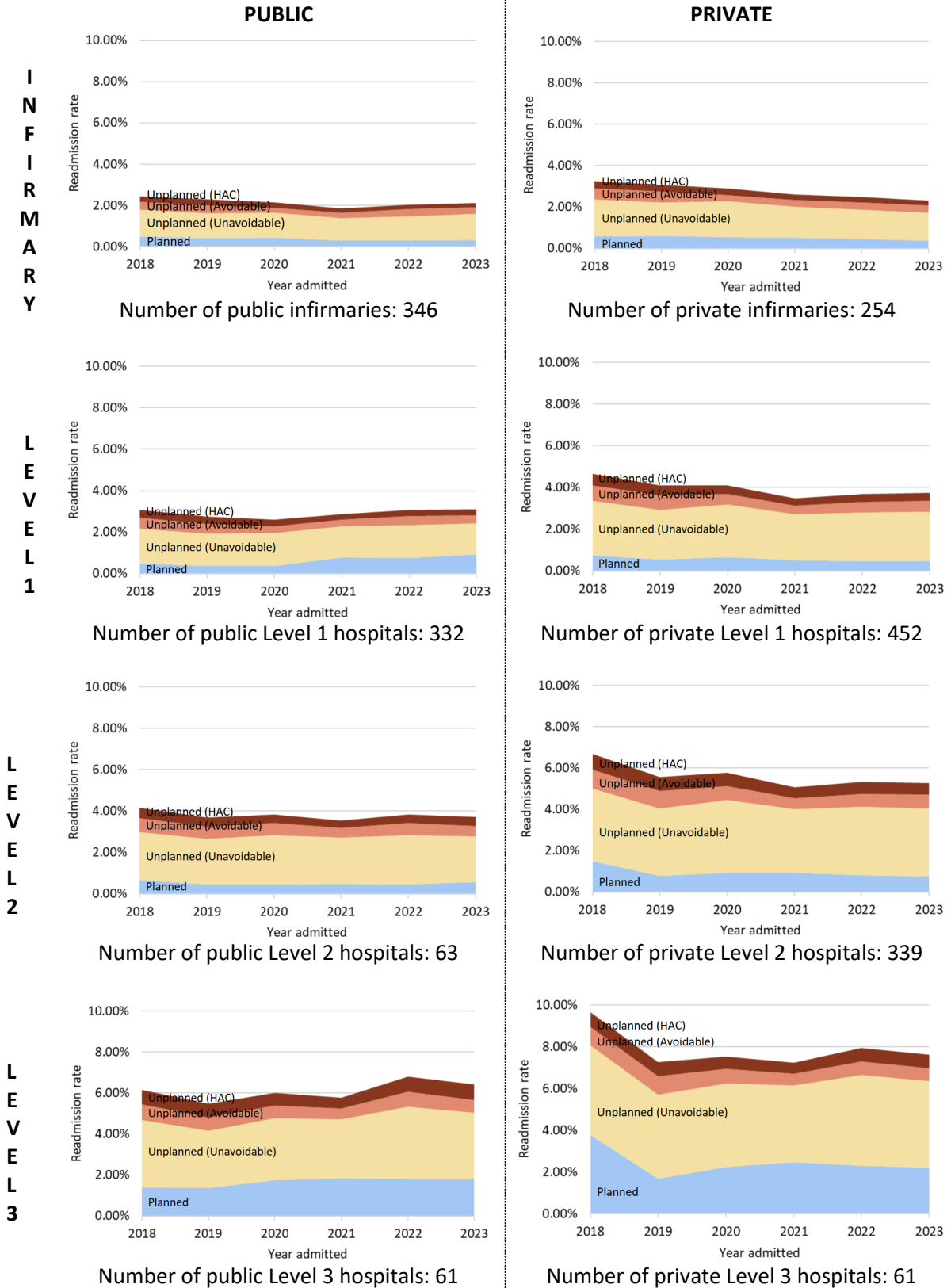
HAC = hospital-acquired complication

Source: Authors' analysis of PhilHealth claims data from 2018 to 2023

Higher-level facilities had more readmissions than lower-level facilities (Figure 2). Though hospital readmissions declined for nearly all types of facilities from 2018 to 2019, **only private hospitals were able to maintain their lower readmission rates**, while public hospitals have returned to their 2018 readmission rates. **Level 1 and Level 3 public hospitals, in particular, exceeded their 2018 peak by 2021, mostly due to planned readmissions.** In contrast, planned readmissions in Level 2 and Level 3 private hospitals declined since 2018.

While planned readmission rates fluctuated, **the proportion of avoidable and HAC-related readmissions remained steady from 2018 to 2023 at every facility level, for both private and public facilities (Figure 2).**

Figure 2. Readmission rates by facility ownership types for public and private PhilHealth-accredited facilities, 2018-2023



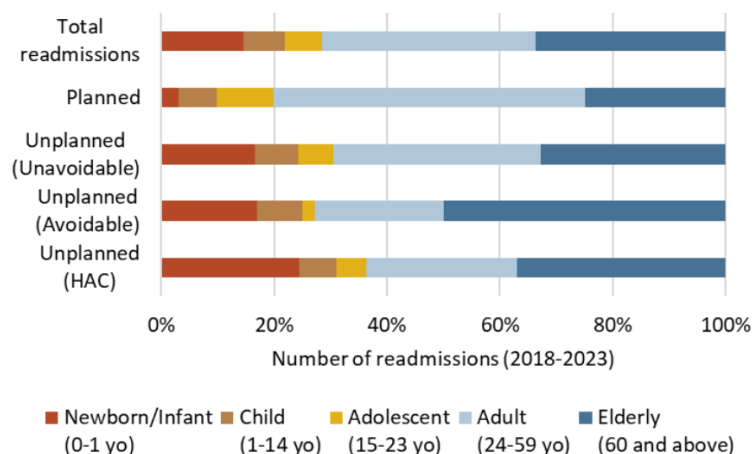
HAC = hospital-acquired complication

Source: Authors' analysis of PhilHealth claims data from 2018 to 2023; Number of facilities based on PhilHealth Stats and Charts 2024 (PhilHealth 2024a)

4.3. Population groups trends

Among population groups, the most vulnerable Filipinos had the highest rates of avoidable readmissions. While adults aged 24 to 59 constituted more than half of planned readmissions (55.15%), **elderly patients over 60 made up the greatest share of avoidable (50%) and HAC-related (37.03%) readmissions (Figure 3A).**

Figure 3A. Share of readmissions by age category, 2018-2023

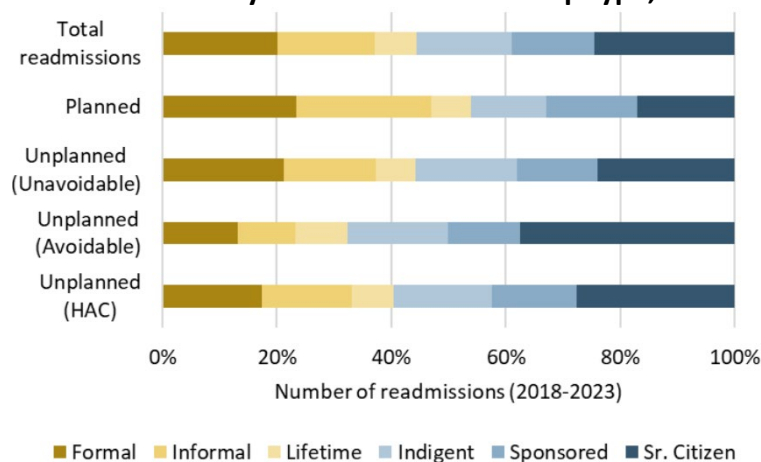


HAC = hospital-acquired complication

Source: Authors' analysis of PhilHealth claims data from 2018 to 2023

We observed a similar trend among PhilHealth's **indirect contributors**, who are the poorest Filipinos. Indirect contributors are composed of three groups: **Indigent members** have no visible income or their income insufficient for subsistence (PhilHealth n.d.-b). **Sponsored members** fall in the bottom income quartile and their premiums are paid by PhilHealth and its partners including "local governments, private individuals and corporations, members of Congress" (PhilHealth 2023). **Senior Citizens** are elderly Filipinos who are unemployed or have no source of income, and cannot pay premiums. Their premiums are funded by RA No. 10351 or the Sin Tax Law (PhilHealth n.d.-c). **Together, indirect contributions represented the majority of all unplanned readmissions (Figure 3B).** These include unavoidable (55.58%), avoidable (67.69%), and HAC-related (59.56%) readmissions.

Figure 3B. Share of readmissions by PhilHealth membership type, 2018-2023



HAC = hospital-acquired complication

Source: Authors' analysis of PhilHealth claims data from 2018 to 2023

5. Discussion

As the first study to empirically measure national readmissions through PhilHealth claims data, we conducted descriptive analysis of inpatient admissions from 2018 to 2023. **We found that 30-day all-cause readmissions in the Philippines (4.59%) were much lower than those observed in global literature and local hospital-based readmission studies.** Readmission rates obtained using the 90-day SPC Rule criteria were even lower (<1%), even when the policy was suspended nationwide. In recent years, 30-day readmission rates were about 6.6% in England, 10.2% in Italy, and 13.9% in the US (Bianco et al. 2012; Friebe et al. 2018; Jiang and Hensche 2023). Studies using hospital data as opposed to claims data found 30-day readmission rates for general medicine (18%) and dialysis (37%) in the Philippine General Hospital (Balane et al. 2023; Uy et al. 2024).

While low readmission rates are generally associated with higher quality of care, several structural considerations complicate this conclusion from being drawn in the Philippines. The longstanding SPC Rule limited the country's understanding of readmissions, hindering their aggregate measurement. Unlike other countries, PhilHealth has never systematically tracked patient readmissions across all hospitals as part of provider performance assessment, nor have readmissions been used in performance-based payments. This has led to weak health information infrastructure for reporting and analyzing overall readmission trends.

5.1. Policy design issues shaping readmission monitoring

Our analysis highlights the inadequacy of a blanket readmissions policy to monitor quality of care. Even after excluding exemptions to the SPC Rule, we found nonzero readmissions for the years when the SPC Rule was in full effect. Though these may represent readmissions when the SPC Rule was lifted locally due to disasters or public health emergencies, the distinction cannot be made from the data alone. In contrast, planned and unavoidable readmissions remained relatively stable despite policy changes (i.e., suspending the SPC Rule) and shifts in health care utilization during the COVID-19 pandemic, indicating a more accurate measure of quality.

Given that the penalty for violating the SPC Rule is claim denial, many providers may have also opted not to file claims for readmissions. In 2023 alone, PhilHealth denied 26,750 claims due to the SPC Rule (Aagna 2024; Valmonte 2024). further reducing readmission counts. Consequently, the costs of denied claims are passed onto patients without clear indication that this leads to improved service quality or the prevention of unnecessary readmissions in the future. **The removal of the SPC Rule offers an opportunity to design a quality-centered readmission monitoring policy that can inform value-based purchasing, alongside PhilHealth's coming provider-payment reforms (Box 1).**

Box 1. Readmissions as performance metric for value-based purchasing

A robust monitoring system is a powerful policy lever for incentivizing efficient delivery of quality services for all patients. Assessing readmission rates and reasons for readmission can help highlight areas for quality improvement in hospitals and health systems (Ashton and Wray 1996; ACSQHC 2019a; van Galen 2017; Kristensen et al. 2015). Countries with mature provider payment systems monitor readmission rates based on established definitions or scopes of what are considered planned or avoidable. These trends inform the national insurer's financial and policy decisions. While planned readmissions are usually covered, avoidable unplanned readmissions are linked to **financial penalties** to discourage unnecessary readmissions (AHRQ n.d.; ACSQHC 2019a; James et al. 2023; Kristensen et al. 2015; Mittler et al. 2013).

The US **HRRP** monitors hospital readmissions for targeted conditions or procedures that can inform urgent need for quality-of-care improvements. A hospital is compared to its peer group based on similar facility characteristics such as their proportion of patients enrolled in and eligible for Medicare (elderly) and Medicaid (low income). If their unplanned readmissions exceed the median rate of the peer group, the US CMS applies a corresponding **percent reduction to the prospective budget** paid to the hospital at the beginning of the fiscal year (ACSQHC 2019a; CMS 2024b; Rogstad et al. 2022). Unnecessary readmissions are just one quality measure used in **hospital benchmarking** to reliably compare readmission rates across facilities, identify best and worst performers, and adjust payments.

However, insurers ensure that the costs of these reductions are not passed onto patients. In the HRRP, **payment reductions are capped to protect patients from increased exposure to financial risk** (ACSQHC 2019a). The CMS also implements **risk adjustments** to account for common comorbidities and patient characteristics (e.g., age, sex, socioeconomic status), that may increase the need for necessary readmissions (ACSQHC 2019a; CMS 2024b; Rogstad et al. 2022). This approach reflects the idea that, in many cases, **appropriate clinical treatment can reduce but cannot fully eliminate the risk of poor health outcomes** (ACSQHC 2019a; James et al. 2023). In Australia, each patient admission is assigned to a **complexity group** (low, moderate, or high) based on the patient's risk of readmission, which is used to calculate payment adjustments for unnecessary readmissions (IHACPA 2024; IHPA 2022)

As PhilHealth transitions into a provider payment system based on **DRGs coupled with a prospective hospital GB**, the agency can maximize such policy levers to mitigate adverse provider behavior and avoidable readmissions. Between 2018 and 2023, potentially avoidable readmissions cost the NHIP PHP 6.69 billion (**Table 3**), nearly 1.5% of its total reimbursements for inpatient claims. Financial incentives must also be paired with sound cost-sharing policies that prioritize financial risk protection for patients.

Health information system limitations may have also underestimated the country's readmission rates. PhilHealth claims data may not capture all inpatient health care, since around 2% of hospitals in the country are not PhilHealth accredited, and around 9% of the country's population are yet to be registered in the PhilHealth database (DOH 2024; PhilHealth 2024a). In addition, a 2017 study found that 22% of patients billed for inpatient care did not use PhilHealth (Haw et al. 2020). Thus, the calculated readmission rates may not capture all readmissions in the country. Nevertheless, the data gathered from PhilHealth's database can be considered the most comprehensive dataset on hospital service utilization due to the lack of

real-time population-based health information systems in the country (Dayrit et al. 2018; Ng et al. 2019; Song et al. 2025).

5.2. Structural issues shaping patient health care seeking

We found higher readmission rates among private facilities compared to public facilities. In contrast, several countries have reported higher readmission rates in public facilities associated with lower quality of care (Holom and Hagen 2017; Joynt and Jha 2011; Moscelli et al. 2018; Moscone et al. 2011; Vuagnat et al. 2018). The implications are twofold: First, **patients are paying more for readmissions**. The average cost of readmissions in private hospitals was for some years twice that of public hospitals. Though PhilHealth covers some of the costs of readmission, case rate payments are the same regardless of facility ownership. Moreover, PhilHealth's does not have caps on patient out-of-pocket expenditure. The financial risk of readmissions is exacerbated when considering most avoidable and HAC-related readmissions are elderly and indigent Filipinos.

Second, **current readmission rates may not accurately reflect differences in the quality of care between public and private health facilities**. In many low-and-middle-income countries like the Philippines, significant portions of the population delay seeking health care 30 days or more after the onset of their symptoms (Ekyaruhanga et al. 2023; Fanta 2023; Jima et al. 2023; Laohasiriwong et al. 2016; Phelan et al. 2022). Several studies found that **the poorest Filipinos and those who rely most on public health services, were more likely to delay treatment** (Ekyaruhanga et al. 2023; Vista et al. 2016). These patterns may have contributed to the relatively low readmission rates in publicly-owned facilities. Conversely, patients who can readily access health care services may opt for private hospitals, which tend to have higher perceived quality of care (Alumran et al. 2021; Ansar et al. 2021; Conlan et al. 2023).

To mitigate these health care utilization incentives, other countries have paired financial penalties with non-financial incentives and programs to address structural causes of unnecessary readmissions and health care inequities (**Box 2**).

Box 2. Examples of non-financial interventions supported by the national insurer

In the US, hospitals must develop their own interventions to reduce readmissions. However, not all hospitals have the resources to study, identify, and implement effective interventions, resulting in little to no improvement in readmission rates, which lowers budgets and weakens service delivery. Thus, the CMS provides support to hospitals, such as trainings in quality improvement methodologies and complementary programs for improving transitional care (Mittler et al. 2013).

- **Partnership for Patients:** information campaign to prevent HAC and reduce readmissions by improving care transmission through engaging with hospital executives, staff, patients, and families. The program builds partnerships that support reforms to the care process and hospital capacity-building efforts for improved patient safety.
- **Community-based Care Transitions Program:** allocated funds to develop and test models for improving care transitions from the hospital to other care settings from 2011 to 2017. Community-based organizations partnered with hospitals to implement strategies that integrated hospital-field workers, analyze readmission data to inform targeted interventions, identify participants with non-diagnosis-based risk factors, and arrange supportive services for those who could benefit.
- Several tools were also developed to aid hospitals in reducing readmissions. **Re-Engineered Discharge Toolkit** assists hospitals, particularly those that serve diverse populations, to re-engineer their discharge process. **Designing and Delivering Whole-Person Transitional Care: The Hospital Guide to Reducing Medicaid Readmissions** shares evidence-based strategies to reduce readmissions.
- Other countries also utilize **public hospital scorecards, benchmarking dashboards, or annual reports** to help patients make informed decisions about available providers and help hospitals compare and assess their practices (AHRQ 2024; ACSQHC 2019a; CMS 2024b; Country Health Rankings & Roadmaps 2020; NHS England 2024).

6. Policy Recommendations

PhilHealth has not replaced the SPC Rule with any readmission policy to improve current service delivery trends. **However, this is an opportunity to establish a new paradigm to recognize readmissions as a powerful quality metric that can be used for value-based provider payments.** To this end, we recommend the following policy reforms:

In the short term, PhilHealth must adopt an evidence-based definition and monitoring framework for readmissions.

- **PhilHealth must shift to a 30-day monitoring period for readmissions.** While the 90-day SPC rule was developed to contain costs for a FFS payment system, countries with performance-based payment systems typically monitor admissions within 28 to 30 days of discharge (ACSQHC 2019a), as these represent “acute clinical events requiring urgent rehospitalization” (YNNs CORE 2013).

- **PhilHealth must distinguish between planned, avoidable, and HAC-related readmissions to avoid penalizing the patients who need care.** Generally, planned readmissions are not an indicator for quality of care (YNNs CORE 2013). PhilHealth can adopt **planned readmission algorithms** like that of the US CMS, whose tenets expect that a few types of care are always considered planned and some scheduled procedures require a planned non-acute readmission (AHRQ n.d.; YNNs CORE 2011).

On the other hand, acute readmissions and HAC-related readmissions are considered never planned and may be due to unmet needs during index admission, chronic comorbidities, and inadequate patient self-care, among others (ACSQHC 2019a; BHI 2015). As such, Australia's ACSQHC has a **defined list of HACs and Public Hospital Performance Indicator Framework** specifically track potentially preventable postoperative and postprocedural complications (ACSQHC 2019a, 2024). England's **Clinical Commissioning Group Outcomes Indicator Set (CCG OIS)** monitors emergency readmissions, with special attention to alcohol- and mental health-related causes (ACSQHC 2019a).

- **PhilHealth must establish a process for the regular review of the readmission monitoring framework.** Most countries developed their frameworks with clinical experts, in conjunction with global literature. Frameworks were revised based on hospital testing and stakeholder review before being implemented for payment decisions. These can be further updated annually with changes to coding standards and according to epidemiological trends (ACSQHC 2024; YNNs CORE 2013).

As PhilHealth transitions to a GB provider payment system in the medium term, PhilHealth must establish financial incentives to translate hospital performance into better health outcomes while protecting patients from undue financial risk.

- **PhilHealth must utilize readmissions monitoring to benchmark hospitals for value-based payment adjustments.** Rather than relying on the financial incentives of denying an individual claim, other countries have leveraged provider payments by **adjusting the total budgets** or payments to a facility (ACSQHC 2019a; Kristensen et al. 2015) Hospitals that underperform compared to their group's median receive a payment deduction that incentivizes the entire facility to review their discharge protocols. This rewards high quality care while sanctioning substandard care (MPAC 2007).
- **PhilHealth must pair financial incentives with cost-sharing protections for patients.** While facility-based payment adjustments can be capped to avoid debilitating hospital operations, sound cost-sharing policies can safeguard against transferring the costs of hospital inefficiency and misconduct onto patients. PhilHealth must develop and implement a clear cost-sharing policy that introduces limits to how much patients are expected to pay for health services and protect them from catastrophic health expenditure (Australian Government DoHAC n.d.; Clement and Memedovich 2018)
- **PhilHealth must provide feedback to providers to guide hospital-level reforms.** Dashboards and other tools to monitor readmission trends should be made available to hospitals. These delegate the task of reform to providers, and empower them to improve their practices. Hospital administrators can have a deeper understanding of the areas

where readmissions are high, and in turn, these inform investment decisions for human and capital resources (AHRQ 2024; ACSQHC 2019a; CMS 2024b; Country Health Rankings & Roadmaps 2020; NHS England 2024)

Long-term, PhilHealth must address systemic causes of unnecessary readmissions through supporting hospital-based programs and introducing non-financial incentives. Studies show that comprehensive continuum of care interventions can more effectively reduce readmissions than the application of single interventions at a specific phase of the patient journey (**Box 3**) (Benbassat and Taragin 2000; Hesselink et al. 2012; Kamermayer et al. 2017). These can be financed through funds deducted from underperforming hospitals with high readmissions (ACSQHC 2019a; Kristensen et al. 2015) Policymakers can support evidence-generation by facilitating information-sharing on best practices across hospitals. Though not all insurers can fund additional interventions, the NHIP may still aid in capacity-building efforts that empower providers to undertake hospital improvements independently.

Box 3. Supplementing readmissions policies with continuum of care interventions

In Australia, US, England, and Germany, high unnecessary readmissions result in lower provider reimbursements or facility budgets (**Annex B**). However, financial incentives may also unfairly penalize providers serving vulnerable communities at higher risk of readmissions and exacerbate inequalities by depriving these hospitals of much-needed resources. To mitigate this, payers also fund **continuum of care interventions** to improve the quality of their services. For example, insurers in England must **reinvest savings generated from withholding payments** for unnecessary readmissions into improving care transitions and coordination at the hospital and community-level to prevent future readmissions (Kristensen et al. 2015).

Patients can experience vulnerabilities when transitioning across the continuum of care, such as the increased workload of managing illness or treatment on top of general demands of life (Shippee et al. 2012). **Interventions during pre-discharge** include assessing readmission risk, educating patients on their diagnosis and treatment, developing an individualized discharge plan, including medications and follow-up appointment scheduling. **Bridging interventions** facilitate the transition between inpatient and outpatient interventions. These focus on patient empowerment to self-manage care needs, such as providing functional rehabilitation, a personal health record, and patient-centered discharge materials. Care continuity can be maintained through **coordination between hospital and primary care providers** to determine clear assignment of responsibilities (ACSQHC 2019a; Braet et al. 2016; Leppin et al. 2014).

Readmissions also reflect patient- and community-level factors beyond service quality: poverty, comorbidities, and low health literacy, which are common within marginalized and underserved populations, all contribute to higher readmission rates (Baah et al. 2019; Balane et al. 2023; Benbassat and Taragin 2000; Hickey et al. 2018; Manickam et al. 2017). **Post-discharge interventions** are applied in outpatient settings. These focus on patient monitoring and follow-up by maintaining communication lines between patients and health care providers. Community engagement through **health literacy and health promotion activities** and caregiver education can strengthen social support for patients without increasing the burden of treatment on the individual.

7. Conclusion

The removal of PhilHealth’s 90-day SPC Rule presents an opportunity to reimagine hospital readmissions as a metric of care quality that informs performance-based purchasing decisions. As the first attempt to measure national readmissions through claims data, we found that all-cause readmissions remained relatively stable between 2018 and 2023. Planned readmissions increased steadily despite the 2020 COVID-19 pandemic. Avoidable and HAC-related readmissions declined sharply in 2021 but have since increased to their 2020 levels. Over the years, the rates of these undesirable readmissions did not see significant improvements across different hospital ownership and levels. Poor and elderly patients were most adversely affected, having the highest share of avoidable and HAC-related readmissions.

These findings indicate a need to shift towards monitoring readmissions for incentivizing health care facilities to improve service quality and care transition, rather than focusing on claim denial. PhilHealth must distinguish planned or routine readmissions from unplanned and avoidable readmissions that may be indicative of HAC. A robust readmissions monitoring system can inform value-based purchasing decisions that ensure Filipinos receive quality and complete care without excessive financial risk. Finally, readmission policies must be supported by programs that bridge the continuum of care prior to and after patient discharge.

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9. Appendices

Appendix A. Criteria used for readmission metrics

Table A.1. List of exemptions to the PhilHealth SPC Rule

| SPC Rule Exemptions | Description and code/s |
|--|---|
| SDG-Outpatient Packages | Animal Bite (90375) |
| | Antenatal care (ANC01; ANC02) |
| | Outpatient HIV/AIDS (99246) |
| | TB-DOTS (89221; 89222) |
| Explicit SPC exemptions | Blood transfusion (outpatient) (36430) |
| | Brachytherapy (77761; 66667; 77781; 77789) |
| | Bronchial asthma in acute exacerbation (J4500; J4510; J4580; J4590; J46; J5400) |
| | Cataract surgery (66983; 66984; 66987) |
| | Chemotherapy (96408) |
| | Dialysis other than hemodialysis (90945) |
| | Hemodialysis (90935) |
| | Intensity-modulated radiation therapy (77418) |
| | Radiotherapy (77401) |
| | Simple debridement (11000; 11010; 11011; 11012; 11040; 11041; 11043; 11044; 11720; 11721; 16010; 21627) |
| | Vitrectomy (67036; 67049; 67050) |
| Special SPC exemptions | COVID-19 Testing, Isolation, Vaccine Injury, and Inpatient Claims |
| | Referral Package |
| | Z-Benefits and ZMORPH packages |
| Suspension during fortuitous events | i.e., states of calamity or emergency caused by disasters or public health emergencies, such as the COVID-19 pandemic |

SDG = Sustainable Development Goal; HIV = human immunodeficiency virus; AIDS = acquired immunodeficiency syndrome; TB-DOTS = Tuberculosis Directly-Observed Treatment Short-Course; ZMORPH = Z Benefits for Mobility, Orthosis, Rehabilitation, Prosthesis Help

Table A.2. Criteria for planned readmissions

| Planned admission category | Associated code/s |
|-----------------------------------|--------------------------|
| Bone marrow transplant | 38240 |
| Kidney transplant | 50360; 50365; 50380 |
| Cesarean section | 59513; 59514; 59620 |

| Planned admission category | Associated code/s |
|--|--|
| Forceps; vacuum; and breech delivery | 59411 |
| Other organ transplantation (other than bone marrow, corneal, or kidney) | 32851; 32852; 32853; 32854; 33935; 33945; 47135; 47136; 48160; 48554 |
| Normal pregnancy and/or delivery | 59409; 59612; ANC01; ANC02; MCP01; NSD01 |
| Maintenance chemotherapy | 96408 |
| Rehabilitation care, fitting of prostheses, and adjustment of devices | ZBEN |

Table A.3. Criteria for avoidable readmissions

| Avoidable readmission category | Associated code/s |
|---------------------------------------|---|
| Acute myocardial infarction | I21; I210; I211; I212; I213; I214; I219; I22; I220; I221; I228; I229; I250; I251; I258; I259 |
| Coronary artery bypass graft | 33533; 33534; 33535; 33536; 33542; 33545; 33572 |
| Percutaneous coronary intervention | 92973; 92975; 92980; 92981; 92982; 92986; 92987; 92990; 92992; 92993; 92995; 92997 |
| Heart Failure | I50; I500; I501; I502; I509 |
| Chronic obstructive pulmonary disease | J20; J200; J201; J202; J203; J204; J205; J206; J207; J208; J209; J21; J210; J211; J218; J219; J22; J41; J410; J411; J418; J42; J43; J430; J431; J432; J438; J439; J44; J440; J441; J442; J448; J449; J47 |
| Pneumonia | J100; J110; J120; J121; J122; J123; J128; J129; J13; J14; J150; J151; J152; J153; J154; J155; J156; J157; J158; J1581; J1588; J159; J160; J168; J180; J181; J182; J188; J189 |
| Stroke | I600; I601; I602; I603; I604; I605; I606; I607; I608; I609; I610; I611; I612; I613; I614; I615; I616; I618; I619; I630; I631; I632; I633; I634; I635; I636; I638; I639; I64; I670; I671; I672; I673; I674; I675; I676; I677; I678; I679 |
| Knee replacement | 27440; 27441; 27442; 27443; 27445; 27446; 27447 |
| Hip replacement | 27125; 27130; 27132; 27134; 27137; 27138 |

Table A.4. Criteria for readmissions due to HAC

| Complication category | Description and code/s |
|-----------------------|---|
| Cardiac complications | Unstable angina (I200) |
| | Acute transmural myocardial infarction of anterior wall (I210), inferior wall (I211), other sites (I212), unspecified site (I213) |
| | Acute subendocardial myocardial infarction (I214) |
| | Acute myocardial infarction, unspecified (I219) |

| Complication category | Description and code/s |
|----------------------------------|---|
| | Subsequent myocardial infarction of anterior wall (I220), inferior wall (I221), other sites (I228), unspecified site (I229) |
| | Cardiac arrest with successful resuscitation (I460) |
| | Sudden cardiac death, so described (I461) |
| | Cardiac arrest, unspecified (I469) |
| | Re-entry ventricular arrhythmia (I470) |
| | Supraventricular tachycardia (I471) |
| | Ventricular tachycardia (I472) |
| | Atrial fibrillation and atrial flutter, unspecified (I489) |
| | Ventricular fibrillation and flutter (I490) |
| | Congestive heart failure (I500) |
| | Left ventricular failure (I501) |
| | Heart failure, unspecified (I509) |
| | Other complications of obstetric surgery and procedures (O7540); <i>Includes:</i> Cardiac arrest following cesarean or other obstetric surgery or procedures, including delivery NOS, Cardiac failure following cesarean or other obstetric surgery or procedures, including delivery NOS, Cerebral anoxia following cesarean or other obstetric surgery or procedures, including delivery NOS, Conditions in N99.0, N99.8, N99.9; <i>Excludes:</i> complications of anaesthesia during labour and delivery (O74.-) |
| | Bradycardia, unspecified (R001) |
| Gastrointestinal bleeding | Gastro-oesophageal laceration-haemorrhage syndrome (K226) |
| | Gastric ulcer, acute with haemorrhage (K250); acute with both haemorrhage and perforation (K252); chronic or unspecified with haemorrhage (K254); chronic or unspecified with both haemorrhage and perforation (K256) |
| | Duodenal ulcer, acute with haemorrhage (K260); acute with both haemorrhage and perforation (K262); chronic or unspecified with haemorrhage (K264); chronic or unspecified with both haemorrhage and perforation (K266) |
| | Peptic ulcer, acute with haemorrhage (K270); acute with both haemorrhage and perforation (K272); chronic or unspecified with haemorrhage (K274); chronic or unspecified with both haemorrhage and perforation (K276) |
| | Gastrojejunal ulcer, acute with haemorrhage (K280); acute with both haemorrhage and perforation (K282); chronic or unspecified with haemorrhage (K284); chronic or unspecified with both haemorrhage and perforation (K286) |
| | Acute haemorrhagic gastritis (K290) |
| | Haematemesis (K920) |
| | Melaena (K921) |
| | Gastrointestinal haemorrhage, unspecified (K922) |

| Complication category | Description and code/s |
|-----------------------|--|
| Infections | <p>Sepsis</p> <ul style="list-style-type: none"> ● Salmonella sepsis (A021) ● Listerial sepsis (A327) ● Streptococcal sepsis, unspecified (A409); Other (A408) ● Sepsis due to streptococcus, group A (A400); streptococcus, group B (A401); streptococcus, group D and enterococcus (A402); Streptococcus, group D (A4021); Enterococcus (A4022); Streptococcus pneumoniae (A403) ● Sepsis due to Staphylococcus aureus (A410); other specified staphylococcus (A411); unspecified staphylococcus (A412); Haemophilus influenzae (A413); anaerobes (A414) ● Other specified sepsis (A418) ● Sepsis, unspecified (A419) ● Sepsis due to unspecified Gram-negative organisms (A4150); Escherichia coli [E. Coli] (A4151); Pseudomonas (A4152); other Gram-negative organisms (A4158) ● Candidal sepsis (B377) ● Puerperal sepsis (O85) ● Sepsis of newborn due to streptococcus, group B (P360); other and unspecified streptococci (P361); Staphylococcus aureus (P362); other and unspecified staphylococci (P363); Escherichia coli (P364); anaerobes (P365); Other bacterial sepsis of newborn (P368); Bacterial sepsis of newborn, unspecified (P369) ● Septic shock (R572) ● Systemic inflammatory response syndrome [SIRS] of infectious origin with acute organ failure (R651) |
| | <p>Bacterial infections</p> <ul style="list-style-type: none"> ● Enterocolitis due to Clostridium difficile (A047) ● Gas gangrene (A480) ● Other specified bacterial diseases (A488) ● Staphylococcal infection, unspecified site (A4900) ● Staphylococcus aureus infection, unspecified site (A4901) ● Streptococcal infection, unspecified site (A491; A4911) ● Enterococcal infection unspecified site (A4912) ● Other bacterial infections of unspecified site (A498; A4989) ● Bacteroides (fragilis) infection, unspecified site (A4981) ● Burkholderia infection not elsewhere classified, unspecified site (A4982) ● Campylobacter infection, unspecified site (A4983) ● Escherichia coli [E. coli] infection, unspecified site (A4984) ● Klebsiella pneumoniae [K. pneumoniae] infection, unspecified site (A4985) ● Proteus (mirabilis), Morganella (morganii) and Providencia (rettgeri) infection, unspecified site (A4986) ● Pseudomonas (aeruginosa) infection, unspecified site (A4987) ● Unspecified (A499) |
| | <p>Wound infection following a procedure (T8141); not elsewhere classified (T814)</p> |
| | <p>Pneumonia</p> <ul style="list-style-type: none"> ● Influenza with pneumonia, other influenza virus identified (J100); virus not identified (J110) |

| Complication category | Description and code/s |
|-----------------------|--|
| | <ul style="list-style-type: none"> ● Adenoviral pneumonia (J120); Respiratory syncytial virus pneumonia (J121); Parainfluenza virus pneumonia (J122); Human metapneumovirus pneumonia (J123); Other viral pneumonia (J128); Viral pneumonia, unspecified (J129) ● Pneumonia due to Streptococcus pneumoniae (J13); Haemophilus influenzae (J14); Klebsiella pneumoniae (J150); Pseudomonas (J151); staphylococcus (J152); streptococcus, group B (J153); other streptococci (J154); Escherichia coli (J155); other Gram-negative bacteria (J156); Mycoplasma pneumoniae (J157); Other bacterial pneumonia (J158); Bacterial pneumonia, unspecified (J159) ● Chlamydial pneumonia (J160) ● Pneumonia due to other specified infectious organisms (J168) ● Pneumonia in bacterial diseases classified elsewhere (J170); in viral diseases classified elsewhere (J171); in mycoses (J172); in parasitic diseases (J173); in other diseases classified elsewhere (J178) ● Bronchopneumonia, unspecified (J180) ● Lobar pneumonia, unspecified (J181) ● Hypostatic pneumonia, unspecified (J182) ● Other pneumonia, organism unspecified (J188) ● Pneumonia, unspecified (J189) |
| | Unspecified acute lower respiratory infection (J22) |
| | Infection of tracheostomy stoma (J9501) |
| | <p>Infection and inflammatory reaction due to:</p> <ul style="list-style-type: none"> ● cardiac valve prosthesis (T826) ● other cardiac and vascular devices, implants and grafts (T827); electronic cardiac device (T8271); coronary artery bypass and valve grafts (T8272); other vascular grafts (T8273); central vascular catheter (T8274); peripheral vascular catheter (T8275); surgically created arteriovenous fistula and shunt (T8276); vascular dialysis catheter (T8277); cardiac and vascular devices, implants and grafts, not elsewhere classified (T8279) ● prosthetic device, implant and graft in urinary system (T835); implant and graft in genital tract (T836); implant and graft in male genital tract (T8361); implant and graft in female genital tract (T8362) ● internal joint prosthesis (T845); internal fixation device [any site] (T846); other internal orthopaedic prosthetic devices, implants and grafts (T847) ● peritoneal dialysis catheter (T8571); nervous system device, implant and graft (T8572); gastrointestinal prosthetic devices, implants and grafts (T8573); respiratory prosthetic devices, implants and grafts (T8574); breast prostheses and implants (T8575); ocular prosthetic devices, implants and grafts (T8576); internal hearing devices, implants and grafts (T8577) |
| | Infection of below knee amputation stump (T8742); above knee amputation stump (T8746); below knee amputation stump (T8747); other amputation stump (T8748) |
| | Acute cystitis (N300) |
| | Urinary tract infection, site not specified (N390); Infection of external stoma of urinary tract (N9951); following delivery (O862) |

| Complication category | Description and code/s |
|-------------------------------|--|
| | <p>Infection of obstetric surgical wound (O860); Other infection of genital tract following delivery; Cervicitis following delivery; Vaginitis following delivery (O861); Other genitourinary tract infections following delivery; Puerperal genitourinary tract infection NOS (O863); Other specified puerperal infections (O868)</p> <hr/> <p>Resistance to:</p> <ul style="list-style-type: none"> ● beta-lactam antibiotics, unspecified (Z0650; Z149); penicillin (Z0651); methicillin (Z0652); Extended spectrum beta-lactamase [ESBL] resistance (Z0653); other beta-lactam antibiotics (Z0658); beta-lactamase sensitive [first generation] penicillins (Z1401); beta-lactamase resistant [second generation] penicillins (Z1402); aminopenicillins (Z1411); carboxypenicillins (Z1412); ureidopenicillins (Z1413); other beta-lactam antibiotics (Z148); Extended spectrum beta-lactamase [ESBL] organism (U93); ● unspecified antibiotic (Z0660); multiple antibiotics (Z0667; Z157); other single specified antibiotic (Z0668); other specified antibiotics (Z0669; Z1589); antibiotic, unspecified (Z159) ● vancomycin (Z0661); other vancomycin related antibiotics (Z0662) ● quinolones (Z0663); unspecified (Z1530); fluoroquinolones (Z1531); other specified quinolones (Z1539) ● unspecified antimicrobial drug (s) (Z0670); multiple antimicrobial drug (s) (Z0677); other specified antimicrobial drugs (Z0678); multiple antimicrobials (Z167); other specified antimicrobials (Z168); antimicrobial, unspecified (Z169) ● antiparasitic drug (s) (Z0671); antiparasitic drugs, unspecified (Z1630); anthelmintic drugs (Z1631); antimalarial drugs (Z1632); other specified antiparasitic drugs (Z1639) ● antifungal drug (s) (Z0672) ● antiviral drug (s) (Z0673); antivirals (Z162) ● tuberculostatic drug (s) (Z0674) ● first generation cephalosporins (Z1421); second generation cephalosporins (Z1422); third generation cephalosporins (Z1423); fourth generation cephalosporins (Z1424); fifth generation cephalosporins (Z1425) ● carbapenems (Z1431); monobactams (Z1433) ● sulphonamides and trimethoprim (Z150) ● macrolides, lincosamides and streptogramins (Z151) ● aminoglycosides (Z152) ● vancomycin (Z1541) ● other specified glycopeptides (Z1549) ● tetracyclines (Z1582) ● imidazole derivatives (Z1583) ● antimycotics (Z160) ● antimycobacterials (Z161) |
| Maternal complications | Damage to pelvic organs and tissues following abortion and ectopic molar pregnancy (O086) |
| | Other complications of spinal and epidural anaesthesia during pregnancy (O2950) |
| | Third degree perineal laceration during delivery (O7020); <i>Includes:</i> Perineal laceration, rupture or tear as in O70.1, also involving anal sphincter during |

| Complication category | Description and code/s |
|---------------------------------|--|
| | delivery, perineal laceration, rupture or tear as in O70.1, also involving rectovaginal septum during delivery, Perineal laceration, rupture or tear as in O70.1, also involving sphincter NOS during delivery; <i>Excludes:</i> that involving anal or rectal mucosa (O70.3); |
| | Fourth degree perineal laceration during delivery (O7030); <i>Includes:</i> Perineal laceration, rupture or tear as in O70.2, also involving anal mucosa during delivery, Perineal laceration, rupture or tear as in O70.2, also involving rectal mucosa during delivery |
| | Perineal laceration during delivery, unspecified (O7090) |
| | Dehiscence (without extension) of old uterine scar during labour (O7110); of uterus with extension during labour (O7111); Other rupture of uterus during labour (O7118) |
| | Obstetric laceration of cervix (O7130); <i>Includes:</i> Annular detachment of cervix |
| | Obstetric high vaginal laceration alone (O7140); <i>Includes:</i> Laceration of middle or upper third of vaginal wall without mention of perineal laceration; <i>Excludes:</i> with perineal laceration (O70.-) |
| | Third-stage haemorrhage; Haemorrhage associated with retained, trapped or adherent placenta; Retained placenta NOS (O720) |
| | Other immediate postpartum haemorrhage; Haemorrhage following delivery of placenta; Postpartum atonic haemorrhage NOS (O721) |
| | Delayed and secondary postpartum haemorrhage; Haemorrhage associated with retained portions of placenta or membranes; Retained products of conception NOS, following delivery (O722) |
| | Shock during or following labour and delivery (O7510); <i>Includes:</i> Obstetric shock |
| | Other infection during labor/delivery (O7530) |
| | Delayed delivery after spontaneous or unspecified rupture of membranes (O7560) |
| Medication complications | Candidal enteritis (B3781) |
| | Type 1 diabetes mellitus with hypoglycaemia (E1064); Type 2 diabetes mellitus with hypoglycaemia (E1164); Other specified diabetes mellitus with hypoglycaemia (E1364); Unspecified diabetes mellitus with hypoglycaemia (E1464) |
| | Drug-induced hypoglycaemia without coma (E160); Other hypoglycaemia (E161); Hypoglycaemia, unspecified (E162) |
| | Tumour lysis syndrome (E883) |
| | Other drug-induced secondary parkinsonism (G211) |
| | Drug-induced dystonia (G240); Blepharospasm (G245); Other dystonia (G248); Dystonia, unspecified (G249) |
| | Drug-induced tremor (G251); Other specified forms of tremor (G252); Myoclonus (G253); Drug-induced chorea (G254); Drug-induced tics and other tics of organic |

| Complication category | Description and code/s |
|------------------------------|--|
| | origin (G256); Other specified extrapyramidal and movement disorders (G258); Extrapyramidal and movement disorder, unspecified (G259) |
| | Central pontine myelinolysis (G372) |
| | Ototoxic hearing loss (H910) |
| | Hypotension due to drugs (I952) |
| | Pulmonary collapse (J981) |
| | Cardiac complications of anaesthesia during labour and delivery (O742); <i>Includes:</i> Cardiac arrest due to anaesthesia during labour and delivery, Cardiac failure due to anaesthesia during labour and delivery |
| | Central nervous system complications of anaesthesia during labour and delivery (O7430); <i>Includes:</i> Cerebral anoxia due to anaesthesia during labour and delivery |
| | Other complications of anaesthesia during labour and delivery (O748; O7480) |
| | Toxic reaction to local anaesthesia during labour and delivery (O7450); Other complications of spinal and epidural anaesthesia during labour and delivery (O7460) |
| | Other complications of spinal and epidural anaesthesia during the puerperium (O8950); Other complications of anaesthesia during the puerperium (O8980) |
| | Tremor, unspecified (R251); Fasciculation (R253) |
| | Ataxic gait (R260); Immobility (R263); Ataxia, unspecified (R270) |
| | Abnormal reflex (R292) |
| | Somnolence (R400); Stupor (R401); Coma (R402) |
| | Restlessness and agitation (R451) |
| | Syncope and collapse (R55) |
| | Loss of consciousness of unspecified duration (S0601); of brief duration [less than 30 minutes] (S0602) |
| | Poisoning by Inhaled anaesthetics (T410); Intravenous anaesthetics, Thiobarbiturates (T411); other and unspecified general anaesthetics (T412); local anaesthetics (T413) |
| | Poisoning by electrolytic, caloric and water-balance agents (T503) |
| | Air embolism following infusion, transfusion and therapeutic injection (T800); Anaphylactic shock due to serum (T805); Other complications following infusion, transfusion and therapeutic injection (T808); Unspecified complication following infusion, transfusion and therapeutic injection (T809) |
| | Shock due to anaesthesia (T882); Other complications of anaesthesia (T885); Anaphylactic shock due to adverse effect of correct drug or medicament properly administered (T886) |
| Pressure injury | Stage III decubitus ulcer and pressure area (L892); Pressure injury, stage III, site not elsewhere classified (L8920); head (L8921); upper extremity (L8922); upper back (L8923); lower back (L8924); ischium (L8925); trochanter (L8926); heel |

| Complication category | Description and code/s |
|----------------------------------|---|
| | (L8927); toe (L8928); other site of lower extremity (excluding heel and toe) (L8929) |
| | Stage IV decubitus ulcer and pressure area (L893); Pressure injury, stage IV, site not elsewhere classified (L8930); head (L8931); upper extremity (L8932); upper back (L8933); lower back (L8934); ischium (L8935); trochanter (L8936); heel (L8937); toe (L8938); other site of lower extremity (excluding heel and toe) (L8939) |
| | Pressure injury, unstageable, so stated, site not elsewhere classified (L8940); head (L8941); upper extremity (L8942); upper back (L8943); lower back (L8944); ischium (L8945); trochanter (L8946); heel (L8947); toe (L8948); other site of lower extremity (excluding heel and toe) (L8949) |
| | Suspected deep tissue injury, depth unknown, so stated, site not elsewhere classified (L8950); head (L8951); upper extremity (L8952); upper back (L8953); lower back (L8954); ischium (L8955); trochanter (L8956); heel (L8957); toe (L8958); other site of lower extremity (excluding heel and toe) (L8959) |
| | Decubitus and pressure area, unspecified (L899); Pressure injury, unspecified stage, site not elsewhere classified (L8990); head (L8991); upper extremity (L8992); upper back (L8993); lower back (L8994); ischium (L8995); trochanter (L8996); heel (L8997); toe (L8998); other site of lower extremity (excluding heel and toe) (L8999) |
| Renal failure | Acute kidney failure with tubular necrosis (N170); with acute cortical necrosis (N171); with medullary necrosis (N172); Other acute kidney failure (N178); unspecified (N179) |
| | Unspecified kidney failure (N19) |
| | Postprocedural kidney failure (N990) |
| | Other intraoperative and postprocedural disorder of genitourinary system (N9989) |
| | Kidney failure following abortion and ectopic and molar pregnancy (O084) |
| | Postpartum acute kidney failure (O904) |
| Respiratory complications | Pneumonitis due to food and vomit (J690); due to other solids and liquids (J698) |
| | Acute respiratory distress syndrome (J80) |
| | Pulmonary oedema (J81) |
| | Mendelson's syndrome (J954) |
| | Ventilation associated pneumonia (J9582) |
| | Acute respiratory failure, type I (J960); type II (J9601); type unspecified (J9609) |
| | Respiratory failure unspecified, type I (J9690); type II (J9691); type unspecified (J9699) |
| | Aspiration pneumonitis due to anaesthesia during labour and delivery (O740) |
| Surgical complications | Postprocedural hypoinsulinaemia (E891); Postprocedural hypoparathyroidism (E892); Postprocedural hypopituitarism (E893) |

| Complication category | Description and code/s |
|-----------------------|--|
| | Other reaction to spinal and lumbar puncture (G971); Intracranial hypotension following ventricular shunting (G972); Other postprocedural disorders of nervous system (G978) |
| | Vitreous syndrome following cataract surgery; Keratopathy (bullous aphakic) following cataract surgery (H590); Other postprocedural disorders of eye and adnexa; Chorioretinal scars after surgery for detachment (H598); Postprocedural disorder of eye and adnexa, unspecified (H599) |
| | Other postprocedural disorders of ear and mastoid process (H958) |
| | Phlebitis and thrombophlebitis of femoral vein (I801); of other deep vessels of lower extremities (I802); of deep vessels of lower extremities, not elsewhere classified (I8020); of iliac vein (I8021); of popliteal vein (I8022); of tibial vein (I8023); of deep vessels of upper extremities (I8042) |
| | Pulmonary embolism with mention of acute cor pulmonale (I260); without mention of acute cor pulmonale (I269) |
| | Postcardiotomy syndrome (I970); Postmastectomy lymphoedema syndrome; Elephantiasis due to mastectomy; Obliteration of lymphatic vessels due to mastectomy (I972) |
| | Tracheostomy malfunction; Haemorrhage from tracheostomy stoma; Obstruction of tracheostomy airway; Sepsis of tracheostomy stoma; Tracheo-oesophageal fistula following tracheostomy (J950); Other tracheostomy complication (J9508) |
| | Acute pulmonary insufficiency following thoracic surgery (J951) |
| | Acute pulmonary insufficiency following nonthoracic surgery (J952) |
| | Postprocedural subglottic stenosis (J955); Postprocedural respiratory disorder, unspecified (J959) |
| | Postoperative intestinal obstruction (K913) |
| | Leak from surgical anastomosis of digestive tract (K9183); Postprocedural bile leak, not elsewhere classified (K9184); Other postprocedural disorders of digestive system, not elsewhere classified (K918) |
| | Fracture of bone following insertion of orthopaedic implant, joint prosthesis, or bone plate (M966) |
| | Leak from surgical anastomosis of genitourinary tract (N9983); Other postprocedural disorders of genitourinary system (N998) |
| | Other obstetric injury to pelvic organs (O7150); <i>Includes:</i> Obstetric injury to bladder, Obstetric injury to urethra |
| | Obstetric damage to pelvic joints & ligaments (O7160) |
| | Obstetric haematoma of pelvis; Obstetric haematoma of perineum; Obstetric haematoma of vagina; Obstetric haematoma of vulva (O717) |
| | Other specified obstetric trauma (O7180) |
| | Deep phlebothrombosis in the puerperium; Deep-vein thrombosis, postpartum; Pelvic thrombophlebitis, postpartum (O871) |

| Complication category | Description and code/s |
|-----------------------|---|
| | Deep phlebothrombosis in the puerperium; Includes: Deep-vein thrombosis, postpartum, Pelvic thrombophlebitis, postpartum (O8710) |
| | Disruption of caesarean section wound (O900); perineal obstetric wound (O901) |
| | Haematoma of obstetric wound (O902) |
| | Chest pain on breathing (R071); Precordial pain (R072); Other chest pain (R073); Chest pain, unspecified (R074) |
| | Pain localised to upper abdomen (R101); to other parts of lower abdomen (R103); Other and unspecified abdominal pain (R104) |
| | Pain, unspecified (R529) |
| | Haemorrhage and haematoma complicating a procedure, not elsewhere classified (T810) |
| | Shock during or resulting from a procedure, not elsewhere classified (T811) |
| | Accidental puncture and laceration during a procedure not elsewhere classified; Accidental perforation of blood vessel by catheter, endoscope, instrument, probe during a procedure; Accidental perforation of nerve by catheter, endoscope, instrument, probe (T812) |
| | Disruption of operation wound, not elsewhere classified (T813) |
| | Perforation due to foreign body accidentally left in body cavity or operation wound following a procedure (T8152) |
| | Other specified complication (T8158); Unspecified complication (T8159) due to foreign body left in body cavity or operation wound following a procedure |
| | Acute reaction to foreign substance accidentally left during a procedure (T816) |
| | Other complications of procedures, not elsewhere classified (T818) |
| | Complication of inhalation therapy (T8181) |
| | Persistent postprocedural fistula, not elsewhere classified (T8182) |
| | Pain following a procedure, not elsewhere classified (T8183) |
| | Postprocedural emphysema (T8184) |
| | Other complications following a procedure, not elsewhere classified (T8189) |
| | Unspecified complication of procedure (T819) |
| | Mechanical complication of heart valve prosthesis (T820); of cardiac electronic device (T821); of coronary artery bypass and valve grafts (T822); of other cardiac and vascular devices and implants (T825) |
| | Unspecified complication of cardiac and vascular prosthetic device, implant and graft (T829) |
| | Haemorrhage and haematoma (T8281); Embolism and thrombosis (T8282); Pain (T8283); Stenosis (T8284); Vascular dissection (T8285); Aneurysm (T8286) - following insertion of cardiac and vascular prosthetic devices, implants and grafts; |

| Complication category | Description and code/s |
|------------------------------|---|
| | Other specified complications of cardiac and vascular prosthetic devices, implants and grafts (T8289; T828) |
| | Mechanical complication of graft of urinary organ (T832); of gastrointestinal prosthetic devices, implants and grafts (T855) |
| | Haemorrhage and haematoma (T8381); Embolism and thrombosis (T8382); Pain (T8383); Stenosis (T8384) - following insertion of genitourinary prosthetic devices, implants and grafts; Other specified complications of genitourinary devices, implants and grafts (T8389); Other complications of genitourinary prosthetic devices, implants and grafts (T838) |
| | Erosion of genitourinary mesh and other prosthetic materials (T8385) |
| | Haemorrhage and haematoma (T8481); Embolism and thrombosis (T8482); Pain (T8483); Stenosis (T8484); Metallosis (T8485); Other specified complications (T8489) - following insertion of internal orthopaedic prosthetic devices, implants and grafts; Other complications of internal orthopaedic prosthetic devices, implants and grafts (T848) |
| | Other complications due to nervous system device, implant or graft (T8581); of internal prosthetic device, implant and graft, not elsewhere classified (T8588) |
| | Failed or difficult intubation (T884) |
| | Other specified complications of surgical and medical care, not elsewhere classified (T888) |
| Other | Delirium not superimposed on dementia, so described (F050), superimposed on dementia (F051); Other delirium (F058); Delirium, unspecified (F059) |
| | Constipation (K590) |
| | Vomiting following gastrointestinal surgery (K910) |
| | Nausea and vomiting (R11) |
| | Disorientation, unspecified (R410) |

Appendix B. Readmission monitoring measures used by other countries

| Country / Program | Readmission measures | Data sources and characteristics | Financial penalty |
|---|---|--|--|
| Australia Public Hospital Performance Indicator Framework (ACSQHC 2019a) | <p><i>Index admission criteria:</i> Surgery for:</p> <ul style="list-style-type: none"> ● Knee replacement ● Hip replacement ● Tonsillectomy and adenoidectomy ● Hysterectomy ● Prostatectomy ● Cataract surgery ● Appendectomy <p><i>Readmission criteria:</i> Preventable postoperative complications associated to the surgery, including failure and rejection of transplant and other postprocedural disorders</p> <p><i>Time period:</i> 28 days</p> | <p><i>Data source:</i> Data collection from admitted patient and hospital patient admission systems; National Morbidity Database, which includes episodes of care for virtually all hospitals in Australia</p> <p>Rates are not risk adjusted, but analysis is conducted by hospital peer group, indigenous status, remoteness, and socioeconomic status</p> | N/A |
| Australia Core Hospital-Based Outcome Indicator (ACSQHC 2019a, 2019c) | <p><i>Index admission criteria:</i></p> <ul style="list-style-type: none"> ● AMI ● Knee replacements ● Hip replacement ● Pediatric tonsillectomy and adenoidectomy <p><i>Readmission criteria:</i></p> <ul style="list-style-type: none"> ● Further treatment ● Treatment of a condition related to index admission ● Complications associated with the index admission <p><i>Time period:</i> Varies per diagnosis</p> <ul style="list-style-type: none"> ● AMI (30 days) ● Knee replacements (60 days) ● Hip replacement (60 days) ● Pediatric tonsillectomy and adenoidectomy (15 days) | <p><i>Data source:</i> Data collection from admitted patient and hospital patient admission systems</p> <p>Varying time period is based on the likelihood of the diagnosis being associated with an unplanned/unexpected event</p> <p>Risk-adjustment coefficients are not provided but jurisdictions and private hospital organizations are advised to stratify results per hospital peer group</p> | N/A |
| Australia Pricing and Funding for Safety and Quality (IHACPA 2024; IHPA 2022) | <p><i>Index admission criteria:</i> All-cause</p> <p><i>Readmission criteria:</i></p> <ul style="list-style-type: none"> ● Pressure injury ● Infections ● Surgical complications ● Respiratory complications | <p>A risk-adjusted NWAU adjustment is applied to the index episode, based on the total NWAU of the associate readmission</p> <p>Each patient episode is</p> | The cost of readmission is deducted from the index episode |

| Country / Program | Readmission measures | Data sources and characteristics | Financial penalty |
|---|---|---|--|
| | <ul style="list-style-type: none"> ● Venous thromboembolism ● Renal failure ● Gastrointestinal bleeding ● Medication complications ● Delirium ● Cardiac complications ● Others <p><i>Time period:</i> Condition-/diagnosis-specific</p> | <p>assigned a complexity group (low, moderate, or high) on the basis of the patient’s risk of readmission</p> <p>The final NWAU is calculated by multiplying the funding of the readmission by the risk adjustment for the complexity group, the total is then subtracted from the funding of the index admission</p> | |
| <p>US Hospital Inpatient Quality Reporting program (AHRQ n.d.; ACSQHC 2019a; McIlvennan et al. 2015; YNHHS CORE et al. 2011)</p> | <p><i>Index admission criteria:</i></p> <ul style="list-style-type: none"> ● AMI ● COPD ● CABG ● Heart failure ● Pneumonia ● Ischaemic stroke ● Total hip and knee arthroplasty <p><i>Readmission criteria:</i> Hospital-wide all-cause</p> <p><i>Time period:</i> 30 days</p> | <p><i>Data source:</i> Medicare administrative claims and enrolment information for hospitalized patients</p> <p>An algorithm is used to define planned readmissions based on the following principles:</p> <ul style="list-style-type: none"> ● Specific types of care are always considered planned (transplant surgery, maintenance, rehab) ● A planned readmission is a non-acute readmission for a scheduled procedure ● Admissions for an acute illness or for complications of care are never planned <p>Risk adjusted for age, comorbidities, and patient frailty</p> <p>The measures estimate the RSRR: ratio of predicted readmissions within 30 days (based on the hospital’s case mix) and the expected readmissions based on a national benchmark compared to that hospital’s case mix, multiplied by the national readmission rate</p> | N/A |
| <p>US HRRP (ACSQHC 2019a; CMS 2024b; Kristensen et al. 2015; Mittler et al. 2013)</p> | <p><i>Index admission criteria:</i></p> <ul style="list-style-type: none"> ● AMI ● COPD ● CABG ● Heart failure ● Pneumonia ● Total hip and knee arthroplasty <p><i>Readmission criteria:</i> Same conditions as index</p> <p><i>Time period:</i> 30 days</p> | <p>Risk adjusted for age, comorbidities, and patient frailty</p> <p>The measures estimate the RSRR: ratio of predicted readmissions within 30 days (based on the hospital’s case mix) and the expected readmissions based on a national benchmark compared to that hospital’s case mix, multiplied by the national readmission rate</p> | Hospitals receive lower payments for “excess” readmissions |

| Country / Program | Readmission measures | Data sources and characteristics | Financial penalty |
|--|--|--|---|
| | | <p>CMS measures are reevaluated annually addressing stakeholder input and recommendations, and incorporating advances in sciences or changes in coding</p> <p>A 30-day time frame is used since older patients are more vulnerable to adverse health outcomes within 30 days of discharge</p> | |
| <p>England CCG OIS (ACSQHC 2019a)</p> | <p><i>Index admission criteria:</i> All-cause</p> <p><i>Readmission criteria:</i></p> <ul style="list-style-type: none"> ● Emergency readmission following discharge ● Emergency alcohol-specific readmission following an alcohol-specific admission ● Unplanned readmission to mental health services following mental health inpatient discharge for >17 yo | <p><i>Data source:</i> Hospital Episode Statistics (admissions, outpatient appointments, and emergency attendances at NHS hospitals)</p> <p>Risk adjusted for age and sex, but are not adjusted to other relevant factors including illness severity, comorbidities, or socioeconomic status</p> | <p>Non-payment for any emergency readmissions to hospital within 30 days of discharge, with a limited number of exceptions agreed as planned readmissions</p> |
| | <p><i>Time period:</i> 30 days</p> | | |
| <p>England Compendium of Population Health Indicators: Hospital Care Indicator Set (ACSQHC 2019a)</p> | <p><i>Index admission criteria:</i></p> <ul style="list-style-type: none"> ● Fractured proximal femur ● Stroke ● Hysterectomy ● Primary hip replacement surgery <p><i>Readmission criteria:</i> All-cause emergency or unplanned readmission</p> | | <p>N/A</p> |
| | <p><i>Time period:</i> 28 days</p> | | |
| <p>England Health and Social Care Act 2012 - National Tariff Payment System (ACSQHC</p> | <p><i>Index admission criteria:</i> Emergency or elective</p> <p><i>Readmission criteria:</i> Emergency all-cause</p> <p><i>Time period:</i> 30 days</p> | <p>For each patient, the review team decides whether the readmission could have been avoided, taking into consideration the actions at various levels of the health system (primary care team, community health services, or</p> | <p>No reimbursement for the proportion of readmissions considered to be avoidable</p> |

| Country / Program | Readmission measures | Data sources and characteristics | Financial penalty |
|----------------------------------|--|--|--|
| 2019a; Kristensen et al. 2015) | <p><i>Penalty:</i> No reimbursement for the proportion of readmissions considered to be avoidable during clinical review sample of readmissions</p> <p>Incentives are based on all-cause readmissions and on thresholds for unplanned avoidable readmissions that are agreed locally based on clinical review of a sample of readmissions</p> <p><i>Exceptions:</i></p> <ul style="list-style-type: none"> • HRGs that do not have a national tariff • Maternity and childbirth • Cancer, chemotherapy, radiotherapy, renal dialysis, and transplants • Children under the age of four • Patients who discharged themselves against clinical advice • Emergency transfers from another provider • Cross-border activity | <p>social services)</p> <p>The agreed threshold is the point at which the provider will not receive any payment for a given readmission: the local level of avoidable readmissions is determined by a clinical review of readmissions at each hospital during a period of at least one week and up to three months</p> <p>The amount of penalty is the total price of the readmission</p> <p>Savings are directed locally into improvement activities at a hospital and community level to improve care transitions and coordination; savings generated from withholding payment for readmissions must be reinvested by payers into post-discharge services to prevent future readmissions</p> | <p>Incentives based on all-cause readmissions and on thresholds for unplanned avoidable readmissions</p> |
| Germany (Kristensen et al. 2015) | <p><i>Index admission criteria:</i> All-cause</p> <p><i>Readmission criteria:</i></p> <ul style="list-style-type: none"> • Readmission for the same base-DRG • Readmission for the same MDC if the patient was first a medical case and is now treated with significant procedures (e.g. surgery) • Readmission for complications of treatment <p><i>Time period:</i> Measured from index admission; Depends on the specific DRG (e.g., 4 days for DRG for certain ophthalmological surgeries; 70 days for DRG for craniotomy with radiotherapy)</p> | <p>Readmitted cases are merged with the first admission for reimbursement purposes, and the DRG to be reimbursed is determined on the basis of the merged data</p> <p>The DRG to be reimbursed is determined on the basis of the merged data, i.e., all secondary diagnoses found or surgical procedures performed during the readmission can lead to the reclassification of the patient into a DRG with an associated payment that might be higher than what the hospital would have been paid for the first admission only</p> | <p>Hospital receive only one DRG-based payment</p> |

| Country / Program | Readmission measures | Data sources and characteristics | Financial penalty |
|-------------------|---|---|-------------------|
| | <i>Exemptions:</i> about 23% of all DRGs | | |
| | <ul style="list-style-type: none"> ● Maternal and newborn care ● DRGs with ICU treatment ● Certain cancer cases ● Pain therapy ● Renal dialysis ● All pre-MDC DRGs, including transplants ● Error DRGs (surgery unrelated to the main diagnosis) | <p>If the combined LOS of the first admission and the readmission exceed the DRG-specific LOS threshold, the hospital receives the applicable per diem surcharges</p> | |

AMI = acute myocardial infarction; NWAU = national weighted activity unit; COPD = chronic obstructive pulmonary disease; CABG = coronary artery bypass graft; US = United States; HRRP = Hospital Readmissions Reduction Program; RSRR = risk standardized readmission rates; CMS = Centers for Medicare & Medicaid; CCG OIS = Clinical Commissioning Group Outcomes Indicator Set; NHS = National Health Service; HRG = Health Resource Groups; DRG = diagnosis-related groupings; MDC = major diagnostic category; ICU = intensive care unit; LOS = length of stay

Source: Authors' analysis of cited literature