Supplementary Online Content

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This supplementary material has been provided by the authors to give readers additional information about their work.

eAppendix 1. Operationalization of CPG Recommendations Into Survey Data Collection Indicators

CPG recommendations comprised inclusion criteria and compliance actions. Inclusion criteria specified the sub-groups of children who are the target of a specific recommendation. Compliance actions specified the recommended management for the children who met the inclusion criteria. To operationalize indicator questions for survey purposes, the CPG recommendations were converted to discrete indicator questions that can assess each inclusion criterion and compliance action, as part of a condition survey. The CTK indicator questions were embedded in a web-based tool for onsite encrypted data collection. eTable 2 provides some examples of how this was achieved for CTK quality of care indicators drawn from recommendations with multiple inclusion criteria and/or compliance actions.

eAppendix 2. Multistage Procedure for Selection of Health Care Providers

Figure 2 of the main article displays a map of Australia showing the sampled regions and locations. For logistical efficiency, sampling targeted three states, Queensland (QLD), New South Wales (NSW) and South Australia (SA), which together comprise 60% of the Australian population aged ≤ 15 years.[1]

Metropolitan/Regional strata

As shown in Figure 3 of the main article, each state was divided into three non-overlapping strata: Metropolitan Areas; Tertiary Pediatric Hospitals; and Regional Areas. The difference between Metropolitan and Regional Areas is geographic; the difference between these Areas and Tertiary Pediatric Hospitals is conceptual, as tertiary hospitals have state-wide roles.

Selection of Tertiary Pediatric Hospitals

All six tertiary pediatric hospitals in the three states were automatically selected and agreed to participate. QLD had two hospitals (both in Metropolitan locations); NSW had three (two Metropolitan, one Regional); and SA had one (Metropolitan).

Selection of Health Districts

Within the Metropolitan and Regional Areas, the goal was to randomly select two Health Districts per Area. Health Districts have different names in each state: Hospital and Health Services in QLD; Local Health Districts in NSW; and Local Health Networks in SA. A Health District was eligible for selection if it contained an eligible (non-tertiary) public or private hospital operating under Government contract, with ≥ 2000 Emergency Department (ED) presentations AND ≥ 500 inpatient discharges per year.

All Health Districts in NSW and Metropolitan QLD were eligible for selection. One Metropolitan Health District in SA, containing 32·2% of the target resident population in the Metropolitan Area, was ineligible. Four Health Districts from Regional QLD were ineligible; a fifth Health District from Regional QLD was eligible but excluded due to remoteness, prior to Health District selection; together, these five Health Districts comprised 7·5% of the QLD Regional stratum population aged ≤ 15 years, and 2·5% of the QLD population aged ≤ 15 years.

The Health District sampling rates are summarized in Figure 3 of the manuscript. In SA, there were only two eligible Health Districts in the Metropolitan Area and one in the Regional Area; these were therefore selected automatically. Two eligible Health Districts were selected, using simple random sampling with equal probability, from Metropolitan and Regional Areas of QLD and NSW. There was a logistical difficulty in Regional QLD because both eligible hospitals in one of the selected Regional Health Districts did not respond to repeated recruitment attempts; two Health Districts, each containing one eligible hospital, were therefore selected as a replacement. This replacement was non-random; Health Districts were selected where clinicians were known to the research team, to ensure that the project could be completed within the timeframe available. This non-random selection could result in bias, if the replacement Health Districts had different levels of adherence to CPG indicators than the originally selected Health District.

In SA, the ineligible Health District in the Metropolitan Area was used for sampling general pediatricians. Attempts to locate pediatricians in the selected Health Districts in SA were fruitless, in part because pediatricians were disproportionately congregated in the one Health District in SA that was not eligible for the study as it did not contain an eligible hospital. This supplementary Health District was therefore added, as the source of all participating pediatricians in SA.

Selection of non-tertiary hospitals within Health Districts

All non-tertiary hospitals which met the minimum volume criteria (≥ 2000 ED presentations AND ≥ 500 inpatient discharges) were defined as eligible for the study by the original protocol. One eligible hospital, from a selected Health District in Metropolitan SA, chose not to participate because it did not have a specialized pediatric ward; two hospitals, both from a single Health District in Metropolitan NSW were not invited to participate due to an administrative error.

Exclusion of these three hospitals left 28 eligible non-tertiary hospitals in 12 selected Health Districts, all of which agreed to participate in the study. Exclusion of these three eligible hospitals could lead to an incorrect estimate of adherence to quality of care indicators if the non-participating hospitals had a different rate of adherence with pediatric quality of care indicators.

Selection of general pediatricians within Health Districts

No sampling frame was available to systematically identify general pediatricians clinics within Health Districts. General pediatricians, as described in this document, are Fellows of the Royal Australasian College of Physicians who work as private practitioners and who are not providing pediatric sub-specialty services. A variety of approaches were therefore used to recruit practices:

1. Participation in the study was recognized by the Division of Paediatrics and Child Health of the Royal Australasian College of Physicians, for the purposes of continuing professional development;

2. The research was advertised at selected relevant conferences and seminars;

3. The research team staff undertook internet searches to identify practices in each selected Health District, and wrote to and cold-called practices to seek their participation;

4. Direct contact by pediatricians associated with the study, using personal networks.

A total of 20 pediatricians were recruited to the study: four in QLD, eight in NSW, and eight in SA (all from the supplementary Health District); note that it has been estimated that there are approximately 1000 general pediatricians practicing in the community, in Australia.[2]

Recruitment of pediatricians was decentralized. Administrative details for refusal rates, from cold-calling or direct contact by pediatricians who facilitated recruitment of their peers, were maintained on project laptops. At the end of recruitment all computers were decommissioned and cleaned, with the files archived on a USB. Unfortunately, the USBs created during laptop decommissioning were misplaced and have not been able to be located. This did not affect the quality indicator adherence data, as the database was remotely located and updated regularly via the internet. We have therefore sought to estimate the recruitment rate based on recruitment spreadsheets emailed to the administrative staff. For pediatricians, we were fortunate to be able to locate emailed records with late stage records for all three states. Based on these spreadsheets, we successfully approached 80 eligible pediatricians and recruited 20 of them, giving a recruitment rate of 25.0%.
The 25.0% recruitment rate and the small number of practices recruited, especially in QLD, raise the potential for selection bias arising from self-selection. It is plausible that pediatricians who self-select were more confident of their adherence with quality of care indicators, potentially leading to overestimation of the quality of care in the CTK study.

Selection of General Practitioners within Health Districts

For logistical reasons, General Practitioners' (GPs') practices were eligible for sampling if they were confident in their ability to independently identify children by clinical condition or if they were using one of four GP medical software applications (Medical Director, Best Practice, Zedmed or Genie) where project staff had been trained to identify children by clinical condition. It is not known exactly what percentage of practices used the four targeted software applications, but it is believed to be the clear majority. It is unclear how many practices were deemed ineligible because of these requirements.

No sampling frame was available to systematically identify GP clinics within Health Districts. A variety of approaches was therefore used to recruit practices:

1. Participation in the study was officially recognized by the Royal Australian College of General Practitioners, for the purposes of continuing professional development;

2. The research was advertised at selected GP conferences and seminars;

3. Research team staff undertook internet searches to identify practices in each selected Health District, and wrote and cold-called practices to seek their participation;

4. Research team contacted Primary Healthcare Networks[a] to identify practices, and contact them; and

[a] Primary Healthcare Networks were established by the Federal Government to improve coordination in selected locations, including all Health Districts selected for the study.

5. Direct contact by GPs who were employed by the study to facilitate recruitment, using their personal networks.

A total of 81 GP practices completed the study, with two practices each having two distinct locations, and one practice having three distinct locations. Thus, the surveys were conducted in 85 distinct practice locations: 35 in QLD; 22 in NSW; and 28 in SA. It has been estimated that there are over 15,000 GPs in continuing practice (> 1,500 consultations/year) in Australia.[3]

Recruitment of GPs was decentralized. Administrative details for refusal rates, from cold-calling or direct contact by GPs who facilitated recruitment of their peers, were maintained on project laptops. At the end of recruitment all computers were decommissioned and cleaned, with the files archived on a USB. Unfortunately, the USBs created during laptop decommissioning were misplaced and have not been able to be located. This did not affect the quality indicator adherence data, as the database was remotely located and updated regularly via the internet. We have therefore sought to estimate the recruitment rate based on recruitment spreadsheets emailed to the administrative staff. For GPs, we were only able to locate emailed spreadsheets with late stage records for one state, South Australia.

Based on this spreadsheet, we approached 114 GPs and recruited 27 of them, giving a recruitment rate of 23.7%; an additional GP, not listed on the available spreadsheet, was recruited subsequently and was not added to either the numerator or the denominator, for this estimate. The spreadsheet did not have clear information on eligibility, so it is likely that an unknown number of the 114 approached were ineligible because: 1) they were not open during the whole 2012-2013 survey period; 2) they saw no or few children; or 3) they were not confident in their ability to generate full listings of children with the target conditions, or they did not use one of the four practice software systems our surveyors were trained to search (as described in the first paragraph of this section). Our estimate of 23.7% is therefore likely to be an underestimate of the actual recruitment rate.

Self-selection of GP practices, and the estimated 23.7% recruitment rate, could lead to bias in the estimated quality of care, arising from self-selection. It is plausible that practices which self-select were more confident of their adherence with quality of care indicators, potentially leading to overestimation of the quality of care in the CTK study.

eAppendix 3. Allocation of Surveys to Facilities and Sampling of Records

Background

The study sought to identify 400 medical records for 15 of the 17 conditions: *Acute abdominal pain, Acute bronchiolitis, Acute gastroenteritis, Asthma, Attention deficit hyperactivity disorder (ADHD), Autism, Croup, Diabetes, Eczema, Fever, Gastro-esophageal reflux disease (GERD), Head injury, Otitis media, Tonsillitis,* and *Upper respiratory tract infection (URTI)*. The other two conditions (*Anxiety and Depression*) were allocated a target of 400 medical records, between them (267 to *Anxiety* and 133 to *Depression*), based on the anticipated relative prevalence ≤ 15 years of age in the targeted healthcare settings.

Secondary sampling was undertaken opportunistically within the selected medical records, as described below.

Allocation of surveys to sampling units

SA was over-sampled relative to population and allocated 100 surveys/condition (vs 45 surveys by population-based allocation), with NSW and QLD allocated the remaining 300 pro rata relative to population.[4] Within each state, surveys were allocated to Metropolitan and Regional strata proportional to target populations, with the tertiary hospitals sharing the allocation appropriate to their geographical location.

The allocation of conditions to be sampled at each healthcare setting to achieve 400 per condition (or fewer for *Anxiety* and *Depression*) was based on the following procedure:

1. Data on the number of episodes of care by condition and setting type were sourced as follows: GP data were sourced through personal communications with an established survey of GP activity;[5] data on pediatrician visits were estimated from published material;[6] and ED and inpatient data were sourced from personal communications with NSW Health[7, 8]. These data were reviewed by expert clinicians, and used to estimate the proportion of frequency of attendance by setting type for each condition, as shown in Table 2[b] of the published protocol;[4]

[b] The published protocol included visits provided by clinical psychologists, for selected conditions; this aspect was deemed infeasible during implementation and removed. The nominal percentage of visits allocated to psychologist was re-distributed, pro rata, to the other settings that were retained in the study.

2. Setting types with small numbers of attendances for a condition were over-sampled, and those with more numerous attendances were under-sampled, to create a revised sampling table that improved the accuracy of the point estimate for each setting type;

3. The targeted number of records in the revised sampling table was allocated across participating hospitals (60 ED records for each of 34 hospitals and 40 inpatient records for each of 30 hospitals)[c], pediatricians (30 records for each of the 20 practices), and GPs (40 records for each of the 85 practices);

4. All 15 conditions allocated to hospitals and all 11 conditions[d] allocated to pediatrician practices were targeted (but not always found) at each site; for GPs (17 conditions), different combinations of eight to nine conditions were targeted at each site to achieve the desired sample total, while simplifying the logistical process of identifying the sampling frame for each condition.

Selection of medical records within hospitals

Almost all selected hospitals (tertiary and non-tertiary) that agreed to participate submitted lists of ED presentations and inpatient admissions for each of the selected conditions that included condition and medical record number, but no other identifying details; from these, the targeted number were selected for each condition at each hospital, using a random number generated in Microsoft Excel. All but two hospitals provided these condition-specific lists as Microsoft Excel worksheets: one hospital provided print-outs, which were entered, and the same selection method used; the other hospital was unwilling for records including medical record numbers to leave their premises, so they undertook the random selection process locally, with instructions from the research team.

Hospitals were provided a list of ICD-10 AM codes as shown in eTable 3 (note, that a selection of equivalent Systematized Nomenclature of Medicine—Clinical Terms (SNOMED-CT) codes were used to identify ED presentations in NSW) to identify each of the conditions, using the principal diagnosis code entered in the hospital medical information systems for ED presentations or inpatient discharges. Two hospitals requested equivalent ICD-9 codes, and these were supplied. Each identified medical record that was included in the study generated at least one visit assessment; secondary and opportunistically sampled visit assessments could also be generated from this medical record. Some of these visits were deemed ineligible retrospectively because they did not contain any indicators with 'Yes' or 'No' responses, due to age-specific criteria or other inapplicability of indicator questions.

While 34 hospitals were successfully sampled for ED presentations, inpatient discharges were sampled in 31 hospitals. It is unclear whether the lack of inpatient records in these three hospitals was due to surveyor errors, or loss of data during transmission between the surveyors' laptops and the central database.

Selection of medical records within Specialist Pediatricians' offices

Pediatrician practices were visited by a CTK surveyor, who generated lists of patients for all 11 conditions[e] targeted in pediatricians' rooms by examining bookings, referral letters and, where available, computer-based record management systems, for the target time-period, to generate a sampling frame. Surveyors were instructed to take random samples of medical records from the generated lists of patients, but a single standardized method could not be applied uniformly. It is possible that the selection of records may have been non-random in some way (e.g., favoring one end or the other of the two-year target period).

Selection of medical records within General Practitioner's offices

Each practice was assigned a combination of conditions, using a random number generated in Microsoft Excel. There were ten unique combinations of eight to nine conditions per practice and records per condition. Practices generated lists of patients for each condition targeted at that practice, identifying them directly from their computer-based record management systems or, if practices were unable to do this themselves, surveyors assisted in the process. These lists were transferred to CTK administrative staff, each record was allocated a random number generated in Microsoft Excel, and the list was sorted from smallest to largest random number; surveyors worked down the list sequentially until the condition quota was achieved.

[c] One hospital in Metropolitan NSW restricted total records to 40, due to local time and resource constraints; this hospital targeted 24 ED and 16 inpatient records.
[d] Two conditions targeted at pediatrician consultations, *Fever* and *Tonsillitis*, had one and three visits, respectively, across all sites. These visits were removed prior to analysis, leaving nine conditions for analysis.
[e] Two conditions targeted at pediatrician consultations, *Fever* and *Tonsillitis*, had one and three visits, respectively, across all sites. These visits were removed prior to analysis, as sample sizes were inadequate to justify an assumption of representativeness, leaving nine conditions for analysis.

eAppendix 4. Calculation of Survey Weights

Background

The conceptual model underlying the survey (see eFigure 1) is of a universe of episodes of healthcare provided to children ≤ 15 years old across Australia. We took a sample from this universe, restricted to the 17 conditions in three states. The type of care was classified by location, as either community-based or hospital-based. Patient acuity, or the complexity of care provision, does not consistently differentiate between the types of care provided by the different healthcare settings studied; for example, it is known that primary care is sometimes sought in ED settings. There are other healthcare settings that provide episodes of care to children (e.g., clinical psychologists) who were not assessed.

Numerator data: Care visits identified in the CTK study

As described in eAppendix 2, initial sampling was designed to generate 400 medical records for each of 15 of the 17 conditions, and 400 medical records shared between *Anxiety* (267) and *Depression* (133). Secondary sampling was undertaken within each of the medical records identified during initial sampling target. Each medical record was examined to identify all visits (distinct inpatient discharges, ED presentation or consultations for pediatricians and GPs) while the child was ≤ 15 years of age, within the targeted period of 1 January 2012 to 31 December 2013, for one or more of the conditions.

This process could therefore potentially identify multiple visits for one or more of the conditions, within the one medical record, within a single provider site. Moreover, as hospital medical records include both ED presentations and inpatient discharges, a medical record selected for an ED visit for one condition, could generate one or more separate inpatient visits for the target condition, or for another condition, and vice versa.

Each visit identified through initial or secondary sampling generated an assessment of the clinical care provided, against the quality of care indicators for that condition. The number of visits for each condition represents the numerators used to determine the sampling fraction.

If two or more of the conditions were addressed in a single visit, separate assessments were made for each condition, generating multiple surveys from a single visit.

Denominator data: care visits by children ≤ 15 years of age

Total number of visits by setting and state

The number of visits by children ≤ 15 years of age, was estimated separately for each setting as follows:

- Inpatient discharges: Published total discharges per participating state, restricted to public hospitals or private hospitals providing public services under contract, as estimated[f] from data published by the Australian Institute of Health and Welfare;[9]

- ED presentations: Published total presentations per participating state, as estimated[g] from data published by the Australian Institute of Health and Welfare, adjusted for estimated under-reporting;[10]

- Pediatrician consultations: Unpublished total consultations per participating state, as calculated by the Federal Department of Health and Human Services, reflecting Government payments to general pediatricians for specific types of consultations (Item numbers 00110, 00116, 00132, 00133, and 00135)[h] under the Medicare Benefits Schedule (MBS);[11] and

[f] Table 6.36, with 0-15 years estimated as the mean of two estimates: 0-14 years + 10% of 5-14 years; and 0-14 years + 10% of 15-24 years.
[g] Table 2.13, with 0-15 years calculated as the mean of two estimates: 0-14 years + 10% of 5-14 years; and 0-14 years + 10% of 15-24 years.
[h] These item numbers are used by all registered specialists for care outside of hospital settings; their use by pediatricians was identified by the Department of Human Services by using information it retains on the Provider Registered Specialty. Item number descriptions can be found at http://medicarestatistics.humanservices.gov.au/statistics/mbs_item.jsp.

- GP consultations: Unpublished total consultations per participating state, as calculated by the Federal Department of Health and Human Services, reflecting Government payments to GPs for specific types of consultations (Item numbers 00003, 00023, 00036, 00044, 00139, 00701, 00703, 00705, 00707, 00715, 02517, 02521, 02525, 02546, 02552, 02558, 02700, 02701, 02712, 02713, 02715, 02717, 02721, 02725, 05000, 05020, 05040, and 05060)[i] under the MBS.[12]

Each of the data collections is considered likely to capture virtually all visits. The hospital data is provided by State Governments as required by State-Federal funding agreements, and the GP and general pediatrician MBS payments are either deducted at the time of payment, or rebated to the patient subsequently. The MBS collection does not record services which qualify for benefits under the Department of Veterans' Affairs National Treatment Account, or services to non-residents, who are not eligible for MBS payments. Hospital data is recorded regardless of payment status.

As noted above, if two or more of the conditions were addressed in a single visit, separate assessments were made for each condition, generating multiple surveys from a single visit. The denominators should therefore be adjusted to account for the mean number of conditions treated per consultation. This could not be adjusted in the ED or inpatient data, as estimates could not be found, but was adjusted in pediatrician data, where survey data from 2013 reveal that there were 165 conditions treated per 100 consultations with children ≤ 15 years old,[13] and in GP data where 2012-13 data show that there were 118 conditions treated per 100 consultations.[14]

The total number of visits by children, by setting, was used to calculate the total number of visits for each of the conditions by using estimates of the percentage of visits where each of the conditions was managed.

Estimated total number of visits by setting, at Health District and Metropolitan/Regional levels
We described above how the total number of visits by setting was estimated at the level of the state (QLD, NSW, SA). For many of the calculations of sampling fractions, estimates were required of the number of visits by setting at lower levels.

For tertiary hospitals, the total number of visits as reported by the state Departments of Health were used for each of these hospitals, for inpatient discharges and ED presentations.[15, 16]

Within each state, the total number of tertiary hospital inpatient discharges and ED presentations were subtracted from the respective state totals as reported by state Departments of Health[15, 16] and as reported by the Australian Institute of Health and Welfare (AIHW)[9, 10] to estimate the total visits for non-tertiary inpatient discharges and ED presentations per state (after adjusting reported ED totals per state for under-reporting). The state total for non-tertiary hospitals derived from AIHW data was divided by the state total for non-tertiary hospitals derived from state department of health data to create calibration factors, separately for inpatient discharges and ED presentations in each state. These calibration factors were then applied to non-tertiary hospital inpatient discharges and ED presentation totals as reported by state Departments of Health for Health Districts and for Metropolitan and Regional Areas.

For pediatricians and GPs, the total number of visits at Health District and Metropolitan/Regional levels were estimated by:

1. Calculating the population proportion at each level: We used the estimated population ≤ 15 years old in Health Districts and geographical Areas to calculate the percentage of the state population at each of these levels. Total state populations were taken from published Australian Bureau of Statistics estimates,[1] while Health District and Area populations were based on estimates provided by each of the state Departments of Health.[17] In QLD, the Health District populations summed to the ABS state estimate, but there were small differences in NSW and SA (< 0·2%) so a calibration factor was calculated and applied to the state reported Health District and Area population estimates; and

2. Allocating visits proportional to population: Multiplying the total number of visits by setting (state totals for pediatricians and GPs, and state non-tertiary totals for hospitals) by those population-derived percentages, to estimate the Health District- or stratum-specific totals number of visits by setting.

Estimated visits by setting and condition, at all relevant levels
The estimated number of visits by setting was calculated for each of the conditions, at the appropriate level, using the following procedure:

1. Estimated proportion of all visits by setting and condition: For each setting, the percentage of visits where each of the conditions was managed were estimated, hereafter referred to as $Prevalence_i$, using the following data sources:

[i] These codes are used, exclusively by GPs, for care outside of hospital settings. Item number descriptions can be found at http://medicarestatistics.humanservices.gov.au/statistics/mbs_item.jsp.

- Inpatient discharges: Publicly available data cubes identify the number of cases by ICD-10 principal diagnosis as recorded in the AIHW's National Hospital Morbidity Database, and the total number of inpatient discharges, by age-group for 2012-13 (database HDU_PDX 1113).[18] For both the numerator and denominator data, the national data were restricted to children aged 0-15 years[j]. For each of the 15 conditions targeted at this setting, the percentage of discharges associated with the targeted principal diagnosis code(s) was calculated as $Prevalence_i$. The target ICD-10 codes, by condition, are listed in eTable 4.

- ED presentations: The AIHW does not publish ED data-cubes because of inconsistency of coding systems across states and territories, and because of incomplete reporting[k]. We therefore sought data on the proportion of presentations for each of the 15 conditions targeted at this setting as reported to each State department of health in financial year 2012-13, for children aged 0-15 years on the date of presentation.[19] States did not have complete reporting from all public hospitals in 2012-13: QLD did not collect any ED data in four Health Districts, at the time, with partial reporting in others; NSW restricted reporting to 86 hospitals that had 75% or higher diagnosis completion over the period; and SA estimates were based on data from seven Metropolitan and seven Regional hospitals. For QLD and SA, all principal diagnoses were coded in ICD-10; for NSW, most principal diagnoses were coded in SNOMED-CT-AU[l], some were coded in ICD-10 and a few in ICD-9. For each of the 15 conditions targeted at this setting, the percentage of presentations associated with the targeted principal diagnosis code(s) was calculated as $Prevalence_i$. The target ICD-10, ICD-9 and SNOMED-CT codes, by condition, are listed at eTables 5 and 6.

- Pediatrician consultations: A national survey of clinical practice by Australian pediatricians was undertaken in November and December 2013, documenting care for consecutive patients.[20] The Australian Paediatric Research Network, which conducted the survey, provided data on the frequency of management of each of the conditions sampled, restricted to children aged 0-15 years on the date of consultation, along with data on the total number of consultations and the number of conditions (of any type) managed per 100 consultations (~165).[13] Conditions were coded using the International Classification of Primary Care as modified and extended for the Bettering the Evaluation and Care of Health (BEACH) program (ICPC-2 PLUS); the condition-specific codes used for identifying the target conditions are shown in eTable 7. For each of the nine conditions targeted at this setting, the percentage of consultations associated with the targeted principal diagnosis code(s) was calculated as $Prevalence_i$.

- GP consultations: The BEACH program undertook annual national surveys of Australian GP practice patterns over 18 years, recording details of consecutive patients, including the period 1 April 2012 to 30 March 2013.[21] Data from 2012-13 were provided by the Menzies Centre for Health Policy, restricted to children aged 0-15 years on the date of consultation, along with data on the total number of encounters and the number of conditions (of any type) managed per 100 consultations (~118).[14] Conditions were recorded using ICPC-2; the condition-specific codes used for identifying the target conditions are shown in eTable 8. For each of the 17 conditions, the percentage of consultations associated with the targeted principal diagnosis code(s) was calculated as $Prevalence_i$.

2. Estimated number of visits by setting and condition: The number of visits for each condition was estimated by multiplying the total number of visits at the appropriate level (Health District, Metropolitan/Regional stratum, or state), by $Prevalence_i$, for that setting.

A limitation of this method is that it artificially eliminates the variability in the actual number of visits, by condition, at levels below that of the state, for inpatient discharges and ED presentations, or the nation, for pediatrician and GP

[j] Estimated by taking the mean of [0-14 years + 20% of 10-14 years] and [0-14 years + 20% of 15-19 years]. For three conditions (*Acute Abdominal Pain, Anxiety and Depression*) the two estimates yield numerators that differ by more than 10% (11%, 27% and 77%, respectively). In each case this arose because the number of discharges of children aged 15-19, for that condition, is substantially higher than the number of discharges of children aged 10-14. We therefore took the final estimate as the mean of the two methods of estimation.

[k] The AIHW estimated the percentage of presentations reported to it as 88% in NSW, 80% in SA, and 72% in QLD.[5]

[l] Mapping ICD-10 to equivalent SNOMED-CT codes was performed using a mapping tool provided by the Australian Digital Health Agency (SNOMED Clinical Terms to ICD-10 map by the International Health Terminology Standards Development Organization and the World Health Organization, release date 31 January 2016). This database was first restricted to active SNOMED-CT codes, and then searched to identify all unique SNOMED-CT codes that map to one or more of the target ICD-10 codes for each condition. This set of possible SNOMED-CT codes was then restricted to the sub-set that only map to target ICD-10 codes. This method was designed to maximise specificity, at a possible cost in sensitivity. ICD-10-AM codes mapped to equivalent ICD-9 codes with little difficulty.

consultations. This reduced variability would in turn reduce the inherent variability of sampling weights, and thus the width of the CI, by an unknown amount.

Calculating the final sampling fractions and sampling weights

Sampling weights were calculated as the inverse of the Final Sampling Fraction (FSF).

Tertiary hospitals – inpatient discharges

The FSFs for inpatient discharges for each condition (*i;* 15 conditions) in each tertiary hospital in each state was calculated as follows:

$$FSF_i = \frac{\sum\ Visits_i\ in\ a\ hospital}{Total\ discharges\ in\ a\ hospital\ \ \times\ Prevalence_{i(national)}}$$

There were several tertiary hospitals where no visits were identified for a selected condition. These conditions are identified in eTable 9.

Where there were no visits for a condition in one or more hospitals within a state (i.e., QLD or NSW, the only states with two or more tertiary hospitals), the numerator and denominator were adjusted, to cover all hospitals in that state, as follows:

$$FSF_i = \frac{\sum\ Visits_i\ in\ selected\ hospital\ in\ a\ state}{Total\ discharges\ in\ a\ state\ \ \times\ Prevalence_{i(national)}}$$

Where there were no visits for a condition in any tertiary hospital within a state, which only happened in the case of *Croup* in SA, a sampling fraction was not calculated.

Tertiary hospitals – ED presentations

The FSFs for ED presentations for each condition (*i;* 15 conditions) in each tertiary hospital in each state was calculated as follows:

$$FSF_i = \frac{\sum\ ED\ visits_i\ in\ a\ hospital}{Total\ ED\ visits\ in\ a\ hospital\ \ \times\ Prevalence_{i(state)}}$$

All tertiary hospitals had one or more visits for each of the 15 selected conditions, so all FSFs were at hospital level.

Non-Tertiary hospitals – inpatient discharges

Sampling of all 15 conditions was targeted in 34 hospitals, but no sampling was achieved in three hospitals, leaving 31 hospitals for analysis.

The FSFs for inpatient discharges for each condition (*i;* 15 conditions) in each selected non-tertiary hospital in each state was calculated as follows:

$$FSF_i = \\ Area\ Sampling\ Fraction\ \times\ Health\ District\ Sampling\ Fraction\ \times\ Hospital\ Sampling\ Fraction_i$$

Where the Area Sampling Fraction (SF) refers to Metropolitan or Regional geographical areas, and:

$$Area\ SF\ \ = \frac{\sum\ Inpatient\ discharges\ in\ selected\ Health\ Districts\ in\ an\ area}{Total\ discharges\ in\ an\ Area}$$

$$Health\ District\ SF\ \ = \frac{\sum Discharges\ from\ selected\ Hospitals\ in\ a\ Health\ District}{Total\ discharges\ in\ a\ Health\ District}$$

$$Hospital\ SF_i = \frac{\sum\ Inpatient\ visits_i\ in\ a\ hospital}{Total\ discharges\ from\ a\ hospital\ \ \times\ Prevalence_{i(national)}}$$

Depending on the actual sampling achieved, modifications may have been required to the Area and Health District SFs, as follows:

1. Area SFs: On the face of it, Area SFs are independent of condition and are the same for all hospitals within the Metropolitan/Regional Area of each state. There are however two situations where they were modified, for different conditions:

    - Where there were no visits in any hospital within a selected Health District, the numerator of the Area SF automatically reduced to reflect the lower number of visits (i.e., restricted to the remaining Health District(s) in that Area);[m] and

    - Where there was no visit in any hospital in an Area SF, the denominator of the other Area SF was changed to the Total visits in the state.[n]

2. Health District SFs: On the face of it, Health District SFs are independent of condition, and the same for all hospitals within a Health District. Where there were no visits in one or more (but not all) hospitals in a selected Health District, however, the numerator of the Health District SF automatically reduced to reflect the lower number of visits (i.e., restricted to the remaining hospital(s) in that Health District).[o] Note that if there were no visits in any hospital in a Health District, this was adjusted for in the Area SF.

Hospital SFs were condition-specific. The absence of visits for a condition within a specific hospital, impacts the Health District and Area SFs as described above.

Non-Tertiary hospitals – ED presentations

Note that sampling of all 15 conditions was targeted in 34 hospitals, with all 34 hospitals contributing data to analysis. The formulae were identical to those presented above for inpatient discharges for selected non-tertiary hospitals, with one modification to show that the Hospital Sampling Fraction was calculated using a state-based prevalence estimate:

$$Hospital\ SF_i = \frac{\sum\ ED\ visits_i\ in\ a\ hospital}{Total\ ED\ visits\ in\ a\ hospital\ \ \times\ Prevalence_{i(state)}}$$

Depending on the actual sampling achieved, modifications may have been required to Area and Health District SFs, as follows:

1. Area SFs: On the face of it, Area SFs are independent of condition and are the same for all hospitals within the Metropolitan/Regional Area of each state and, unlike inpatient discharges, this was true for all hospitals sampled for ED presentations, so no modification was made to the Area SFs.

2. Health District SFs: On the face of it, Health District SFs are independent of condition, and the same for all hospitals within a Health District. Where there were no visits in one or more (but not all) hospitals in a selected Health District, however, the numerator of the Health District SF automatically reduced to reflect the lower number of visits (i.e., restricted to the remaining hospital(s) in that Health District).[p]

Hospital SFs were condition-specific. The absence of visits for a condition within a specific hospital, impacts the Health District SFs as described above.

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[m] This occurred for the following conditions: *Anxiety* (QLD Metropolitan); *Croup* (NSW Metropolitan); *Depression* (NSW Metropolitan); *Eczema* (QLD Regional); *Fever* (QLD Regional); *Otitis Media* (NSW Metropolitan & Regional, and QLD Regional); *URTI* (NSW Metropolitan, and QLD Regional).

[n] This occurred for the following conditions: *Anxiety* (SA Metropolitan); *Depression* (SA Metropolitan).

[o] This occurred for the following conditions: *Acute abdominal pain* (2 x Metropolitan Health Districts); *Acute gastroenteritis* (1 Metropolitan & 1 Regional Health Districts); *Anxiety* (1 x Metropolitan & 2 x Regional Health Districts); *Bronchiolitis* (1 x Regional Health District); *Croup* (2 x Metropolitan & 1 x Regional Health Districts); *Depression* (2 x Metropolitan & 3 x Regional Health Districts); *Diabetes* (3 x Metropolitan & 1 x Regional Health Districts); *Eczema* (3 x Metropolitan Health Districts); *Fever* (1 x Regional Health District); *GERD* (1 x Metropolitan & 3 x Regional Health Districts); *Head Injury* (2 x Metropolitan & 1 x Regional Health Districts); *Otitis Media* (2 x Metropolitan & 3 x Regional Health Districts); *Tonsillitis* (1 x Metropolitan & 1 x Regional Health Districts); *URTI* (1 x Metropolitan & 2 x Regional Health Districts).

[p] This occurred for the following conditions: *Anxiety* (1 x Metropolitan & 1 x Regional Health Districts); *Depression* (2 x Metropolitan & 1 x Regional Health Districts); *Diabetes* (1 x Metropolitan Health District); *Eczema* (3 x Metropolitan & 2 x Regional Health Districts); *GERD* (1 x Regional Health District).

Pediatrician sampling fractions
While there were 11 conditions targeted at pediatricians, there was only one visit for *Fever* and three visits for *Tonsillitis* across all 20 pediatricians, so these conditions were excluded prior to analysis, leaving nine sampled conditions for analysis.

Because of the small number of pediatricians recruited (20 across three states) there were multiple Health Districts with no participating pediatrician. In QLD and NSW, the FSFs were therefore calculated at the level of Metropolitan and Regional Areas, with the FSFs for pediatrician consultations for each condition (*i;* nine conditions) calculated as follows:

$$FSF_i = \frac{\sum \ Pediatrician\ visits_i\ in\ an\ Area}{Total\ pediatrician\ visits\ in\ an\ Area \quad \times\ Prevalence_{i(national)}}$$

In SA, all four pediatricians were recruited from the supplementary Health District in the Metropolitan Area; the FSF was therefore calculated at the level of the state for all conditions. In QLD, sampling for *Depression* was only achieved in the Metropolitan Area, so the FSF for *Depression* was calculated at the level of the state.

The total visits by pediatricians in each state was provided by the Department of Human Services,[11] and this number was allocated pro rata to Metropolitan and Regional Areas using estimated residential population aged 0-15 years, as provided by state health departments.[17]

There were two conditions that were not sampled in any sampled pediatrician in a state (*Diabetes* in SA, and *Otitis Media* in QLD); FSFs were not calculated for these conditions.

GP sampling fractions
All 17 conditions targeted GPs, and all were included in analysis. The FSFs for GP consultations for each condition (*i;* 17 conditions) was calculated as follows:

$$FSF_i = Area\ Sampling\ Fraction\ \times\ Health\ District\ Sampling\ Fraction$$

Where the Area Sampling Fraction (SF) refers to Metropolitan or Regional geographical areas, and:

$$Area\ SF \quad = \frac{\sum Population\ aged\ 0-15\ years\ of\ selected\ Health\ Districts\ in\ an\ Area}{Total\ population\ aged\ 0\text{-}15\ in\ an\ Area}$$

$$Health\ District\ SF_i = \frac{\sum \ GP\ visits_i\ in\ a\ Health\ District}{Total\ GP\ visits\ in\ a\ Health\ District \quad \times\ Prevalence_{i(national)}}$$

Where the Total occasions of GP care in a Health District was calculated as the product of the total occasions of GP care in the state[12] and the proportion of the state population aged 0-15 in the Health District.[17]

Depending on the actual sampling achieved, modifications were required to the component SFs, as follows:

1. Area SFs: Area SFs are usually independent of condition and are the same for all Health Districts within the Metropolitan/Regional Area of a state. There are however two situations where they were modified:

    a) Where there were no visits in a selected Health District, the numerator of the Area SF was reduced to remove the population of the Health District without visits (i.e., restricted to the Health District(s) that contributed visits in that Area);[q] and

    b) Where there was no visit in any Health District in an Area SF, the denominator of the Area SF of the other Area(s) was increased to the Total visits in the state.[r]

2. Health District SFs: These are condition-specific. The absence of visits for a condition within a specific Health District, impacts the Area SFs as described above.

[q] This occurred for the following conditions: *Autism* (NSW Metropolitan); *Depression* (NSW Metropolitan); *Diabetes* (QLD Metropolitan & Regional); *GERD* (NSW Metropolitan & QLD Regional); and *Head Injury* (QLD Regional).
[r] This occurred once only, for *Depression* (NSW Metropolitan).

FSFs vs actual sampling

Sampling weights were calculated as the inverse of the FSFs. With minor exceptions,[s] the sum of the sampling weights equals the estimated number of visits for each setting, reflecting the way in which the FSFs were estimated.

For hospitals (tertiary and non-tertiary) the total number of visits for selected hospitals was known, for Health Districts, for Metropolitan and Regional Areas, and for the state. This information permitted the calculation of sampling fractions at the level of total visits, but not per condition. Numbers for each condition were estimated at each sampling level by imposing the prevalence estimated at national (inpatient discharges) or state (ED presentations) level. Actual sampling fractions could be calculated from the sampling steps, but would ultimately have to be multiplied by an adjustment factor to produce the FSF; the adjustment factor can be calculated by dividing the FSF by the actual sampling fraction.

There were no sampling frames for pediatricians and GPs. We have the number of consultations by these provider types per state, and the number of consultations in Health Districts and Areas proportionate to population was estimated. For these settings, sampling fractions are therefore lacking, and the adjustment factor could not be calculated.

eAppendix 5. Statistical Analysis

The weighted data were analyzed in the SAS/STAT™ system v9.4, using the SURVEYFREQ procedure. Variance was estimated by Taylor series linearization, within the SURVEYFREQ procedure.

At condition level, state and setting were specified as strata. Pseudo-strata were constructed as necessary whenever there was only one cluster within a stratum, to avoid underestimation of the variance: for nine conditions in SA and one condition in QLD, GPs and pediatricians were collapsed to form a non-hospital pseudo-stratum. Metropolitan/Regional Area and Tertiary hospitals were not specified as a stratum because of the unusual designation of stratum to include Tertiary hospitals, and because its inclusion would result in large numbers of single cluster strata; excluding this level of stratification is conservative, and leads to wider confidence intervals.

The primary sampling unit (Health District) was specified as the clustering unit, invoking the ultimate cluster assumption.[22] All sources of variability from subsequent stages of sampling are captured in the composite variance estimate under this assumption.[23]

For the overall assessment of adherence to quality of care indicators across the 17 conditions, and the assessment by indicator characteristics (quality type, phase of care), condition was also specified as a stratification variable, in addition to state and setting (or pseudo-strata, for selected conditions); Health District was once again specified as the clustering unit.

For assessment of adherence to quality of care indicators by indicator characteristics, domain analysis[23, 24] was used. Unlike conditions, indicator characteristics were not specifically sampled for. To analyze separately by indicator characteristics fails to account for the variance associated with the random nature of the observed indicator characteristics in the sampled population. Domain analysis was performed in SURVEYFREQ by specifying indicator characteristics as the first-named variable in the syntax requesting a two-way table.

[s] Arising from the decision not to adjust for: 1) the lack of inpatient discharges for *Croup* in the SA tertiary hospital; and 2) the lack of pediatrician visits for *Diabetes* in SA and *Otitis Media* in QLD.

eTable 1. Listing of 479 Indicators, With Description of Characteristics

Indicator ID	Indicator Description	Age Inclusion Criteria	Healthcare Setting				Category of Evidence or Strength of recommendation[a]	Phase of Care	Quality Type*
			GP	SP	ED	IP			
ABDO01	Children who presented with acute abdominal pain had their pain history documented (e.g. onset, location, severity, progression, character).	1 - 15 years	✓		✓	✓	Consensus-based recommendation	Diagnosis	Underuse
ABDO02	Children who presented with acute abdominal pain were screened for other associated features (e.g. fever, cough, vomiting, pallor, lethargy, anorexia).	1 - 15 years	✓		✓	✓	Consensus-based recommendation	Diagnosis	Underuse
ABDO03	Children who presented with acute abdominal pain were assessed for possible urinary tract infection (e.g. offensive urine, dysuria, frequency).	1 - 15 years	✓		✓	✓	Consensus-based recommendation	Diagnosis	Underuse
ABDO04	Children who presented with acute abdominal pain had their gynecological history documented.	13 - 15 years	✓		✓	✓	Consensus-based recommendation	Diagnosis	Underuse
ABDO05	Children who presented with acute abdominal pain had their history of bowel movements documented (e.g. stool pattern, stool quality [size, hard/soft, odor], constipation, diarrhea).	1 - 15 years	✓		✓	✓	Consensus-based recommendation	Diagnosis	Underuse
ABDO06	Children who presented with acute abdominal pain had their past medical history documented (e.g. surgical, medical, family, and travel).	1 - 15 years	✓		✓	✓	Consensus-based recommendation	Diagnosis	Underuse
ABDO07	Children who presented with acute abdominal pain had their vital signs (including HR and Temp) documented.	1 - 15 years	✓		✓	✓	Consensus-based recommendation	Diagnosis	Underuse
ABDO08	Children who presented with acute abdominal pain had the severity of their dehydration (e.g. absent, mild, moderate or severe dehydration) documented.	1 - 15 years	✓		✓	✓	Consensus-based recommendation	Diagnosis	Underuse
ABDO09	Children who presented with acute abdominal pain received an abdominal assessment for tenderness (e.g. local or generalized tenderness).	1 - 15 years	✓		✓	✓	Consensus-based recommendation	Diagnosis	Underuse

Indicator ID	Indicator Description	Age Inclusion Criteria	Healthcare Setting				Category of Evidence or Strength of recommendation[a]	Phase of Care	Quality Type*
			GP	SP	ED	IP			
ABDO10	Children who presented with acute abdominal pain received an abdominal assessment for signs of acute abdomen (e.g. rebound, guarding or rigidity).	1 - 15 years	✓		✓	✓	Consensus-based recommendation	Diagnosis	Underuse
ABDO11	Children who presented with acute abdominal pain had other abdominal findings (e.g. masses, distention, palpable feces, bowel sounds) documented.	1 - 15 years	✓		✓	✓	Consensus-based recommendation	Diagnosis	Underuse
ABDO12	Children who presented with acute abdominal pain received an assessment of their inguinoscrotal area (e.g. swelling or tenderness).	1 - 15 years	✓		✓	✓	Consensus-based recommendation	Diagnosis	Underuse
ABDO13	Children who presented with non-traumatic acute abdominal pain who do not require exclusion of a differential diagnosis of acute obstruction or perforation, received an abdominal x-ray or CT scan.	1 - 15 years	✓		✓	✓	Consensus-based recommendation	Diagnosis	Overuse
ABDO14	Children who presented with non-traumatic acute abdominal pain, and NO bile (yellow or green) stained vomit, received an abdominal x-ray or CT scan.	1 - 15 years	✓		✓	✓	Consensus-based recommendation	Diagnosis	Overuse
ABDO15	Children who presented with non-traumatic acute abdominal pain, and NO suspected ingestion of radiopaque foreign objects, received an abdominal x-ray or CT scan.	1 - 15 years	✓		✓	✓	Consensus-based recommendation	Diagnosis	Overuse
ABDO16	Children who presented with acute severe abdominal pain were administered IV morphine or intranasal fentanyl.	1 - 15 years			✓	✓	Grade A	Treatment	Underuse
ABDO17	Children who presented with acute mild abdominal pain, who require analgesia, were administered paracetamol or ibuprofen.	1 - 15 years	✓		✓	✓	Grade A	Treatment	Underuse
ABDO18	Children who presented with acute abdominal pain who were moderately dehydrated had their blood sugar measured.	1 - 15 years	✓		✓	✓	Consensus-based recommendation	Treatment	Underuse

Indicator ID	Indicator Description	Age Inclusion Criteria	Healthcare Setting				Category of Evidence or Strength of recommendation[a]	Phase of Care	Quality Type*
			GP	SP	ED	IP			
ABDO19	Children who presented with acute abdominal pain who were severely dehydrated OR shocked, had their electrolytes measured.	1 - 15 years	✓		✓	✓	Consensus-based recommendation	Treatment	Underuse
ABDO20	Children who presented with acute abdominal pain who were severely dehydrated OR shocked, had their blood sugar measured.	1 - 15 years	✓		✓	✓	Consensus-based recommendation	Treatment	Underuse
ABDO21	Children who presented with acute abdominal pain who were severely dehydrated OR shocked, received fluid resuscitation (initial bolus 20 ml/kg normal saline).	1 - 15 years			✓	✓	Consensus-based recommendation	Treatment	Underuse
ADHD01	Children who presented to their GP with symptoms/signs of ADHD had an initial assessment documented.	2 - 15 years	✓				Grade B	Diagnosis	Underuse
ADHD02	Children who presented to their GP with symptoms/signs of ADHD were referred to a clinical specialist.	2 - 15 years	✓				Grade B	Diagnosis	Underuse
ADHD03	Parents of children who presented to their GP with symptoms/signs of ADHD were provided educational and training program information.	2 - 15 years	✓				Grade B	Treatment	Underuse
ADHD04	Children who presented to a clinical specialist with symptoms/signs of ADHD had a comprehensive medical, developmental and mental health assessment.	2 - 15 years		✓			Consensus-based recommendation	Diagnosis	Underuse
ADHD05	Children who presented to a clinical specialist with symptoms/signs of ADHD had a psychosocial assessment which included their family.	2 - 15 years		✓			Consensus-based recommendation	Diagnosis	Underuse
ADHD06	Children who presented to a clinical specialist with symptoms/signs of ADHD had a holistic assessment which included their needs, family, social and educational circumstances.	2 - 15 years		✓			Consensus-based recommendation	Diagnosis	Underuse

Indicator ID	Indicator Description	Age Inclusion Criteria	Healthcare Setting				Category of Evidence or Strength of recommendation[a]	Phase of Care	Quality Type*
			GP	SP	ED	IP			
ADHD07	Children who presented to a clinical specialist with symptoms/signs of ADHD were assessed for co-existing illnesses.	2 - 15 years		✓			Consensus-based recommendation	Diagnosis	Underuse
ADHD08	Children who presented to a clinical specialist with symptoms/signs of ADHD were assessed for comorbid diagnosis.	2 - 15 years		✓			Consensus-based recommendation	Diagnosis	Underuse
ADHD09	Children newly diagnosed with ADHD had an onset of their symptoms in early childhood (before aged 12 years).	2 - 15 years	✓	✓			Consensus-based recommendation	Diagnosis	Underuse
ADHD10	Children newly diagnosed with ADHD showed symptoms which were maladaptive and excessive for their age and developmental level.	2 - 15 years	✓	✓			Consensus-based recommendation	Diagnosis	Underuse
ADHD11	Children newly diagnosed with ADHD had symptoms which persisted over time (at least 6 months).	2 - 15 years	✓	✓			Consensus-based recommendation	Diagnosis	Underuse
ADHD12	Children newly diagnosed with ADHD had symptoms which were evident in more than one setting.	2 - 15 years	✓	✓			Consensus-based recommendation	Diagnosis	Underuse
ADHD13	Children newly diagnosed with ADHD had symptoms which caused significant functional impairment.	2 - 15 years	✓	✓			Consensus-based recommendation	Diagnosis	Underuse
ADHD14	Children were diagnosed with ADHD where there was no better alternative explanation (such as another mental disorder).	2 - 15 years	✓	✓			Consensus-based recommendation	Diagnosis	Underuse
ADHD15	Children with ADHD had their level of impairment assessed by gathering information from multiple sources.	2 - 15 years	✓	✓			Consensus-based recommendation	Diagnosis	Underuse
ADHD16	Children with ADHD received psychological, pharmacological or educational interventions.	2 - 15 years	✓	✓			Consensus-based recommendation	Treatment	Underuse
ADHD17	Parents of children with ADHD were provided with information on the diagnosis and management plan.	2 - 15 years	✓	✓			Consensus-based recommendation	Treatment	Underuse

Indicator ID	Indicator Description	Age Inclusion Criteria	Healthcare Setting				Category of Evidence or Strength of recommendation[a]	Phase of Care	Quality Type*
			GP	SP	ED	IP			
ADHD18	Parents of children with ADHD were advised of the potential for adverse effects of the treatment.	2 - 15 years	✓	✓			Consensus-based recommendation	Treatment	Underuse
ADHD19	Children with ADHD requiring medication were first prescribed a stimulant medication.	2 - 15 years	✓	✓			Grade A	Treatment	Underuse
ADHD20	Children with ADHD prescribed stimulant medication (methylphenidate and dexamphetamine sulphate) received a baseline physical assessment including, as a minimum, pulse, blood pressure, weight and height prior to prescription.	2 - 15 years	✓	✓			Consensus-based recommendation	Treatment	Underuse
ADHD21	Children with ADHD prescribed stimulant medication (methylphenidate and dexamphetamine sulphate) and with abnormal cardiovascular symptoms, findings or history, were referred to a cardiologist prior to prescription.	2 - 15 years	✓	✓			Consensus-based recommendation	Treatment	Underuse
ADHD22	Children with ADHD prescribed stimulant medication (methylphenidate and dexamphetamine sulphate) had potential harms, allergies, adverse effects and contraindications, including diversion of medications for misuse and abuse documented, prior to prescription.	2 - 15 years	✓	✓			Consensus-based recommendation	Treatment	Underuse
ADHD23	Children with ADHD prescribed stimulant medication (methylphenidate and dexamphetamine sulphate) had the treatment duration and signals for stopping documented prior to prescription.	2 - 15 years	✓	✓			Consensus-based recommendation	Treatment	Underuse
ADHD24	Children with ADHD prescribed stimulant medication had a planned schedule (follow-up, monitoring and review) documented prior to prescription.	2 - 15 years	✓	✓			Consensus-based recommendation	Treatment	Underuse
ADHD25	Children with ADHD were monitored at each visit.	2 - 15 years	✓	✓			Consensus-based recommendation	Ongoing management	Underuse

Indicator ID	Indicator Description	Age Inclusion Criteria	Healthcare Setting				Category of Evidence or Strength of recommendation[a]	Phase of Care	Quality Type*
			GP	SP	ED	IP			
ADHD26	Children with ADHD had their management plan reviewed at least every 6 months.	2 - 15 years	✓	✓			Consensus-based recommendation	Ongoing management	Underuse
ADHD27	Children with ADHD had a management plan which was relevant to their current symptoms.	2 - 15 years	✓	✓			Consensus-based recommendation	Ongoing management	Underuse
ADHD28	Children with ADHD and no evidence of improvement had their stimulant medication (methylphenidate and dexamphetamine sulphate) ceased.	2 - 15 years	✓	✓			Consensus-based recommendation	Ongoing management	Underuse
ADHD29	Children with ADHD and unacceptable side effects had their stimulant medication (methylphenidate and dexamphetamine sulphate) ceased.	2 - 15 years	✓	✓			Consensus-based recommendation	Ongoing management	Underuse
ADHD30	Children with ADHD prescribed stimulant medication (methylphenidate and dexamphetamine sulphate) had their psychological symptoms and side effects assessed every 6 months.	2 - 15 years	✓	✓			Consensus-based recommendation	Ongoing management	Underuse
ADHD31	Children with ADHD prescribed stimulant medication (methylphenidate and dexamphetamine sulphate) had their growth parameters recorded every 6 months.	2 - 15 years	✓	✓			Consensus-based recommendation	Ongoing management	Underuse
ADHD32	Children with ADHD prescribed stimulant medication (methylphenidate and dexamphetamine sulphate) had their heart rate measured every 6 months.	2 - 15 years	✓	✓			Consensus-based recommendation	Ongoing management	Underuse
ADHD33	Children with ADHD prescribed stimulant medication (methylphenidate and dexamphetamine sulphate) had their blood pressure measured every 6 months.	2 - 15 years	✓	✓			Consensus-based recommendation	Ongoing management	Underuse
ADHD34	Children (aged < 7 years) with ADHD prescribed stimulant medication (methylphenidate and dexamphetamine sulphate) were assessed for adverse effects (BP, height and weight).	2 - 6 years	✓	✓			Consensus-based recommendation	Ongoing management	Underuse

Indicator ID	Indicator Description	Age Inclusion Criteria	Healthcare Setting				Category of Evidence or Strength of recommendation[a]	Phase of Care	Quality Type*
			GP	SP	ED	IP			
AGE01	Children who presented with gastroenteritis had their fluid intake recorded.	0 - 15 years	✓		✓	✓	Consensus-based recommendation	Diagnosis	Underuse
AGE02	Children who presented with gastroenteritis had their urine output recorded.	0 - 15 years	✓		✓	✓	Consensus-based recommendation	Diagnosis	Underuse
AGE03	Children who presented with gastroenteritis had the frequency of their vomiting and diarrhea recorded.	0 - 15 years	✓		✓	✓	Consensus-based recommendation	Diagnosis	Underuse
AGE04	Children who presented with gastroenteritis had the duration of their illness recorded.	0 - 15 years	✓		✓	✓	Consensus-based recommendation	Diagnosis	Underuse
AGE05	Children who presented with gastroenteritis had their weight recorded.	0 - 15 years	✓		✓	✓	Consensus-based recommendation	Diagnosis	Underuse
AGE06	Children who presented with gastroenteritis were assessed for lethargy.	0 - 15 years	✓		✓	✓	Consensus-based recommendation	Diagnosis	Underuse
AGE07	Children who presented with gastroenteritis had their mucous membranes assessed.	0 - 15 years	✓		✓	✓	Consensus-based recommendation	Diagnosis	Underuse
AGE08	Babies (aged < 12 months) who presented with gastroenteritis had their fontanelle assessed.	0 - 11 months	✓		✓	✓	Consensus-based recommendation	Diagnosis	Underuse
AGE09	Children who presented with gastroenteritis had their observations (Temp, HR, RR, BP) assessed.	0 - 15 years	✓		✓	✓	Consensus-based recommendation	Diagnosis	Underuse
AGE10	Children who presented with gastroenteritis had their degree of dehydration assessed.	0 - 15 years	✓		✓	✓	Consensus-based recommendation	Diagnosis	Underuse
AGE11	Children who presented to the ED with gastroenteritis and required intravenous therapy, received electrolytes.	0 - 15 years			✓		Consensus-based recommendation	Treatment	Underuse
AGE12	Children who presented to the ED with gastroenteritis and required intravenous therapy, received a venous blood gas.	0 - 15 years			✓		Consensus-based recommendation	Treatment	Underuse
AGE13	Children who presented to the ED with gastroenteritis and severe dehydration, received electrolytes.	0 - 15 years			✓		Consensus-based recommendation	Treatment	Underuse

Indicator ID	Indicator Description	Age Inclusion Criteria	Healthcare Setting				Category of Evidence or Strength of recommendation[a]	Phase of Care	Quality Type*
			GP	SP	ED	IP			
AGE14	Children who presented to the ED with gastroenteritis and severe dehydration, received a venous blood gas.	0 - 15 years			✓		Consensus-based recommendation	Treatment	Underuse
AGE15	Children who presented to the ED with gastroenteritis and altered conscious state/convulsions received electrolytes.	0 - 15 years			✓		Consensus-based recommendation	Treatment	Underuse
AGE16	Children who presented to the ED with gastroenteritis and altered conscious state/convulsions received a venous blood gas.	0 - 15 years			✓		Consensus-based recommendation	Treatment	Underuse
AGE17	Children who presented to the ED with gastroenteritis and pre-existing medical conditions that predispose to electrolyte abnormalities (e.g. cystic fibrosis, renal impairment, diabetes), received electrolytes.	0 - 15 years			✓		Consensus-based recommendation	Treatment	Underuse
AGE18	Children who presented to the ED with gastroenteritis and pre-existing medical conditions that predispose to electrolyte abnormalities (e.g. cystic fibrosis, renal impairment, diabetes), received a venous blood gas.	0 - 15 years			✓		Consensus-based recommendation	Treatment	Underuse
AGE19	Children with gastroenteritis and NO signs and symptoms of dehydration, received routine blood tests.	0 - 15 years	✓		✓	✓	Consensus-based recommendation	Treatment	Overuse
AGE20	Children with gastroenteritis and no signs of infection were prescribed anti-diarrheals (such as loperimide, kaolin).	0 - 15 years	✓		✓	✓	Consensus-based recommendation	Treatment	Overuse
AGE21	Children with gastroenteritis and no signs of infection were prescribed maxalon, stemetil, multi-dose ondansetron.	0 - 15 years	✓		✓	✓	Consensus-based recommendation	Treatment	Overuse
AGE22	Children with gastroenteritis and no signs of infection were prescribed antibiotics.	0 - 15 years	✓		✓	✓	Consensus-based recommendation	Treatment	Overuse

Indicator ID	Indicator Description	Age Inclusion Criteria	Healthcare Setting				Category of Evidence or Strength of recommendation[a]	Phase of Care	Quality Type*
			GP	SP	ED	IP			
AGE23	Children who presented with gastroenteritis and were severely dehydrated, received IV fluid rehydration including a 20 ml/kg bolus.	0 - 15 years			✓	✓	Consensus-based recommendation	Treatment	Underuse
AGE24	Children who presented with gastroenteritis, had no or mild signs of dehydration, and were able to tolerate oral fluids were discharged from hospital.	0 - 15 years			✓	✓	Consensus-based recommendation	Ongoing management	Underuse
AGE25	Children who presented with gastroenteritis, had no or mild signs of dehydration, and were able to tolerate oral fluids were advised to re-present if symptoms are unchanged or worsen.	0 - 15 years	✓		✓	✓	Consensus-based recommendation	Ongoing management	Underuse
AGE26	Children who presented with gastroenteritis, had no or mild signs of dehydration, and were able to tolerate oral fluids were advised to continue with usual diet.	0 - 15 years	✓		✓	✓	Consensus-based recommendation	Ongoing management	Underuse
AGE27	Children who presented with gastroenteritis, had no or mild signs of dehydration, and were able to tolerate oral fluids were provided with information on age-appropriate oral fluid replacement (small fluids often; breastfeeding/formula, oral rehydration solution or dilute clear fluids).	0 - 15 years	✓		✓	✓	Consensus-based recommendation	Ongoing management	Underuse
AGE28	Children who presented to the GP with gastroenteritis and moderate or severe dehydration were referred to hospital or the ED.	0 - 15 years	✓				Consensus-based recommendation	Ongoing management	Underuse
AGE29	Children who presented with gastroenteritis, were moderately to severely dehydrated AND received rehydration, had their weight reassessed within 6 hours.	0 - 15 years			✓	✓	Consensus-based recommendation	Ongoing management	Underuse
AGE30	Children who presented with gastroenteritis, were moderately to severely dehydrated AND received rehydration, were reassessed for clinical signs of dehydration within 6 hours.	0 - 15 years			✓	✓	Consensus-based recommendation	Ongoing management	Underuse

Indicator ID	Indicator Description	Age Inclusion Criteria	Healthcare Setting				Category of Evidence or Strength of recommendation[a]	Phase of Care	Quality Type*
			GP	SP	ED	IP			
AGE31	Children who presented with gastroenteritis, were moderately to severely dehydrated AND received rehydration, had their urine output reassessed within 6 hours.	0 - 15 years			✓	✓	Consensus-based recommendation	Ongoing management	Underuse
AGE32	Children who presented with gastroenteritis, were moderately to severely dehydrated AND received rehydration, were reassessed for ongoing diarrhea/vomiting within 6 hours.	0 - 15 years			✓	✓	Consensus-based recommendation	Ongoing management	Underuse
AGE33	Children who presented with gastroenteritis, were moderately to severely dehydrated AND received rehydration, were reassessed for signs of fluid overload (puffy face and extremities) within 6 hours.	0 - 15 years			✓	✓	Consensus-based recommendation	Ongoing management	Underuse
AGE34	Children with gastroenteritis who were sufficiently rehydrated as indicated by weight gain and/or clinical status (child is rehydrated or only mildly dehydrated) were discharged.	0 - 15 years			✓	✓	Consensus-based recommendation	Ongoing management	Underuse
AGE35	Children with gastroenteritis who had gastrointestinal loss that was not profuse (oral intake equals or exceeds losses), were discharged.	0 - 15 years			✓	✓	Consensus-based recommendation	Ongoing management	Underuse
ANXI01	Children who presented with suspected anxiety had their family circumstances assessed.	1 - 15 years	✓	✓	✓	✓	Consensus-based recommendation	Diagnosis	Underuse
ANXI02	Children who presented with suspected anxiety had their behavior assessed.	1 - 15 years	✓	✓	✓	✓	Consensus-based recommendation	Diagnosis	Underuse
ANXI03	Children who presented with suspected anxiety had their level of functioning assessed.	1 - 15 years	✓	✓	✓	✓	Consensus-based recommendation	Diagnosis	Underuse
ANXI04	Children who presented with suspected anxiety were assessed for other causes (e.g. physical illness, co-morbid depression, medication or illicit drug effect).	1 - 15 years	✓	✓	✓	✓	Consensus-based recommendation	Diagnosis	Underuse

Indicator ID	Indicator Description	Age Inclusion Criteria	Healthcare Setting				Category of Evidence or Strength of recommendation[a]	Phase of Care	Quality Type*
			GP	SP	ED	IP			
ANXI05	Children with anxiety had a documented treatment/management plan.	1 - 15 years	✓	✓	✓	✓	Consensus-based recommendation	Treatment	Underuse
ANXI06	Children with anxiety were provided psychotherapy (CBT) OR behavioral therapy as first line management.	1 - 15 years	✓	✓	✓	✓	Consensus-based recommendation	Treatment	Underuse
ANXI07	Children with anxiety were provided education and support as first line management.	1 - 15 years	✓	✓	✓	✓	Consensus-based recommendation	Treatment	Underuse
ANXI08	Children with moderate/severe anxiety who were unable to participate in or only partially responded to psychotherapy were prescribed a SSRI (selective serotonin reuptake inhibitor).	1 - 15 years	✓	✓			Consensus-based recommendation	Treatment	Underuse
ANXI09	Children with anxiety who were prescribed medication were monitored for adverse events, their mental state and general progress.	1 - 15 years	✓	✓			Consensus-based recommendation	Treatment	Underuse
ANXI10	Parents and family of children with anxiety who were prescribed medication were informed of the risks and benefits.	1 - 15 years	✓	✓			Consensus-based recommendation	Treatment	Underuse
ANXI11	Children with anxiety who were prescribed an SSRI and had a remission of their symptoms had their medication tapered slowly.	1 - 15 years	✓	✓			Consensus-based recommendation	Treatment	Underuse
ANXI12	Children with anxiety who are not under review by a specialist AND where the SSRI had not failed/not contraindicated were prescribed Venlafaxine.	1 - 15 years	✓				Consensus-based recommendation	Treatment	Overuse
ANXI13	Children with anxiety who are not under review by a specialist AND where the SSRI had not failed/not contraindicated were prescribed a Benzodiazepine.	1 - 15 years	✓				Consensus-based recommendation	Treatment	Overuse
ASTH01	Children aged ≥ 2 years who presented with an acute exacerbation of asthma had their conscious level documented.	2 - 15 years	✓	✓	✓	✓	Consensus-based recommendation	Diagnosis	Underuse

Indicator ID	Indicator Description	Age Inclusion Criteria	Healthcare Setting				Category of Evidence or Strength of recommendation[a]	Phase of Care	Quality Type*
			GP	SP	ED	IP			
ASTH02	Children aged ≥ 2 years who presented with an acute exacerbation of asthma had their SpO_2 recorded.	2 - 15 years	✓	✓	✓	✓	Consensus-based recommendation	Diagnosis	Underuse
ASTH03	Children aged ≥ 2 years who presented with an acute exacerbation of asthma had their pulse rate recorded.	2 - 15 years	✓	✓	✓	✓	Consensus-based recommendation	Diagnosis	Underuse
ASTH04	Children aged ≥ 2 years who presented with an acute exacerbation of asthma had their work of breathing assessed.	2 - 15 years	✓	✓	✓	✓	Consensus-based recommendation	Diagnosis	Underuse
ASTH05	Children who presented with symptoms which were suggestive of persistent asthma were prescribed a trial of salbutamol, Montelukast (Singulair), cromones, or inhaled steroid (NOT Seretide).	0 - 15 years	✓	✓	✓	✓	Level II	Treatment	Underuse
ASTH06	Children who presented with symptoms which were suggestive of persistent asthma and were commenced on a trial of salbutamol, Montelukast (Singulair), cromones, or inhaled steroid (NOT Seretide) had their response assessed within 3 months.	0 - 15 years	✓	✓	✓	✓	Consensus-based recommendation	Treatment	Underuse
ASTH07	Children with asthma already prescribed medication were reviewed for compliance with existing therapies prior to commencing a new drug therapy.	0 - 15 years	✓	✓	✓	✓	Consensus-based recommendation	Treatment	Underuse
ASTH08	Children with asthma already prescribed medication had their inhaler technique checked prior to commencing a new drug therapy.	0 - 15 years	✓	✓	✓	✓	Consensus-based recommendation	Treatment	Underuse
ASTH09	Children with asthma already prescribed medication had their trigger factors documented prior to commencing a new drug therapy.	0 - 15 years	✓	✓	✓	✓	Consensus-based recommendation	Treatment	Underuse
ASTH10	Children aged < 2 years who presented with an acute exacerbation of asthma were prescribed an oral beta2 agonist.	0 - 1 year	✓	✓	✓	✓	Consensus-based recommendation	Treatment	Overuse

Indicator ID	Indicator Description	Age Inclusion Criteria	Healthcare Setting				Category of Evidence or Strength of recommendation[a]	Phase of Care	Quality Type*
			GP	SP	ED	IP			
ASTH11	Children aged ≥ 2 years who presented with a mild/moderate exacerbation of asthma were prescribed an inhaled beta2 agonist via a spacer.	2 - 15 years	✓	✓	✓	✓	Consensus-based recommendation	Treatment	Underuse
ASTH12	Children aged ≥ 2 years who presented with a severe exacerbation of asthma were prescribed an inhaled beta2 agonist via an oxygen driven nebulizer.	2 - 15 years	✓	✓	✓	✓	Consensus-based recommendation	Treatment	Underuse
ASTH13	Children aged ≥ 2 years with life threatening asthma or a SpO_2 < 95% received supplemental oxygen.	2 - 15 years	✓	✓	✓	✓	Consensus-based recommendation	Treatment	Underuse
ASTH14	Children aged ≥ 2 years who presented with an acute exacerbation of asthma where there was no response to initial treatment were prescribed ipratropium bromide (250 mcg via inhalation).	2 - 15 years	✓	✓	✓	✓	Consensus-based recommendation	Treatment	Underuse
ASTH15	Children aged > 2 years who presented with an acute mild/moderate exacerbation of asthma were prescribed aminophylline.	2 - 15 years	✓	✓	✓	✓	Consensus-based recommendation	Treatment	Overuse
ASTH16	Children aged > 2 years who presented with an acute exacerbation of asthma and who received antibiotics did not have another condition requiring antibiotic therapy.	2 - 15 years	✓	✓	✓	✓	Consensus-based recommendation	Treatment	Overuse
ASTH17	Children aged < 5 years with intermittent asthma were prescribed short-acting beta2 agonist (inhaled).	0 - 4 years	✓	✓	✓	✓	Consensus-based recommendation	Treatment	Underuse
ASTH18	Children aged < 5 years with intermittent asthma were prescribed an oral short-acting beta2 agonist.	0 - 4 years	✓	✓	✓	✓	Consensus-based recommendation	Treatment	Overuse
ASTH19	Children aged 5-12 years with intermittent asthma were prescribed short-acting beta2 agonist (inhaled).	5 - 12 years	✓	✓	✓	✓	Consensus-based recommendation	Treatment	Underuse

Indicator ID	Indicator Description	Age Inclusion Criteria	Healthcare Setting				Category of Evidence or Strength of recommendation[a]	Phase of Care	Quality Type*
			GP	SP	ED	IP			
ASTH20	Children aged 5-12 years with intermittent asthma were prescribed oral short-acting beta2 agonists.	5 - 12 years	✓	✓	✓	✓	Consensus-based recommendation	Treatment	Overuse
ASTH21	Children aged 5-12 years with frequent intermittent asthma who required regular preventer medication were prescribed a LTRA, or cromone, or low dose ICS.	5 - 12 years	✓	✓	✓	✓	Consensus-based recommendation	Treatment	Underuse
ASTH22	Children aged 5-12 years with frequent intermittent asthma who required regular preventer medication were prescribed Seretide.	5 - 12 years	✓	✓	✓	✓	Consensus-based recommendation	Treatment	Overuse
ASTH23	Children aged 5-12 years with persistent poorly controlled asthma were prescribed inhaled steroids.	5 - 12 years	✓	✓	✓	✓	Consensus-based recommendation	Treatment	Underuse
ASTH24	Children aged 5-12 years with persistent poorly controlled asthma requiring the maximum dose of inhaled steroids were referred to a specialist.	5 - 12 years	✓		✓	✓	Consensus-based recommendation	Treatment	Underuse
ASTH25	Children with asthma prescribed inhaler medication received training on how to use the inhaler device.	0 - 15 years	✓	✓	✓	✓	Consensus-based recommendation	Ongoing management	Underuse
ASTH26	Children with asthma prescribed inhaler medication had their technique reassessed within 6 months.	0 - 15 years	✓	✓	✓	✓	Consensus-based recommendation	Ongoing management	Underuse
ASTH27	Children aged < 5 years with asthma who required regular preventer medication were prescribed a leukotriene receptor antagonist.	0 - 4 years	✓	✓	✓	✓	Consensus-based recommendation	Ongoing management	Underuse
ASTH28	Children aged < 5 years with asthma who required regular preventer medication were prescribed a low dose ICS.	0 - 4 years	✓	✓	✓	✓	Consensus-based recommendation	Ongoing management	Underuse
ASTH29	Children aged 5-12 years with asthma which was not controlled with a LTRA and who required a preventer medication were prescribed a trial of a low dose ICS.	5 - 12 years	✓	✓	✓	✓	Consensus-based recommendation	Ongoing management	Underuse

Indicator ID	Indicator Description	Age Inclusion Criteria	Healthcare Setting				Category of Evidence or Strength of recommendation[a]	Phase of Care	Quality Type*
			GP	SP	ED	IP			
ASTH30	Children aged 5-12 years with asthma which was not controlled with a low dose ICS and who required a preventer medication were prescribed a trial of a moderate dose ICS.	5 - 12 years	✓	✓	✓	✓	Consensus-based recommendation	Ongoing management	Underuse
ASTH31	Children aged 5-12 years with asthma who required continuous or frequent use of oral steroids were prescribed a daily steroid tablet at the lowest dose.	5 - 12 years	✓	✓	✓	✓	Consensus-based recommendation	Ongoing management	Underuse
ASTH32	Children aged 5-12 years with asthma who required continuous or frequent use of oral steroids were referred to a respiratory pediatrician.	5 - 12 years	✓	✓	✓	✓	Consensus-based recommendation	Ongoing management	Underuse
ASTH33	Children aged < 6 years who presented to a primary care setting with an acute exacerbation of asthma and had not improved after 4-6 puffs of a beta2 agonist were transferred urgently to hospital.	0 - 5 years	✓				Consensus-based recommendation	Treatment	Underuse
ASTH34	Children aged ≥ 6 years who presented to a primary care setting with an acute exacerbation of asthma and had not improved after 8-12 puffs of a beta2 agonist were transferred urgently to hospital.	6 - 15 years	✓				Consensus-based recommendation	Treatment	Underuse
ASTH35	Children with asthma prescribed preventer medication had their asthma control assessed at least every 6 months.	0 - 15 years	✓	✓	✓	✓	Consensus-based recommendation	Ongoing management	Underuse
ASTH36	Children with asthma prescribed preventer medication were assessed for side effects at least every 6 months.	0 - 15 years	✓	✓	✓	✓	Consensus-based recommendation	Ongoing management	Underuse
ASTH37	Children with asthma prescribed preventer therapy had a medical review at least every 6 months.	0 - 15 years	✓	✓	✓	✓	Consensus-based recommendation	Ongoing management	Underuse
ASTH38	Children with asthma prescribed preventer therapy had a written asthma action plan.	0 - 15 years	✓	✓	✓	✓	Consensus-based recommendation	Ongoing management	Underuse

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ASTH39	Children discharged from hospital after an acute asthma episode had a written asthma action plan.	0 - 15 years				✓	Consensus-based recommendation	Ongoing management	Underuse
AUTI01	Children who were investigated for ASD had a comprehensive medical and family history documented.	1 - 15 years	✓	✓			Grade C	Diagnosis	Underuse
AUTI02	Children who were investigated for ASD had a full physical examination documented.	1 - 15 years	✓	✓			Grade C	Diagnosis	Underuse
AUTI03	Children who were investigated for ASD had a parent interview documented.	1 - 15 years	✓	✓			Grade C	Diagnosis	Underuse
AUTI04	Children were diagnosed with ASD using the criteria of DSM-IV, DSM-V OR ICD-10.	1 - 15 years	✓	✓			Consensus-based recommendation	Diagnosis	Underuse
AUTI05	Children were formally diagnosed with ASD by a pediatrician, psychiatrist or a multidisciplinary team (which may include a psychologist, a speech pathologist, or an occupational therapist).	1 - 15 years	✓	✓			Consensus-based recommendation	Diagnosis	Underuse
AUTI06	Children who were assessed for ASD had reports from educators (pre-school, child care and school as applicable) reviewed.	1 - 15 years	✓	✓			Grade D	Diagnosis	Underuse
AUTI07	Children who were assessed for ASD had their behavior, play and communication directly observed in a natural setting reviewed.	1 - 15 years	✓	✓			Grade D	Diagnosis	Underuse
AUTI08	Children of pre-school age who were assessed for ASD had their developmental and adaptive function assessed.	1 - 4 years	✓	✓			Consensus-based recommendation	Diagnosis	Underuse
AUTI09	Children suspected of having ASD who had specific difficulties identified during the assessment (e.g. language delay, fine motor difficulties) were referred to appropriate therapists (e.g. occupational therapy, speech pathology).	1 - 15 years	✓	✓			Grade D	Treatment	Underuse

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			GP	SP	ED	IP			
AUTI10	Children suspected of having ASD who had specific difficulties identified during the assessment (e.g. language delay, fine motor difficulties) had a review appointment arranged.	1 - 15 years	✓	✓			Grade D	Treatment	Underuse
AUTI11	Children diagnosed with ASD had a comprehensive report including a medical assessment.	1 - 15 years	✓	✓			Grade D	Treatment	Underuse
AUTI12	Children diagnosed with ASD had a comprehensive report including their general development.	1 - 15 years	✓	✓			Grade D	Treatment	Underuse
AUTI13	Children diagnosed with ASD had a comprehensive report including developmental or psychometric assessment results.	1 - 15 years	✓	✓			Grade D	Treatment	Underuse
AUTI14	Children diagnosed with ASD had a comprehensive report including a language and communication assessment.	1 - 15 years	✓	✓			Grade D	Treatment	Underuse
AUTI15	Children diagnosed with ASD had their progress and developmental and behavior parameters reviewed at each visit.	1 - 15 years	✓	✓			Consensus-based recommendation	Ongoing management	Underuse
AUTI16	Children diagnosed with ASD were assessed and monitored for co-morbid disorders (e.g. epilepsy, sleep disorders, anxiety disorder, OCD, ADHD and depression).	1 - 15 years	✓	✓			Grade C	Ongoing management	Underuse
AUTI17	Children diagnosed with ASD who were prescribed risperidone, were monitored for serious side effects (e.g. dystonic reactions, weight gain, metabolic disorder, behavioral deterioration).	1 - 15 years	✓	✓			Consensus-based recommendation	Ongoing management	Underuse
BRON01	Infants (aged < 12 months) presenting with acute bronchiolitis had the duration and progression of their symptoms recorded.	29 days - 11 months	✓		✓	✓	Grade B	Diagnosis	Underuse

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			GP	SP	ED	IP			
BRON02	Infants (aged < 12 months) presenting with acute bronchiolitis had the presence of apnea recorded.	29 days - 11 months	✓		✓	✓	Grade B	Diagnosis	Underuse
BRON03	Infants (aged < 12 months) presenting with acute bronchiolitis had their feeding history recorded.	29 days - 11 months	✓		✓	✓	Grade B	Diagnosis	Underuse
BRON04	Infants (aged < 12 months) presenting with acute bronchiolitis had the presence of previous episodes of bronchiolitis recorded.	29 days - 11 months	✓		✓	✓	Grade B	Diagnosis	Underuse
BRON05	Infants (aged < 12 months) presenting with acute bronchiolitis had their family history of atopy or asthma recorded.	29 days - 11 months	✓		✓	✓	Grade B	Diagnosis	Underuse
BRON06	Infants (aged < 12 months) presenting with acute bronchiolitis had the presence of pre-existing conditions recorded.	29 days - 11 months	✓		✓	✓	Grade B	Diagnosis	Underuse
BRON07	Infants (aged < 12 months) presenting with acute bronchiolitis had their general appearance and basic observations (Temp, RR, HR, SpO_2) examined.	29 days - 11 months	✓		✓	✓	Grade D	Diagnosis	Underuse
BRON08	Infants (aged < 12 months) presenting with acute bronchiolitis had their hydration status reviewed.	29 days - 11 months	✓		✓	✓	Grade D	Diagnosis	Underuse
BRON09	Infants (aged < 12 months) presenting with acute bronchiolitis received a respiratory examination (work of breathing, recession, auscultation).	29 days - 11 months	✓		✓	✓	Grade D	Diagnosis	Underuse
BRON10	Infants (aged < 12 months) presenting with acute bronchiolitis had their feeding (duration and volume, oxygen saturations whilst feeding) examined.	29 days - 11 months	✓		✓	✓	Grade D	Diagnosis	Underuse

Indicator ID	Indicator Description	Age Inclusion Criteria	Healthcare Setting				Category of Evidence or Strength of recommendation[a]	Phase of Care	Quality Type*
			GP	SP	ED	IP			
BRON11	Infants (aged < 12 months) who had any of the following signs/symptoms: * appear well * mild tachypnea (RR < 60/min) * normal or mildly increased work of breathing (WOB) i.e. no nasal flaring/grunting * wheeze at end expiratory or crackles * no cyanosis * SaO_2 > 93% on air * no tachycardia * normal/slightly decreased feeding or may take longer to feed, intermittently stops feeding were diagnosed with mild acute bronchiolitis.	29 days - 11 months	✓		✓	✓	Consensus-based recommendation	Diagnosis	Underuse
BRON12	Infants (aged < 12 months) who had two or more of the following signs/symptoms: * appear mildly unwell * moderate tachypnea (RR > 60/min) * mild to moderate WOB * no cyanosis * SaO_2 90-95% on air * mild tachycardia * difficult feeding but able to take > 50% of normal feed, frequent stops were diagnosed with moderate acute bronchiolitis.	29 days - 11 months	✓		✓	✓	Consensus-based recommendation	Diagnosis	Underuse
BRON13	Infants (aged < 12 months) who had two or more of the following signs: * appear unwell (lethargic, restless) * severe tachypnea > 70 * bradypnea < 30 * moderate to severe WOB * may be cyanosed or pale * SaO_2 < 90% on air, < 92% on oxygen * tachycardia > 180 * difficult feeding taking < 50% of normal feed, not interested * poor capillary refill > 3 seconds were diagnosed with severe/life threatening acute bronchiolitis.	29 days - 11 months	✓		✓	✓	Consensus-based recommendation	Diagnosis	Underuse
BRON14	Children diagnosed with acute mild/moderate bronchiolitis had a chest x-ray.	29 days - 1 year	✓		✓	✓	Level I / Grade C	Treatment	Overuse
BRON15	Children diagnosed with acute mild/moderate bronchiolitis had routine blood tests.	29 days - 1 year	✓		✓	✓	Grade C	Treatment	Overuse

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			GP	SP	ED	IP			
BRON16	Children diagnosed with acute mild/moderate bronchiolitis had an ABG.	29 days - 1 year	✓		✓	✓	Level I / Grade C	Treatment	Overuse
BRON17	Children diagnosed with acute mild/moderate bronchiolitis had chest physiotherapy.	29 days - 1 year	✓		✓	✓	Level III / Grade A	Treatment	Overuse
BRON18	Infants (aged less than 12 months) with mild bronchiolitis received prescribed oxygen.	29 days - 11 months	✓		✓	✓	Grade B	Treatment	Overuse
BRON19	Infants (aged less than 12 months) with mild bronchiolitis received further investigations (i.e. blood tests, chest x-ray).	29 days - 11 months	✓		✓	✓	Grade C (chest x-ray) Grade D (blood tests)	Treatment	Overuse
BRON20	Infants (aged < 12 months) with moderate bronchiolitis were prescribed oxygen to maintain saturation levels of greater than or equal to 93%.	29 days - 11 months			✓	✓	Grade D	Treatment	Underuse
BRON21	Infants (aged < 12 months) with moderate bronchiolitis were provided with frequent feeds or NG feeds were considered.	29 days - 11 months			✓	✓	Consensus-based recommendation	Treatment	Underuse
BRON22	Infants (aged < 12 months) with moderate bronchiolitis and prescribed oxygen had continuous saturation monitoring and hourly observations.	29 days - 11 months			✓	✓	Consensus-based recommendation	Treatment	Underuse
BRON23	Infants (aged <12 months) with moderate bronchiolitis had further investigations performed (i.e. blood tests, chest x-ray).	29 days - 11 months			✓	✓	Grade C (chest x-ray) Grade D (blood tests)	Treatment	Overuse
BRON24	Infants (aged < 12 months) with moderate bronchiolitis had two-hourly observations performed.	29 days - 11 months			✓	✓	Consensus-based recommendation	Treatment	Underuse

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BRON25	Infants (aged < 12 months) with mild to moderate bronchiolitis caused by a viral infection were prescribed antibiotics.	29 days - 11 months	✓		✓	✓	Level I / Grade B	Treatment	Overuse
BRON26	Infants (aged < 12 months) with severe bronchiolitis were prescribed oxygen to maintain saturation levels of greater than or equal to 93%.	29 days - 11 months			✓	✓	Grade D	Treatment	Underuse
BRON27	Infants (aged < 12 months) with severe bronchiolitis were prescribed IV fluids and nil by mouth.	29 days - 11 months			✓	✓	Consensus-based recommendation	Treatment	Underuse
BRON28	Infants (aged < 12 months) with severe bronchiolitis had their blood glucose assessed at least once during this presentation/admission.	29 days - 11 months			✓	✓	Consensus-based recommendation	Treatment	Underuse
BRON29	Infants (aged < 12 months) with severe bronchiolitis had continuous cardio-respiratory and saturation monitoring and hourly observations.	29 days - 11 months			✓	✓	Consensus-based recommendation	Treatment	Underuse
BRON30	Infants (aged < 12 months) who presented to the ED with acute bronchiolitis and any of the following: * lethargy * presence of nasal flaring and/or grunting * oxygen saturation < 95% on air * uncertainty regarding diagnosis were reviewed within 30 minutes.	29 days - 11 months			✓		Consensus-based recommendation	Treatment	Underuse
BRON31	Infants (aged < 12 months) who presented to the ED with acute bronchiolitis and any of the following: * respiratory rate > 60/min or < 30/min * presence of nasal flaring and/or grunting * SpO_2 < 92% on air * severe chest wall recession * cyanosis were reviewed immediately.	29 days - 11 months			✓		Consensus-based recommendation	Treatment	Underuse

Indicator ID	Indicator Description	Age Inclusion Criteria	Healthcare Setting				Category of Evidence or Strength of recommendation[a]	Phase of Care	Quality Type*
			GP	SP	ED	IP			
BRON32	Infants (aged < 12 months) with acute bronchiolitis were prescribed any of the following medications: * nebulized adrenaline * bronchodilators (if aged < 6 months) * corticosteroid medication (unless asthma or chronic neonatal lung disease) * ipratropium bromide (possible asthma or chronic neonatal lung disease) * ribavirin (antiviral) in the absence of significant immunosuppression.	29 days - 11 months	✓		✓	✓	Consensus-based recommendation	Treatment	Overuse
BRON33	Parents of infants (aged < 12 months) with mild bronchiolitis received advice to provide small frequent feeds.	29 days - 11 months	✓		✓	✓	Consensus-based recommendation	Ongoing management	Underuse
BRON34	Parents of infants (aged < 12 months) with mild bronchiolitis were provided written information prior to discharge.	29 days - 11 months			✓	✓	Consensus-based recommendation	Ongoing management	Underuse
BRON35	Parents of infants (aged < 12 months) with mild bronchiolitis were advised to follow-up with a health professional within 24 hours.	29 days - 11 months			✓	✓	Consensus-based recommendation	Ongoing management	Underuse
BRON36	Infants (aged < 12 months) who presented to the GP with acute bronchiolitis and two of the following: * poor feeding (< 50% of usual fluid intake in preceding 24 hours * lethargy * history of apnea * respiratory rate > 60/min OR < 30/min * presence of nasal flaring and/or grunting * severe chest wall recession or tracheal tug * cyanosis * oxygen saturation < 95% on air * uncertainty regarding diagnosis were referred to hospital.	29 days - 11 months	✓				Consensus-based recommendation	Ongoing management	Underuse
BRON37	Infants (aged < 12 months) with bronchiolitis who were discharged had minimal respiratory distress.	29 days - 11 months			✓	✓	Consensus-based recommendation	Ongoing management	Underuse
BRON38	Infants (aged < 12 months) with bronchiolitis who were discharged maintained an adequate daily oral intake (> 75% of usual intake).	29 days - 11 months			✓	✓	Consensus-based recommendation	Ongoing management	Underuse

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BRON39	Infants (aged < 12 months) with bronchiolitis who were discharged had oxygen saturations which were greater than or equal to 92% on room air (including during sleep periods).	29 days - 11 months			✓	✓	Consensus-based recommendation	Ongoing management	Underuse
BRON40	Parents/carers of infants (aged < 12 months) with bronchiolitis who were discharged were provided: * education and written information * support and follow-up arrangements.	29 days - 11 months			✓	✓	Consensus-based recommendation	Ongoing management	Underuse
CROU01	Children diagnosed with croup had their heart rate assessed.	29 days - 15 years	✓		✓	✓	Grade D	Diagnosis	Underuse
CROU02	Children diagnosed with croup had their mental state assessed.	29 days - 15 years	✓		✓	✓	Grade D	Diagnosis	Underuse
CROU03	Children diagnosed with croup had their work of breathing assessed.	29 days - 15 years	✓		✓	✓	Grade D	Diagnosis	Underuse
CROU04	Children diagnosed with croup were assessed for stridor.	29 days - 15 years	✓		✓	✓	Grade D	Diagnosis	Underuse
CROU05	Children diagnosed with croup had their SpO_2 and oxygen requirement assessed.	29 days - 15 years	✓		✓	✓	Grade D	Diagnosis	Underuse
CROU06	Children diagnosed with croup had their severity recorded as mild, moderate, or severe.	29 days - 15 years	✓		✓	✓	Grade D	Diagnosis	Underuse
CROU07	Children diagnosed with croup had a nasopharyngeal aspirate.	29 days - 15 years	✓		✓	✓	Grade D	Diagnosis	Overuse
CROU08	Children diagnosed with croup had a chest x-ray.	29 days - 15 years	✓		✓	✓	Grade C	Diagnosis	Overuse
CROU09	Children diagnosed with croup had a lateral neck x-ray.	29 days - 15 years	✓		✓	✓	Consensus-based recommendation	Diagnosis	Overuse
CROU10	Children diagnosed with croup had blood tests.	29 days - 15 years	✓		✓	✓	Grade D	Diagnosis	Overuse

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CROU11	Children aged less than 3 months who presented with croup and any of the following: * expiratory wheeze or loss of voice * toxic appearance or high-grade fever * drooling * difficulty swallowing * anxiety * prolonged or recurrent stridor were assessed for epiglottitis.	29 days - 2 months	✓		✓	✓	Grade D	Diagnosis	Underuse
CROU12	Children aged less than 3 months who presented with croup and any of the following: * expiratory wheeze or loss of voice * toxic appearance or high-grade fever * drooling * difficulty swallowing * anxiety * prolonged or recurrent stridor were assessed for an inhaled foreign body.	29 days - 2 months	✓		✓	✓	Grade D	Diagnosis	Underuse
CROU13	Children aged less than 3 months who presented with croup and any of the following: * expiratory wheeze or loss of voice * toxic appearance or high-grade fever * drooling * difficulty swallowing * anxiety * prolonged or recurrent stridor were assessed for bacterial tracheitis.	29 days - 2 months	✓		✓	✓	Grade D	Diagnosis	Underuse
CROU14	Children diagnosed with croup were treated with mist, humidified or cold air.	29 days - 15 years	✓		✓	✓	Grade B	Treatment	Overuse
CROU15	Children diagnosed with croup were treated with anti-tussives.	29 days - 15 years	✓		✓	✓	Consensus-based recommendation	Treatment	Overuse
CROU16	Children diagnosed with croup were treated with antibiotics.	29 days - 15 years	✓		✓	✓	Consensus-based recommendation	Treatment	Overuse
CROU17	Children diagnosed with croup were treated with sedatives.	29 days - 15 years	✓		✓	✓	Consensus-based recommendation	Treatment	Overuse

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			GP	SP	ED	IP			
CROU18	Children diagnosed with mild to moderate croup and who had signs of stridor were prescribed: * prednisolone at 1 mg/kg, and repeated 12-24 hours later OR * a single dose of Oral Dexamethasone 0.15 mg/kg, OR * nebulized Budesonide 2 mg if oral is not tolerated.	29 days - 15 years	✓		✓	✓	Level I (oral steroid) Level II (nebulized budesonide) Level IV (steroids)	Treatment	Underuse
CROU19	Children with moderate to severe croup AND SpO_2 less than 93% had oxygen administered.	29 days - 15 years	✓		✓	✓	Consensus-based recommendation	Treatment	Underuse
CROU20	Children diagnosed with severe croup and had a SpO_2 of less than 93% received oxygen.	29 days - 15 years	✓		✓	✓	Grade D	Treatment	Underuse
CROU21	Children diagnosed with severe croup received nebulized adrenaline.	29 days - 15 years			✓	✓	Level II / Grade A	Ongoing management	Underuse
CROU22	Children diagnosed with severe croup received Dexamethasone or Prednisolone (IM/IV/PO), or nebulized Budesonide.	29 days - 15 years	✓		✓	✓	Level II / Grade A (steroids) Level II (nebulized budesonide)	Ongoing management	Underuse
CROU23	Children with severe croup who presented to their GP were transferred by ambulance to an emergency department/hospital.	29 days - 15 years	✓				Consensus-based recommendation	Ongoing management	Underuse
CROU24	Children diagnosed with severe croup who were administered nebulized adrenaline and improved, were observed for 4 hours.	29 days - 15 years			✓	✓	Consensus-based recommendation	Ongoing management	Underuse

Indicator ID	Indicator Description	Age Inclusion Criteria	Healthcare Setting				Category of Evidence or Strength of recommendation[a]	Phase of Care	Quality Type*
			GP	SP	ED	IP			
CROU25	Children diagnosed with severe croup who were stridor free at rest (four hours post nebulized adrenaline) AND whose parents were provided with croup factsheet, education or advice, were discharged.	29 days - 15 years			✓	✓	Grade D	Ongoing management	Underuse
CROU26	Parents/carers of children with croup who become toxic (pale, very high fever, tachycardic) were advised to seek urgent medical advice.	29 days - 15 years	✓		✓	✓	Grade D	Ongoing management	Underuse
DEPR01	Children who presented with suspected depression had their family circumstances assessed.	3 - 15 years	✓	✓	✓	✓	Consensus-based recommendation	Diagnosis	Underuse
DEPR02	Children who presented with suspected depression had their personal and interpersonal circumstances assessed.	3 - 15 years	✓	✓	✓	✓	Consensus-based recommendation	Diagnosis	Underuse
DEPR03	Children who presented with suspected depression had their functional level assessed.	3 - 15 years	✓	✓	✓	✓	Consensus-based recommendation	Diagnosis	Underuse
DEPR04	Children who presented with suspected depression were assessed for self-harm and/or suicidal intent.	3 - 15 years	✓	✓	✓	✓	Consensus-based recommendation	Diagnosis	Underuse
DEPR05	Children who presented with suspected depression were assessed for other causes.	3 - 15 years	✓	✓	✓	✓	Consensus-based recommendation	Diagnosis	Underuse
DEPR06	Children and adolescents with depression were provided information and resources about evidence-based management.	3 - 15 years	✓	✓	✓	✓	Grade A	Treatment	Underuse
DEPR07	Children and adolescents with depression were offered community supports.	3 - 15 years	✓	✓	✓	✓	Grade C	Treatment	Underuse
DEPR08	Children and adolescents with depression had treatment/management goals set.	3 - 15 years	✓	✓	✓	✓	Grade C	Treatment	Underuse
DEPR09	Children and adolescents with depression had an emergency safety plan.	3 - 15 years	✓	✓	✓	✓	Grade C	Treatment	Underuse

Indicator ID	Indicator Description	Age Inclusion Criteria	Healthcare Setting				Category of Evidence or Strength of recommendation[a]	Phase of Care	Quality Type*
			GP	SP	ED	IP			
DEPR10	Children and adolescents with mild depression were prescribed antidepressant medication as a first-line intervention.	3 - 15 years	✓	✓	✓	✓	Grade B	Treatment	Overuse
DEPR11	Children and adolescents with moderate/severe depression received psychological therapy as a first-line treatment.	3 - 15 years	✓	✓			Grade B	Treatment	Underuse
DEPR12	Children and adolescents prescribed SSRI therapy were monitored for adverse drug reactions.	3 - 15 years	✓	✓	✓	✓	Grade B	Treatment	Underuse
DEPR13	Children and adolescents prescribed SSRI therapy had their mental state monitored.	3 - 15 years	✓	✓	✓	✓	Grade B	Treatment	Underuse
DEPR14	Children and adolescents with depression had their level of functioning at home and their goals and outcomes assessed within 8 weeks of initial diagnosis.	3 - 15 years	✓	✓	✓	✓	Grade D	Ongoing Management	Underuse
DEPR15	Children and adolescents with depression had their level of functioning at school and their goals and outcomes assessed within 8 weeks of initial diagnosis.	3 - 15 years	✓	✓	✓	✓	Grade D	Ongoing Management	Underuse
DIAB01	Children and adolescents with type 1 diabetes, at diagnosis, received investigations for insulin antibodies.	6 months - 15 years	✓	✓	✓	✓	Consensus-based recommendation	Diagnosis	Underuse
DIAB02	Children and adolescents with type 1 diabetes, at diagnosis, received investigations for GAD antibodies.	6 months - 15 years	✓	✓	✓	✓	Consensus-based recommendation	Diagnosis	Underuse
DIAB03	Children and adolescents newly diagnosed with type 1 diabetes were screened for coeliac disease (total IgA, anti-gliadin Ab, tissue transglutaminase Ab).	6 months - 15 years	✓	✓	✓	✓	Grade B	Diagnosis	Underuse
DIAB04	Children and adolescents newly diagnosed with type 1 diabetes were screened for thyroid dysfunction (TSH, FT4).	6 months - 15 years	✓	✓	✓	✓	Grade B	Diagnosis	Underuse

Indicator ID	Indicator Description	Age Inclusion Criteria	Healthcare Setting				Category of Evidence or Strength of recommendation[a]	Phase of Care	Quality Type*
			GP	SP	ED	IP			
DIAB05	Children and adolescents diagnosed with type 1 diabetes who presented with suboptimal glycemic control (e.g. HbA1c greater than 10) were assessed for co-occurrence of psychological disorders using a validated screening tool.	6 months - 15 years	✓	✓	✓	✓	Consensus-based recommendation	Treatment	Underuse
DIAB06	Children and adolescents diagnosed with type 1 diabetes who presented with insulin omission were assessed for co-occurrence of psychological disorders using a validated screening tool.	6 months - 15 years	✓	✓	✓	✓	Consensus-based recommendation	Treatment	Underuse
DIAB07	Children and adolescents diagnosed with type 1 diabetes who presented with disorder eating behaviors were assessed for co-occurrence of psychological disorders using a validated screening tool.	6 months - 15 years	✓	✓	✓	✓	Consensus-based recommendation	Treatment	Underuse
DIAB08	Children and adolescents diagnosed with type 1 diabetes who presented with recurrent admissions for diabetic ketoacidosis (DKA) were assessed for co-occurrence of psychological disorders using a validated screening tool.	6 months - 15 years		✓		✓	Consensus-based recommendation	Treatment	Underuse
DIAB09	Children and adolescents with type 1 diabetes had an intensive glycemic control plan implemented that included MDI or CSII.	6 months - 15 years	✓	✓	✓	✓	Grade B	Treatment	Underuse
DIAB10	Children and adolescents with type 1 diabetes had an intensive glycemic control plan implemented that included frequent insulin dose adjustment.	6 months - 15 years	✓	✓	✓	✓	Grade B	Treatment	Underuse
DIAB11	Children and adolescents with type 1 diabetes had an intensive glycemic control plan implemented that included blood glucose level monitoring at least four times per day.	6 months - 15 years	✓	✓	✓	✓	Grade B	Treatment	Underuse

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DIAB12	Children and adolescents with type 1 diabetes had an intensive glycemic control plan implemented that included monitoring of HbA1c at least 4-monthly.	6 months - 15 years	✓	✓	✓	✓	Grade B	Treatment	Underuse
DIAB13	Children and adolescents with type 1 diabetes who presented with signs of DKA had their level of dehydration recorded as mild (less than 4%), moderate (4-7%) or severe (greater than 7%).	6 months - 15 years			✓	✓	Consensus-based recommendation	Treatment	Underuse
DIAB14	Children and adolescents with type 1 diabetes who presented with signs of DKA had their vital signs monitored.	6 months - 15 years			✓	✓	Consensus-based recommendation	Treatment	Underuse
DIAB15	Children and adolescents with type 1 diabetes who presented with signs of DKA had their level of consciousness assessed using the Glasgow coma scale.	6 months - 15 years			✓	✓	Consensus-based recommendation	Treatment	Underuse
DIAB16	Children and adolescents with type 1 diabetes who presented with signs of DKA had their airway and breathing assessed and maintained.	6 months - 15 years			✓	✓	Consensus-based recommendation	Treatment	Underuse
DIAB17	Children and adolescents with type 1 diabetes who presented with signs of DKA had their blood glucose, urea and electrolytes (sodium, potassium, calcium, magnesium, phosphate) assessed at the time of presentation.	6 months - 15 years			✓	✓	Consensus-based recommendation	Treatment	Underuse
DIAB18	Children and adolescents with type 1 diabetes who presented with signs of DKA had their blood ketones (bedside test) assessed at the time of presentation.	6 months - 15 years			✓	✓	Consensus-based recommendation	Treatment	Underuse
DIAB19	Children and adolescents with type 1 diabetes who presented with signs of DKA had their venous blood gas (including bicarb) assessed at the time of presentation.	6 months - 15 years			✓	✓	Consensus-based recommendation	Treatment	Underuse

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			GP	SP	ED	IP			
DIAB20	Children and adolescents with type 1 diabetes who presented with signs of DKA and tested negative for ketones were managed with subcutaneous insulin.	6 months - 15 years			✓	✓	Consensus-based recommendation	Treatment	Underuse
DIAB21	Children and adolescents with type 1 diabetes who presented with signs of DKA and had a normal pH in the presence of ketones were managed with subcutaneous insulin.	6 months - 15 years			✓	✓	Consensus-based recommendation	Treatment	Underuse
DIAB22	Children and adolescents with type 1 diabetes who presented with signs of DKA and a BGL greater than or equal to 11.1 mmol/l had blood ketones tested on a capillary sample.	6 months - 15 years			✓	✓	Consensus-based recommendation	Treatment	Underuse
DIAB23	Children and adolescents with type 1 diabetes who presented with severe DKA (blood glucose > 11 mmol/L, venous pH < 7.1, bicarbonate < 5 mmol/L) and hypoperfusion (delayed capillary return, tachycardia for age) received a bolus of 0.9% normal saline (10 ml/kg).	6 months - 15 years			✓	✓	Consensus-based recommendation	Treatment	Underuse
DIAB24	Children and adolescents with type 1 diabetes who presented with severe DKA (blood glucose > 11 mmol/L, venous pH < 7.1, bicarbonate < 5 mmol/L) and hypoperfusion (delayed capillary return, tachycardia for age) received rehydration with normal saline and potassium.	6 months - 15 years			✓	✓	Consensus-based recommendation	Treatment	Underuse
DIAB25	Children and adolescents with type 1 diabetes who presented with severe DKA (blood glucose > 11 mmol/L, venous pH < 7.1, bicarbonate < 5 mmol/L) and hypoperfusion (delayed capillary return, tachycardia for age) had their fluid type adjusted according to ongoing sodium, potassium and glucose levels.	6 months - 15 years			✓	✓	Consensus-based recommendation	Treatment	Underuse

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			GP	SP	ED	IP			
DIAB26	Children and adolescents with type 1 diabetes who presented with DKA and a potassium greater than 5.5 mmol/l, or were anuric, had commencement of potassium replacement therapy deferred.	6 months - 15 years			✓	✓	Consensus-based recommendation	Treatment	Underuse
DIAB27	Children and adolescents with type 1 diabetes who presented with moderate to severe DKA had a repeat serum potassium within one hour of insulin being commenced.	6 months - 15 years			✓	✓	Consensus-based recommendation	Treatment	Underuse
DIAB28	Children and adolescents with type 1 diabetes were provided with face-to-face education within 6 weeks of diagnosis by a qualified dietician on accurate carbohydrate counting.	6 months - 15 years	✓	✓	✓	✓	Consensus-based recommendation	Ongoing management	Underuse
DIAB29	Children and adolescents with type 1 diabetes had a comprehensive sick-day management plan in their medical record that included blood ketone measurement (or urine ketone measurement if blood ketone was not available).	6 months - 15 years	✓	✓	✓	✓	Consensus-based recommendation	Ongoing management	Underuse
DIAB30	Children and adolescents with type 1 diabetes had a comprehensive sick-day management plan in their medical record that included written guidelines and details on 24-hour access to clinical advice.	6 months - 15 years	✓	✓	✓	✓	Consensus-based recommendation	Ongoing management	Underuse
DIAB31	Children and adolescents with type 1 diabetes with DKA were referred at presentation for consultation with a local pediatric team.	6 months - 15 years			✓	✓	Consensus-based recommendation	Ongoing management	Underuse
DIAB32	Children and adolescents with type 1 diabetes with hypernatremia or hyponatremia were referred at presentation for consultation with a local pediatric team.	6 months - 15 years	✓	✓	✓	✓	Consensus-based recommendation	Treatment	Underuse

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			GP	SP	ED	IP			
DIAB33	Children aged less than 18 months with type 1 diabetes who presented with DKA were transferred to and/or consulted with tertiary care for intensive care monitoring.	6 months - 15 years			✓	✓	Consensus-based recommendation	Treatment	Underuse
DIAB34	Children and adolescents with type 1 diabetes who presented with DKA and coma were transferred to and/or consulted with tertiary care for intensive care monitoring.	6 months - 15 years			✓	✓	Consensus-based recommendation	Treatment	Underuse
DIAB35	Children and adolescents with type 1 diabetes who presented with DKA and signs of cerebral edema were transferred to and/or consulted with tertiary care for intensive care monitoring.	6 months - 15 years			✓	✓	Consensus-based recommendation	Treatment	Underuse
ECZE01	Children who presented with an itch (pruritus) and 3 or more of the following: * history of involvement in skin creases (or face or extensor surfaces if under 18 months) OR * history of dry skin (xerosis) in the last year OR * visible flexural eczema (or over face or extensor surfaces if less than 18 months of age) were diagnosed with atopic eczema.	0 - 15 years	✓	✓	✓	✓	Consensus-based recommendation	Diagnosis	Underuse
ECZE02	Children diagnosed with atopic eczema had the severity of their eczema documented (mild/moderate/severe).	0 - 15 years	✓	✓	✓	✓	Consensus-based recommendation	Diagnosis	Underuse
ECZE03	Children with atopic eczema who presented with a flare up (acute deterioration) were prescribed topical steroids (which should be applied once or twice daily).	0 - 15 years	✓	✓	✓	✓	Grade B	Treatment	Underuse
ECZE04	Children with atopic eczema who presented with a flare up (acute deterioration) had wet dressings applied.	0 - 15 years	✓	✓	✓	✓	Consensus-based recommendation	Treatment	Underuse

Indicator ID	Indicator Description	Age Inclusion Criteria	Healthcare Setting				Category of Evidence or Strength of recommendation[a]	Phase of Care	Quality Type*
			GP	SP	ED	IP			
ECZE05	Children with atopic eczema who presented with a flare up (acute deterioration) and infection were prescribed: * oral antibiotics (cephalexin or flucloxacillin) OR * antivirals if secondary infection present OR * IV antibiotics if severe infection or sepsis.	0 - 15 years	✓	✓	✓	✓	Consensus-based recommendation	Treatment	Underuse
ECZE06	Children with eczema where an infection was suspected had swabs taken.	0 - 15 years	✓	✓	✓	✓	Consensus-based recommendation	Treatment	Underuse
ECZE07	Children with atopic eczema and no signs of infection were prescribed antibiotics.	0 - 15 years	✓	✓	✓	✓	Grade B	Treatment	Overuse
ECZE08	Parents of children diagnosed with atopic eczema were advised to provide ongoing everyday treatments to avoid irritants.	0 - 15 years	✓	✓	✓	✓	Grade C	Ongoing management	Underuse
ECZE09	Children with atopic eczema who were admitted to hospital were discharged with a written eczema treatment plan.	0 - 15 years				✓	Consensus-based recommendation	Ongoing management	Underuse
FEVE01	Children with a fever (over 38℃) had all recent antibiotic treatment documented.	0 - 15 years	✓	*	✓	✓	Consensus-based recommendation	Diagnosis	Underuse
FEVE02	Neonates aged < 1 month with a fever (over 38℃) had the GBS status of their mother documented.	0 - < 1 month	✓	*	✓	✓	Consensus-based recommendation	Diagnosis	Underuse
FEVE03	Children with a fever (over 38℃) had their fluid intake documented.	0 - 15 years	✓	*	✓	✓	Consensus-based recommendation	Diagnosis	Underuse
FEVE04	Children with a fever (over 38℃) had their length of illness documented.	0 - 15 years	✓	*	✓	✓	Consensus-based recommendation	Diagnosis	Underuse
FEVE05	Children with a fever (over 38℃) had any recent travel documented.	0 - 15 years	✓	*	✓	✓	Consensus-based recommendation	Diagnosis	Underuse
FEVE06	Children with a fever (over 38℃) had their immunization status documented.	0 - 15 years	✓	*	✓	✓	Consensus-based recommendation	Diagnosis	Underuse
FEVE07	Children with a fever (over 38℃) had whether they were in direct contact with unwell people documented.	0 - 15 years	✓	*	✓	✓	Consensus-based recommendation	Diagnosis	Underuse

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FEVE08	Children with a fever (over 38℃) had the presence of headaches documented.	4 - 15 years	✓	*	✓	✓	Consensus-based recommendation	Diagnosis	Underuse
FEVE09	Children with a fever (over 38℃) had the presence of diarrhea and vomiting documented.	0 - 15 years	✓	*	✓	✓	Consensus-based recommendation	Diagnosis	Underuse
FEVE10	Children with a fever (over 38℃) had the presence of abdominal pain documented.	0 - 15 years	✓	*	✓	✓	Consensus-based recommendation	Diagnosis	Underuse
FEVE11	Children with a fever (over 38℃) had the presence of joint symptoms documented.	1 - 15 years	✓	*	✓	✓	Consensus-based recommendation	Diagnosis	Underuse
FEVE12	Children with a fever (over 38℃) had their alertness assessed.	0 - 15 years	✓	*	✓	✓	Level II	Diagnosis	Underuse
FEVE13	Children with a fever (over 38℃) had their vital signs assessed.	0 - 15 years	✓	*	✓	✓	Consensus-based recommendation	Diagnosis	Underuse
FEVE14	Children with a fever (over 38℃) had their airway, breathing and any signs of stridor assessed.	0 - 15 years	✓	*	✓	✓	Level II	Diagnosis	Underuse
FEVE15	Children with a fever (over 38℃) had their circulation and capillary refill assessed.	0 - 15 years	✓	*	✓	✓	Level II	Diagnosis	Underuse
FEVE16	Children with a fever (over 38℃) had their cough assessed.	0 - 15 years	✓	*	✓	✓	Consensus-based recommendation	Diagnosis	Underuse
FEVE17	Children with a fever (over 38℃) had their mucous membranes assessed.	0 - 15 years	✓	*	✓	✓	Consensus-based recommendation	Diagnosis	Underuse
FEVE18	Children with a fever (over 38℃) were assessed for photophobia.	4 - 15 years	✓	*	✓	✓	Consensus-based recommendation	Diagnosis	Underuse
FEVE19	Children with a fever (over 38℃) were assessed for the presence of any neck stiffness.	0 - 15 years	✓	*	✓	✓	Consensus-based recommendation	Diagnosis	Underuse
FEVE20	Children with a fever (over 38℃) were assessed for a rash.	0 - 15 years	✓	*	✓	✓	Consensus-based recommendation	Diagnosis	Underuse
FEVE21	Children with a fever (over 38℃) were assessed for otitis media or received an examination of their eardrums.	0 - 15 years	✓	*	✓	✓	Consensus-based recommendation	Diagnosis	Underuse

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			GP	SP	ED	IP			
FEVE22	Infants aged < 1 month presenting to the GP with a fever (over 38℃) were referred to hospital.	0 - < 1 month	✓				Consensus-based recommendation	Treatment	Underuse
FEVE23	Infants aged 0-3 months who presented with fever (over 38℃) were referred to hospital.	0 - 3 months	✓				Consensus-based recommendation	Treatment	Underuse
FEVE24	Infants aged 0-3 months with a fever (over 38℃) received a sepsis work-up.	0 - 3 months	✓	*	✓	✓	Consensus-based recommendation	Diagnosis	Underuse
FEVE25	Infants aged 0-1 months with a fever (over 38℃) received parental antibiotics.	0 - 1 months	✓	*	✓	✓	Consensus-based recommendation	Treatment	Underuse
FEVE26	Children aged 3 months to 3 years with a fever (over 38℃) who had no clear source of infection, appeared well and were fully immunized received urine microscopy.	3 months - 3 years			✓	✓	Consensus-based recommendation	Diagnosis	Underuse
FEVE27	Children aged 3 months to 3 years with a fever (over 38℃) who had no clear source of infection, appeared well and were fully immunized were discharged home.	3 months - 3 years			✓	✓	Consensus-based recommendation	Treatment	Underuse
FEVE28	Parents of children aged 3 months to 3 years with a fever (over 38℃) who had no clear source of infection, appeared well and were fully immunized were advised to have their child reviewed if they deteriorate.	3 months - 3 years	✓	*	✓	✓	Consensus-based recommendation	Treatment	Underuse
FEVE29	Children aged ≥ 3 years with a fever (over 38℃), no clinical focus and who were well were prescribed antibiotics.	3 - 15 years	✓	*	✓	✓	Consensus-based recommendation	Treatment	Overuse
FEVE30	Infants and children who presented to ED with a fever (over 38℃) who were shocked, unrousable OR showing signs of meningococcal disease received immediate antibiotics.	0 - 15 years			✓		Consensus-based recommendation	Treatment	Underuse
FEVE31	Infants and children who presented to ED with a fever (over 38℃) and were shocked, unrousable OR showing signs of meningococcal disease received immediate fluid resuscitation.	0 - 15 years			✓		Consensus-based recommendation	Treatment	Underuse

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FEVE32	Infants and children who presented to ED with a fever (over 38℃) and were shocked, unrousable OR showing signs of meningococcal disease were referred or retrieved to a PICU.	0 - 15 years			✓		Consensus-based recommendation	Treatment	Underuse
FEVE33	Infants and children who presented to their GP with a fever (over 38℃) and were shocked, unrousable OR showing signs of meningococcal disease received immediate antibiotics.	0 - 15 years	✓				Consensus-based recommendation	Treatment	Underuse
FEVE34	Infants and children who presented to their GP with a fever (over 38℃) and were shocked, unrousable OR showing signs of meningococcal disease were transferred to hospital.	0 - 15 years	✓				Consensus-based recommendation	Treatment	Underuse
FEVE35	Infants aged < 3 months who presented to the ED with a fever (over 38℃) had a CBE (with differential) and CRP performed.	0 - 2 months			✓		Consensus-based recommendation	Diagnosis	Underuse
FEVE36	Infants aged < 3 months who presented to the ED with a fever (over 38℃) had blood cultures taken.	0 - 2 months			✓		Consensus-based recommendation	Diagnosis	Underuse
FEVE37	Infants aged < 3 months who presented to the ED with a fever (over 38℃) had a urinalysis with culture performed.	0 - 2 months			✓		Consensus-based recommendation	Diagnosis	Underuse
FEVE38	Children with a fever (over 38℃) who were toxic or unwell and had no focus of infection had a blood count (CBE) performed.	0 - 15 years	✓	*	✓	✓	Consensus-based recommendation	Diagnosis	Underuse
FEVE39	Children with a fever (over 38℃) who were toxic or unwell and had no focus of infection had blood cultures taken at the same time as other blood tests.	0 - 15 years	✓	*	✓	✓	Consensus-based recommendation	Diagnosis	Underuse
FEVE40	Children aged 3 months to 3 years with a fever (over 38℃) who showed signs of shock and had no clear source of infection had a venous blood gas taken.	3 months - 3 years	✓	*	✓	✓	Consensus-based recommendation	Diagnosis	Underuse

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FEVE41	Children aged 3 months to 3 years with a fever (over 38℃) who showed signs of shock and had no clear source of infection had blood cultures taken.	3 months - 3 years	✓	*	✓	✓	Consensus-based recommendation	Diagnosis	Underuse
FEVE42	Children aged 3 months to 3 years with a fever (over 38℃) who showed signs of shock and had no clear source of infection had urine sample taken.	3 months - 3 years	✓	*	✓	✓	Consensus-based recommendation	Diagnosis	Underuse
FEVE43	Children aged 3 months to 3 years with a fever (over 38℃) who showed signs of shock and had no clear source of infection but with respiratory symptoms/signs had a chest x-ray taken.	3 months - 3 years	✓	*	✓	✓	Consensus-based recommendation	Diagnosis	Underuse
FEVE44	Children aged 3 months to 3 years with a fever (over 38℃) who showed signs of shock and had no clear source of infection were admitted to hospital for empiric IV antibiotics.	3 months - 3 years	✓	*	✓		Consensus-based recommendation	Treatment	Underuse
FEVE45	Children aged 3 months to 3 years with a fever (over 38℃) who showed signs of shock and had no clear source of infection were admitted to hospital for fluid resuscitation.	3 months - 3 years	✓	*	✓		Consensus-based recommendation	Treatment	Underuse
FEVE46	Children with a fever (over 38℃) where a UTI was suspected had a urine culture taken before commencing antibiotics.	0 - 15 years	✓	*	✓	✓	Consensus-based recommendation	Diagnosis	Underuse
FEVE47	Parents of children with a fever (over 38℃) who were discharged received a fever fact sheet.	0 - 15 years			✓	✓	Consensus-based recommendation	Ongoing management	Underuse
GERD01	Infants/children who presented with regurgitation had their weight and height (growth chart) documented.	0 - 15 years	✓	✓	✓	✓	Consensus-based recommendation	Diagnosis	Underuse
GERD02	Infants/children who presented with regurgitation had their allergies (skin rash/urticaria/eczema/diarrhea/perineal/perianal excoriation), food and milk intolerances (cow's milk) documented.	0 - 15 years	✓	✓	✓	✓	Consensus-based recommendation	Diagnosis	Underuse

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			GP	SP	ED	IP			
GERD03	Infants/children aged ≥ 6 years who presented with regurgitation had their history of regurgitation/vomiting, cough, epigastric pain/heartburn documented.	6 - 15 years	✓	✓	✓	✓	Consensus-based recommendation	Diagnosis	Underuse
GERD04	Infants/children who presented with a history of food refusal OR regurgitation/vomiting, had their weight and height (growth chart) recorded.	0 - 15 years	✓	✓	✓	✓	Consensus-based recommendation	Diagnosis	Underuse
GERD05	Infants/children who presented with a history of food refusal OR regurgitation/vomiting, received a urine MC&S.	0 - 15 years	✓	✓	✓	✓	Consensus-based recommendation	Diagnosis	Underuse
GERD06	Infants aged less than 12 months with recurrent regurgitation and poor weight gain despite adequate energy intake have their diet history assessed.	0 - 11 months	✓	✓	✓	✓	Grade D	Diagnosis	Underuse
GERD07	Infants aged less than 12 months with recurrent regurgitation and poor weight gain despite adequate energy intake received a urinalysis.	0 - 11 months	✓	✓	✓	✓	Grade D	Diagnosis	Underuse
GERD08	Infants aged less than 12 months with recurrent regurgitation and poor weight gain despite adequate energy intake received a complete blood count.	0 - 11 months	✓	✓	✓	✓	Grade D	Diagnosis	Underuse
GERD09	Infants aged less than 12 months with recurrent regurgitation and poor weight gain despite adequate energy intake had their serum electrolytes assessed.	0 - 11 months	✓	✓	✓	✓	Grade D	Diagnosis	Underuse
GERD10	Infants aged less than 12 months with recurrent regurgitation and poor weight gain despite adequate energy intake had their blood urea nitrogen assessed.	0 - 11 months	✓	✓	✓	✓	Grade D	Diagnosis	Underuse
GERD11	Infants aged less than 12 months with recurrent regurgitation and poor weight gain despite adequate energy intake had their serum creatinine assessed.	0 - 11 months	✓	✓	✓	✓	Grade D	Diagnosis	Underuse

Indicator ID	Indicator Description	Age Inclusion Criteria	Healthcare Setting				Category of Evidence or Strength of recommendation[a]	Phase of Care	Quality Type*
			GP	SP	ED	IP			
GERD12	Infants who had uncomplicated recurrent regurgitation "happy spitters" had their feeding and feeding practices reviewed.	0 - 11 months	✓	✓	✓	✓	Grade C	Treatment	Underuse
GERD13	Infants who had uncomplicated recurrent regurgitation "happy spitters" were provided with parental reassurance and education.	0 - 11 months	✓	✓	✓	✓	Grade C	Treatment	Underuse
GERD14	Infants/children who presented with uncomplicated recurrent regurgitation had a barium swallow and meal.	0 - 15 years	✓	✓	✓	✓	Consensus-based recommendation	Treatment	Overuse
GERD15	Children aged greater than 18 months who presented with dysphagia or odynophagia were referred to a pediatric gastroenterologist.	18 months - 15 years	✓	✓	✓	✓	Consensus-based recommendation	Treatment	Underuse
GERD16	Children aged greater than 18 months who presented with dysphagia or odynophagia received a barium swallow.	18 months - 15 years	✓	✓	✓	✓	Grade D	Treatment	Underuse
GERD17	Infants with reflux who were healthy and thriving and presented with irritability or unexplained crying were prescribed acid suppression medication at the first presentation.	0 - 11 months	✓	✓	✓	✓	Consensus-based recommendation	Treatment	Overuse
GERD18	Infants with reflux who were healthy and thriving and presented with feeding refusal were prescribed acid suppression medication at the first presentation.	0 - 11 months	✓	✓	✓	✓	Consensus-based recommendation	Treatment	Overuse
GERD19	Infants with reflux who were healthy and thriving and presented with frequent regurgitation were prescribed acid suppression medication at the first presentation.	0 - 11 months	✓	✓	✓	✓	Consensus-based recommendation	Treatment	Overuse
GERD20	Children with Barrett's Esophagus had multiple biopsies obtained at time of endoscopy.	0 - 15 years	✓	✓	✓	✓	Consensus-based recommendation	Treatment	Underuse
GERD21	Children with Barrett's Esophagus were prescribed acid suppression.	0 - 15 years	✓	✓	✓	✓	Consensus-based recommendation	Treatment	Underuse

Indicator ID	Indicator Description	Age Inclusion Criteria	Healthcare Setting				Category of Evidence or Strength of recommendation[a]	Phase of Care	Quality Type*
			GP	SP	ED	IP			
GERD22	Older children/adolescents who presented with heartburn were assessed for lifestyle factors (diet, alcohol, weight, sleeping position, smoking).	13 - 15 years	✓	✓	✓	✓	Grade A	Diagnosis	Underuse
GERD23	Older children/adolescents who presented with heartburn were prescribed a PPI for 4 weeks.	13 - 15 years	✓	✓	✓	✓	Grade A	Ongoing management	Underuse
GERD24	Older children/adolescents who presented with heartburn, had been prescribed and used a PPI for 4 weeks, and their symptoms had resolved/improved were reviewed by their GP and had their PPI continued for 3 months.	13 - 15 years	✓				Grade D	Ongoing management	Underuse
GERD25	Older children/adolescents who presented with heartburn, had been prescribed and used a PPI for 4 weeks, and they had recurrent/persistent symptoms were reviewed by their GP and referred to a gastroenterologist.	13 - 15 years	✓				Grade D	Ongoing management	Underuse
GERD26	Infants/children (aged less than 18 months) with reflux esophagitis had their family lifestyle factors recorded (diet, alcohol, weight, sleeping position, smoking).	0 - < 18 months	✓	✓	✓	✓	Grade A	Diagnosis	Underuse
GERD27	Infants/children (aged less than 18 months) with reflux esophagitis had their symptoms reassessed at each review.	0 - < 18 months	✓	✓	✓	✓	Grade A	Ongoing management	Underuse
GERD28	Infants/children who had the presence of warning signs (see definition) were referred to a pediatric gastroenterologist.	0 - 15 years	✓	✓	✓	✓	Grade A	Ongoing management	Underuse
GERD29	Infants/children who had difficulty swallowing or a history of obstruction were referred to a pediatric gastroenterologist.	0 - 15 years	✓	✓	✓	✓	Consensus-based recommendation	Ongoing management	Underuse
GERD30	Infants/children who had weight loss/anorexia/poor feeding were referred to a pediatric gastroenterologist.	0 - 15 years	✓	✓	✓	✓	Consensus-based recommendation	Ongoing management	Underuse

Indicator ID	Indicator Description	Age Inclusion Criteria	Healthcare Setting				Category of Evidence or Strength of recommendation[a]	Phase of Care	Quality Type*
			GP	SP	ED	IP			
GERD31	Infants/children whose symptoms persisted during and after PPI therapy were referred to a pediatric gastroenterologist.	0 - 15 years	✓	✓	✓	✓	Consensus-based recommendation	Ongoing management	Underuse
GERD32	Infants/children with uncomplicated recurrent regurgitation who presented with projectile vomiting OR hematemesis OR bile-stained vomiting, were immediately referred to a hospital emergency department.	0 - 15 years	✓	✓			Consensus-based recommendation	Treatment	Underuse
HEAD01	Children who presented with a head injury and any of the following: * unconscious/responding only to pain OR * fitting OR * signs of cardiovascular compromise were categorized as a Triage 1 patient.	0 - 15 years			✓	✓	Consensus-based recommendation	Diagnosis	Underuse
HEAD02	Children who presented with a head injury and any of the following: * abnormal drowsiness/ responding only to voice OR * loss of consciousness of more than 5 minutes OR * focal signs OR * severe pain or headache OR * high risk mechanism were categorized as a Triage 2 patient.	0 - 15 years			✓	✓	Consensus-based recommendation	Diagnosis	Underuse
HEAD03	Children who presented with a head injury and any of the following: * alert but altered behavior OR * loss of consciousness less than 5 minutes OR * moderate pain or headache OR * moderate risk mechanism OR * significant neurological, developmental or bleeding comorbidities OR * less than one year of age OR * possible inflicted head injury, otherwise well were categorized as a Triage 3 patient.	0 - 15 years			✓	✓	Consensus-based recommendation	Diagnosis	Underuse

Indicator ID	Indicator Description	Age Inclusion Criteria	Healthcare Setting				Category of Evidence or Strength of recommendation[a]	Phase of Care	Quality Type*
			GP	SP	ED	IP			
HEAD04	Children aged ≥ 12 months who presented with an acute head injury and ONLY the following features: * low impact mechanism AND * NO neurological signs or symptoms AND * NO comorbidities or concerns regarding inflicted head injury were categorized as a Triage 4 or 5 patient.	1 - 15 years			✓	✓	Consensus-based recommendation	Diagnosis	Underuse
HEAD05	Children who presented with a moderate to severe head injury (GCS 3-13) received a primary survey and assessment of their airway (with cervical spine immobilization).	0 - 15 years	✓		✓	✓	Consensus-based recommendation	Diagnosis	Underuse
HEAD06	Children who presented with a moderate to severe head injury (GCS 3-13) received a primary survey and assessment of their breathing function.	0 - 15 years	✓		✓	✓	Consensus-based recommendation	Diagnosis	Underuse
HEAD07	Children who presented with a moderate to severe head injury (GCS 3-13) received a primary survey and assessment of their circulation.	0 - 15 years	✓		✓	✓	Consensus-based recommendation	Diagnosis	Underuse
HEAD08	Children who presented with a moderate to severe head injury (GCS 3-13) received a primary survey and assessment of their pupil size and reaction to light.	0 - 15 years	✓		✓	✓	Consensus-based recommendation	Diagnosis	Underuse
HEAD09	Children who presented with a moderate to severe head injury (GCS 3-13) received a primary survey and assessment of their GCS or AVPU.	0 - 15 years	✓		✓	✓	Consensus-based recommendation	Diagnosis	Underuse
HEAD10	Children who presented with a moderate to severe head injury (GCS 3-13) received a primary survey and assessment of their blood glucose.	0 - 15 years	✓		✓	✓	Consensus-based recommendation	Diagnosis	Underuse

Indicator ID	Indicator Description	Age Inclusion Criteria	Healthcare Setting				Category of Evidence or Strength of recommendation[a]	Phase of Care	Quality Type*
			GP	SP	ED	IP			
HEAD11	Children who presented with a moderate to severe head injury (GCS 3-13) received a secondary survey which included palpation for bogginess, swelling or bruising of the scalp.	0 - 15 years	✓		✓	✓	Consensus-based recommendation	Diagnosis	Underuse
HEAD12	Children who presented with a moderate to severe head injury (GCS 3-13) received a secondary survey which included looking for signs of base of skull fracture such as Battle's sign (bruising over mastoid), 'raccoon' eyes or blood behind the ear drum.	0 - 15 years	✓		✓	✓	Consensus-based recommendation	Diagnosis	Underuse
HEAD13	Children who presented with a moderate to severe head injury (GCS 3-13) received a secondary survey which included examination for hemo-tympanum or signs of CSF leak from ears or nose.	0 - 15 years	✓		✓	✓	Consensus-based recommendation	Diagnosis	Underuse
HEAD14	Children who presented with a moderate to severe head injury (GCS 3-13) received a secondary survey which included an examination for facial (e.g. nose, mouth, ears) deformities, swelling, bleeding, lacerations, tenderness.	0 - 15 years	✓		✓	✓	Consensus-based recommendation	Diagnosis	Underuse
HEAD15	Children who presented with a moderate to severe head injury (GCS 3-13) received a secondary survey which included examination for cervical spine deformity, tenderness, muscle spasm, crepitus, motor function, reflexes and lateralizing signs.	0 - 15 years	✓		✓	✓	Consensus-based recommendation	Diagnosis	Underuse
HEAD16	Children who presented with a head injury had their history documented which included the time of injury.	0 - 15 years	✓		✓	✓	Consensus-based recommendation	Diagnosis	Underuse
HEAD17	Children who presented with a head injury had their history documented which included mechanism of injury.	0 - 15 years	✓		✓	✓	Consensus-based recommendation	Diagnosis	Underuse

Indicator ID	Indicator Description	Age Inclusion Criteria	Healthcare Setting				Category of Evidence or Strength of recommendation[a]	Phase of Care	Quality Type*
			GP	SP	ED	IP			
HEAD18	Children who presented with a head injury had their history documented which included a recall of events.	0 - 15 years	✓		✓	✓	Consensus-based recommendation	Diagnosis	Underuse
HEAD19	Children who presented with a head injury had their history documented which included whether there was loss or impairment of consciousness (and duration).	0 - 15 years	✓		✓	✓	Consensus-based recommendation	Diagnosis	Underuse
HEAD20	Children who presented with a head injury had their history documented which included the presence/absence of seizures.	0 - 15 years	✓		✓	✓	Consensus-based recommendation	Diagnosis	Underuse
HEAD21	Children who presented with a head injury had their history documented which included their behavior and activity since the time of injury.	0 - 15 years	✓		✓	✓	Consensus-based recommendation	Diagnosis	Underuse
HEAD22	Children who presented with a head injury had their history documented which included whether they had any nausea or vomiting.	0 - 15 years	✓		✓	✓	Consensus-based recommendation	Diagnosis	Underuse
HEAD23	Children who presented with a head injury had their history documented which included their clinical course prior to consultation, e.g. stable, deteriorating, improving.	0 - 15 years	✓		✓	✓	Consensus-based recommendation	Diagnosis	Underuse
HEAD24	Children who presented with a head injury had their history documented which included any other injuries sustained.	0 - 15 years	✓		✓	✓	Consensus-based recommendation	Diagnosis	Underuse
HEAD25	Children who presented with a head injury had their history documented which included comorbidities that predispose to intracranial injury (intra-cerebral shunt, AV malformation, bleeding disorders (including vitamin K deficiency).	0 - 15 years	✓		✓	✓	Consensus-based recommendation	Diagnosis	Underuse

Indicator ID	Indicator Description	Age Inclusion Criteria	Healthcare Setting				Category of Evidence or Strength of recommendation[a]	Phase of Care	Quality Type*
			GP	SP	ED	IP			
HEAD26	Children who presented to the ED with a head injury and any of the following: * GCS persistently less than or equal to 8 OR * loss of protective laryngeal reflexes OR * abnormal breathing pattern or hypoventilation OR * oxygen saturation less than or equal to SpO_2 95% or a PaO_2 less than 80 mmHg on maximal facial oxygen OR * $PaCO_2$ less than 30 mmHg or $PaCO_2$ greater than 44 mmHg were classified as severe and were intubated and ventilated.	0 - 15 years			✓		Consensus-based recommendation	Treatment	Underuse
HEAD27	Children with a severe head injury (GCS 3-8) received immobilization of their cervical spine.	0 - 15 years			✓	✓	Consensus-based recommendation	Treatment	Underuse
HEAD28	Children with a severe head injury (GCS 3-8) who had completed their fluid resuscitation, were nursed 20-30 degrees head up.	0 - 15 years			✓	✓	Consensus-based recommendation	Treatment	Underuse
HEAD29	Children with a severe head injury (GCS 3-8) received continuous cardio-respiratory (respiratory rate, pulse) and oxygen saturation monitoring.	0 - 15 years			✓	✓	Consensus-based recommendation	Treatment	Underuse
HEAD30	Children with a severe head injury (GCS 3-8) had their BP measured every 15-30 minutes.	0 - 15 years			✓	✓	Consensus-based recommendation	Treatment	Underuse
HEAD31	Children with a severe head injury (GCS 3-8) who were not intubated, had their GCS recorded every 15-30 minutes.	0 - 15 years			✓	✓	Consensus-based recommendation	Treatment	Underuse
HEAD32	Children with a severe head injury (GCS 3-8) received an urgent CT of the head.	0 - 15 years			✓	✓	Grade B	Treatment	Underuse
HEAD33	Children with a severe head injury (GCS 3-8) received an urgent C-Spine CT.	0 - 15 years			✓	✓	Consensus-based recommendation	Treatment	Underuse
HEAD34	Children with a severe head injury (GCS 3-8) received a consultation with ICU and neurosurgical specialists.	0 - 15 years			✓	✓	Consensus-based recommendation	Treatment	Underuse

Indicator ID	Indicator Description	Age Inclusion Criteria	Healthcare Setting				Category of Evidence or Strength of recommendation[a]	Phase of Care	Quality Type*
			GP	SP	ED	IP			
HEAD35	Children who presented with moderate head injury (GCS 9-13) without neurological deterioration had their GCS observed in hospital at least half-hourly for a minimum of four hours.	0 - 15 years			✓	✓	Consensus-based recommendation	Treatment	Underuse
HEAD36	Children who presented with moderate head injury (GCS 9-13) without neurological deterioration had their pulse rate observed in hospital at least half-hourly for a minimum of four hours.	0 - 15 years			✓	✓	Consensus-based recommendation	Treatment	Underuse
HEAD37	Children who presented with moderate head injury (GCS 9-13) without neurological deterioration had their respiratory rate observed in hospital at least half-hourly for a minimum of four hours.	0 - 15 years			✓	✓	Consensus-based recommendation	Treatment	Underuse
HEAD38	Children who presented with moderate head injury (GCS 9-13) without neurological deterioration had their blood pressure observed in hospital at least half-hourly for a minimum of four hours.	0 - 15 years			✓	✓	Consensus-based recommendation	Treatment	Underuse
HEAD39	Children who presented with moderate head injury (GCS 9-13) without neurological deterioration had their pupils assessed in hospital at least half-hourly for a minimum of four hours.	0 - 15 years			✓	✓	Consensus-based recommendation	Treatment	Underuse
HEAD40	Children who presented with moderate head injury (GCS 9-13) without neurological deterioration had their limb strength assessed in hospital at least half-hourly for a minimum of four hours.	0 - 15 years			✓	✓	Consensus-based recommendation	Treatment	Underuse
HEAD41	Children with a moderate/intermediate head injury (GCS 9-13) who experienced an acute deterioration including persistent vomiting (at 6 hours post injury) received a CT of the head.	0 - 15 years			✓	✓	Grade B	Treatment	Underuse

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			GP	SP	ED	IP			
HEAD42	Children with a moderate/intermediate head injury (GCS 9-13) who experienced an acute deterioration including persistent headache (at 6 hours post injury) received a CT of the head.	0 - 15 years			✓	✓	Grade B	Treatment	Underuse
HEAD43	Children with a moderate/intermediate head injury (GCS 9-13) who experienced an acute deterioration including persistent irritability (at 6 hours post injury) received a CT of the head.	0 - 15 years			✓	✓	Grade B	Treatment	Underuse
HEAD44	Children with a moderate/intermediate head injury (GCS 9-13) who experienced an acute deterioration including persistent abnormal behavior/neurological abnormality (at 6 hours post injury) received a CT of the head.	0 - 15 years			✓	✓	Grade B	Treatment	Underuse
HEAD45	Children with a moderate/intermediate head injury (GCS 9-13) who experienced an acute deterioration including persistent unsteady gait (at 6 hours post injury) received a CT of the head.	0 - 15 years			✓	✓	Grade B	Treatment	Underuse
HEAD46	Children who presented with a head injury were intubated via a nasotracheal airway.	0 - 15 years			✓	✓	Consensus-based recommendation	Treatment	Overuse
HEAD47	Children who presented with a head injury received a nasogastric tube.	0 - 15 years			✓	✓	Consensus-based recommendation	Treatment	Overuse
HEAD48	Children with a head injury who were intubated had end tidal CO_2 monitoring.	0 - 15 years			✓	✓	Consensus-based recommendation	Treatment	Underuse
HEAD49	Children with a head injury who were intubated had PaO_2 greater than 80 mmHg (SaO_2 greater than 95%).	0 - 15 years			✓	✓	Consensus-based recommendation	Treatment	Underuse
HEAD50	Children with a head injury who were intubated had $PaCO_2$ between 35-40 mmHg.	0 - 15 years			✓	✓	Consensus-based recommendation	Treatment	Underuse

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			GP	SP	ED	IP			
HEAD51	Children who presented with a head injury and any of the following: * GCS less than 15 OR * posterior bony neck pain or tenderness OR * focal deficit at any time since injury OR * paresthesia in the extremities OR * distracting injury OR * intoxication received cervical spine precautions.	0 - 15 years			✓	✓	Consensus-based recommendation	Treatment	Underuse
HEAD52	Children who presented with head injury who were seizing, were immediately administered: * midazolam (0.15 mg/kg bolus IV), OR * diazepam (0.25 mg/kg bolus IV) OR * midazolam 0.15 mg/kg IM, 0.5 mg/kg IN or 0.5 mg/kg buccal.	0 - 15 years			✓	✓	Consensus-based recommendation	Treatment	Underuse
HEAD53	Children who presented with head injury and received sedation and/or opioid analgesia had their GCS recorded every 15 minutes until their GCS returned to the pre-sedation level.	0 - 15 years			✓	✓	Consensus-based recommendation	Treatment	Underuse
HEAD54	Children with a minor/mild head injury (GCS 14-15) whose parents were provided with information on when to return to the ED if deterioration occurs, were discharged from the ED without a period of observation.	0 - 15 years			✓		Consensus-based recommendation	Ongoing management	Underuse
OTIT01	The parents of children aged 12 months to 2 years diagnosed with AOM were advised to observe the child for up to 48 hours from the onset of symptoms.	1 - 2 years	✓	✓	✓	✓	Consensus-based recommendation	Treatment	Underuse
OTIT02	Children aged 12 months to 2 years diagnosed with AOM were provided systemic analgesics (paracetamol (PO) OR Ibuprofen).	1 - 2 years	✓	✓	✓	✓	Consensus-based recommendation	Treatment	Underuse
OTIT03	Children aged 12 months to 2 years diagnosed with AOM had a follow-up visit arranged at 48 hours.	1 - 2 years	✓	✓	✓	✓	Consensus-based recommendation	Treatment	Underuse

Indicator ID	Indicator Description	Age Inclusion Criteria	Healthcare Setting				Category of Evidence or Strength of recommendation[a]	Phase of Care	Quality Type*
			GP	SP	ED	IP			
OTIT04	Children aged 12 months to 2 years diagnosed with AOM, whose symptoms were unchanged or worsened after 24-48 hours, were prescribed antibiotics.	1 - 2 years	✓	✓	✓	✓	Grade B	Treatment	Underuse
OTIT05	Children with AOM aged ≥ 12 months who were mildly unwell were prescribed antibiotics.	1 - 15 years	✓	✓	✓	✓	Grade B	Treatment	Overuse
OTIT06	Children aged less than 6 months with AOM were prescribed an antibiotic.	0 - 5 months	✓	✓	✓	✓	Consensus-based recommendation	Treatment	Underuse
OTIT07	Children aged ≥ 6 months, who had severe symptoms or were severely unwell, or their diagnosis was certain, or they had bilateral AOM, were prescribed an antibiotic.	6 months - 15 years	✓	✓	✓	✓	Consensus-based recommendation	Treatment	Underuse
OTIT08	Children who were Aboriginal or Torres Strait Islander with AOM were prescribed an antibiotic.	0 - 15 years	✓	✓	✓	✓	Consensus-based recommendation	Treatment	Underuse
OTIT09	Children with AOM and severe symptoms (moderate or severe otalgia or otalgia for at least 48 hours or temperature 39 degrees Celsius or higher), were prescribed an antibiotic.	0 - 15 years	✓	✓	✓	✓	Consensus-based recommendation	Treatment	Underuse
OTIT10	Children with AOM who were distressed for more than 24-48 hours, were prescribed an antibiotic.	0 - 15 years	✓	✓	✓	✓	Consensus-based recommendation	Treatment	Underuse
OTIT11	Children with AOM and for whom their inflammation did not resolve within 48 hours, were prescribed an antibiotic.	0 - 15 years	✓	✓	✓	✓	Consensus-based recommendation	Treatment	Underuse
OTIT12	Children with AOM were prescribed the following antibiotics: * Amoxicillin 45 mg/kg/day for 5 days OR * Roxithromycin 2.5 mg/kg (max 150 mg) oral 12-hourly for 5 days or Cefaclor 10 mg/kg up to 250 mg PO, 8-hourly for 5 days if allergic to penicillin.	0 - 15 years	✓	✓	✓	✓	Grade B	Treatment	Underuse

Indicator ID	Indicator Description	Age Inclusion Criteria	Healthcare Setting				Category of Evidence or Strength of recommendation[a]	Phase of Care	Quality Type*
			GP	SP	ED	IP			
OTIT13	Children with AOM who were Aboriginal or Torres Strait Islander were prescribed amoxicillin 50 mg/kg for 7 days.	0 - 15 years	✓	✓	✓	✓	Consensus-based recommendation	Treatment	Underuse
OTIT14	Children with perforated AOM who were Aboriginal or Torres Strait Islander were prescribed amoxicillin 50-90 mg/kg for 14 days.	0 - 15 years	✓	✓	✓	✓	Consensus-based recommendation	Treatment	Underuse
OTIT15	Children with AOM who required antibiotics and had a history of recurrent AOM unresponsive to amoxicillin, OR concurrent purulent conjunctivitis, OR received amoxicillin in the last 30 days were also prescribed Beta-lactamase coverage.	0 - 15 years	✓	✓	✓	✓	Grade C	Treatment	Underuse
OTIT16	Children with OME without hearing loss were prescribed or advised to use antibiotics, OR decongestants, OR antihistamines, OR mucolytics OR steroids (topical or systemic).	0 - 15 years	✓	✓	✓	✓	Grade B (decongestants, antihistamines, mucolytics) Grade B (steroids) Grade D (antibiotics)	Treatment	Overuse
OTIT17	Children with AOM and persistent AOM with speech or general developmental delay, were referred to an ENT specialist.	0 - 15 years	✓	✓	✓	✓	Consensus-based recommendation	Ongoing management	Underuse
OTIT18	Children with AOM and underlying ENT abnormalities, were referred to an ENT specialist.	0 - 15 years	✓	✓	✓	✓	Consensus-based recommendation	Ongoing management	Underuse
OTIT19	Children with AOM and an effusion lasting longer than 3 months with bilateral hearing impairment (greater than 20 dB), were referred to an ENT specialist.	0 - 15 years	✓	✓	✓	✓	Consensus-based recommendation	Ongoing management	Underuse

Indicator ID	Indicator Description	Age Inclusion Criteria	Healthcare Setting				Category of Evidence or Strength of recommendation[a]	Phase of Care	Quality Type*
			GP	SP	ED	IP			
OTIT20	Children with recurrent symptomatic AOM episodes (greater than 4 times in 6 months), were referred to an ENT specialist.	0 - 15 years	✓	✓	✓	✓	Grade D	Ongoing management	Underuse
OTIT21	Children with AOM and cholesteatoma, mastoiditis or facial nerve palsies, were referred to an ENT specialist.	0 - 15 years	✓	✓	✓	✓	Consensus-based recommendation	Ongoing management	Underuse
OTIT22	Children with AOM and chronic perforation not responding to treatment over 3 months, were referred to an ENT specialist.	0 - 15 years	✓	✓	✓	✓	Consensus-based recommendation	Ongoing management	Underuse
OTIT23	Children with AOM and who were immunosuppressed, were referred to an ENT specialist.	0 - 15 years	✓	✓	✓	✓	Consensus-based recommendation	Ongoing management	Underuse
OTIT24	Children diagnosed with OME were reviewed in 3 months.	0 - 15 years	✓	✓	✓	✓	Consensus-based recommendation	Ongoing management	Underuse
OTIT25	Children diagnosed with OME and continued symptoms were referred for an audiogram.	0 - 15 years	✓	✓	✓	✓	Consensus-based recommendation	Ongoing management	Underuse
OTIT26	Children aged less than 3 years with persistent bilateral OME were reviewed every 3 months.	0 - 2 years	✓	✓	✓	✓	Grade A	Ongoing management	Underuse
OTIT27	Children aged less than 3 years with persistent bilateral OME were referred for surgery.	0 - 2 years	✓	✓	✓	✓	Grade A	Ongoing management	Overuse
OTIT28	Children aged less than 3 years with OME and hearing loss of less than equals to 25 dB were reviewed every 3 months.	0 - 2 years	✓	✓	✓	✓	Grade A	Ongoing management	Underuse
OTIT29	Children aged less than 3 years with OME and hearing loss of less than equals to 25 dB were referred for surgery.	0 - 2 years	✓	✓	✓	✓	Grade A	Ongoing management	Overuse
OTIT30	Children aged less than 3 years with OME and no speech, language development or behavioral problems, were reviewed every 3 months.	0 - 2 years	✓	✓	✓	✓	Grade A	Ongoing management	Underuse
OTIT31	Children aged less than 3 years with OME and no speech, language development or behavioral problems, were referred for surgery.	0 - 2 years	✓	✓	✓	✓	Grade A	Ongoing management	Overuse

Indicator ID	Indicator Description	Age Inclusion Criteria	Healthcare Setting				Category of Evidence or Strength of recommendation[a]	Phase of Care	Quality Type*
			GP	SP	ED	IP			
OTIT32	Children aged ≥ 3 years with persistent bilateral OME were referred to an ENT specialist.	3 - 15 years	✓	✓	✓	✓	Grade B	Ongoing management	Underuse
OTIT33	Children aged ≥ 3 years with OME and speech and language, developmental or behavioral problems were referred to an ENT specialist.	3 - 15 years	✓	✓	✓	✓	Grade B	Ongoing management	Underuse
OTIT34	Children with OME for more than 3 months and evidence of hearing loss, were referred to an ENT specialist.	0 - 15 years	✓	✓	✓	✓	Consensus-based recommendation	Ongoing management	Underuse
OTIT35	Children with OME and at least 3 episodes of AOM in a six-month period, were referred to an ENT specialist.	0 - 15 years	✓	✓	✓	✓	Consensus-based recommendation	Ongoing management	Underuse
OTIT36	Children with OME and at least 4 episodes of AOM in a twelve-month period, were referred to an ENT specialist.	0 - 15 years	✓	✓	✓	✓	Consensus-based recommendation	Ongoing management	Underuse
OTIT37	Children with OME and a retracted tympanic membrane, were referred to an ENT specialist.	0 - 15 years	✓	✓	✓	✓	Consensus-based recommendation	Ongoing management	Underuse
TONS01	Children aged 3-14 years with a sore throat had their temperature assessed.	3 - 14 years	✓	*	✓	✓	Grade C	Diagnosis	Underuse
TONS02	Children with a sore throat and with no other symptoms or signs of tonsillitis were prescribed antibiotics.	29 days - 15 years	✓	*	✓	✓	Grade A	Treatment	Overuse
TONS03	Parents of children with a sore throat were instructed to provide fluids.	29 days - 15 years	✓	*	✓	✓	Grade A	Treatment	Underuse
TONS04	Children aged < 4 years with a sore throat and associated cough who did not require hospitalization were prescribed antibiotics.	29 days - 3 years	✓	*	✓		Consensus-based recommendation	Treatment	Overuse
TONS05	Children aged 3-14 years assessed as High Risk or GABHS positive and allergic to penicillin were prescribed oral Erythromycin.	3 - 14 years	✓	*	✓	✓	Consensus-based recommendation	Treatment	Underuse

Indicator ID	Indicator Description	Age Inclusion Criteria	Healthcare Setting				Category of Evidence or Strength of recommendation[a]	Phase of Care	Quality Type*
			GP	SP	ED	IP			
TONS06	Children with recurrent acute sore throat with episodes that were disabling and prevented normal functioning were indicated for tonsillectomy.	29 days - 15 years	✓	*	✓	✓	Grade D	Ongoing management	Underuse
TONS07	Children who had a tonsillectomy and adenoidectomy were administered perioperative antibiotics.	29 days - 15 years				✓	Consensus-based recommendation	Ongoing management	Overuse
TONS08	Children who had a tonsillectomy and adenoidectomy were given a stat dose of dexamethasone.	29 days - 15 years				✓	Grade A	Ongoing management	Underuse
TONS09	Children who had a tonsillectomy and adenoidectomy were prescribed anti-emetic medication post-surgery.	29 days - 15 years				✓	Grade A	Ongoing management	Underuse
TONS10	Children who had a tonsillectomy and adenoidectomy were informed of the potential for pain to increase for up to 6 days post-surgery.	29 days - 15 years				✓	Grade D	Ongoing management	Underuse
TONS11	Parents/carers of children who had a tonsillectomy and adenoidectomy were informed of the risk of post-operative hemorrhage: primary (within 24 hours) and secondary (4-9 days) after surgery.	29 days - 15 years				✓	Consensus-based recommendation	Ongoing management	Underuse
URTI01	Children who presented with URTI symptoms had the presence of a runny nose (rhinorrhea) documented.	0 - 15 years	✓		✓	✓	Consensus-based recommendation	Diagnosis	Underuse
URTI02	Children who presented with URTI symptoms had the presence of a cough documented.	0 - 15 years	✓		✓	✓	Consensus-based recommendation	Diagnosis	Underuse
URTI03	Children who presented with URTI symptoms had the presence of a fever documented.	0 - 15 years	✓		✓	✓	Consensus-based recommendation	Diagnosis	Underuse
URTI04	Children who presented with an URTI had their comorbidities documented.	0 - 15 years	✓		✓	✓	Consensus-based recommendation	Diagnosis	Underuse
URTI05	Children who presented with an URTI had their previous medical history documented.	0 - 15 years	✓		✓	✓	Consensus-based recommendation	Diagnosis	Underuse

Indicator ID	Indicator Description	Age Inclusion Criteria	Healthcare Setting				Category of Evidence or Strength of recommendation[a]	Phase of Care	Quality Type*
			GP	SP	ED	IP			
URTI06	Children who presented with an URTI had their current medications documented.	0 - 15 years	✓		✓	✓	Consensus-based recommendation	Diagnosis	Underuse
URTI07	Children who presented with an URTI had a physical examination.	0 - 15 years	✓		✓	✓	Consensus-based recommendation	Diagnosis	Underuse
URTI08	Parents of children with an URTI were advised against antibiotics as they are likely to make little difference to the symptoms.	0 - 15 years	✓		✓	✓	Consensus-based recommendation	Treatment	Underuse
URTI09	Parents of children with an URTI were advised against antibiotics as they may have side effects.	0 - 15 years	✓		✓	✓	Consensus-based recommendation	Treatment	Underuse
URTI10	Children with an URTI and pneumonia were prescribed antibiotics.	0 - 15 years	✓		✓	✓	Consensus-based recommendation	Treatment	Underuse
URTI11	Children with an URTI and a peritonsillar abscess were prescribed antibiotics.	0 - 15 years	✓		✓	✓	Consensus-based recommendation	Treatment	Underuse
URTI12	Children with an URTI and bordetella pertussis were prescribed antibiotics.	0 - 15 years	✓		✓	✓	Consensus-based recommendation	Treatment	Underuse
URTI13	Children with an URTI and acute moderate/severe bacterial sinusitis were prescribed antibiotics.	0 - 15 years	✓		✓	✓	Consensus-based recommendation	Treatment	Underuse
URTI14	Parents of children with an URTI were advised to return if the condition worsens or becomes prolonged.	0 - 15 years	✓		✓	✓	Consensus-based recommendation	Ongoing management	Underuse

Indicator ID	Indicator Description	Age Inclusion Criteria	Healthcare Setting				Category of Evidence or Strength of recommendation[a]	Phase of Care	Quality Type*
			GP	SP	ED	IP			

Legend: µg=microgram; Ab=Antibodies; ABG=Arterial Blood Gas; ADHD=Attention-Deficit Hyperactivity Disorder; AOM=Acute Otitis Media; ASD=Autism Spectrum Disorder; AVPU=Alert/Pain/Voice/Unresponsive; BGL=Blood Glucose Level; BP=Blood Pressure; CBE=Complete Blood Examination; CBT=Cognitive Behavioral Therapy; CRP=C-reactive Protein; CSF=Cerebrospinal Fluid; AV=arteriovenous; CSII=Continuous Subcutaneous Insulin Infusion; C-spine CT=Cervical spine CT; CT=Computed Tomography; DKA=Diabetic Ketoacidosis; DSM-IV=Diagnostic and Statistical Manual of Mental Disorders, 4th edition; DSM-V=Diagnostic and Statistical Manual of Mental Disorders, 5th edition; ED=Emergency Department; ENT=Ear, Nose & Throat; FT4=Free Thyroxine (T4); GABHS=Group A Beta-Hemolytic Streptococci; GAD= Glutamic Acid Decarboxylase; GBS=Group B Streptococcus; GCS=Glasgow Coma Scale; GP=General Practitioner; HbA1c=Hemoglobin A1c; HR=Heart Rate; ICD-10=International Statistical Classification of Diseases and Related Health Problems, 10th revision; ICS=Inhaled Corticosteroid; ICU=Intensive Care Unit; ID=Identifier; IgA=Immunoglobulin A; IM=Intra-muscular; IP=Inpatient; IV=Intravenous; IV=Intravenous; LTRA=LeukoTriene Receptor Antagonist; MC&S=Microscopy, Culture and Sensitivities; MDI=Multiple Daily Injections; NG=Naso-gastric; OCD=Obsessive-compulsive Disorder; OME=Otitis Media with Effusion; PaCO2=Partial pressure of carbon dioxide; PaO2=Partial pressure of oxygen; PICU=Pediatric Intensive Care Unit; PO=By mouth; PPI=Proton-Pump Inhibitor; RR=Respiratory Rate; SaO2=Arterial oxygen saturation; SP=Specialist (general pediatrician); SpO2=Peripheral capillary oxygen saturation; SSRI = Selective Serotonin Reuptake Inhibitor; Temp=Temperature; TSH=Thyroid Stimulating Hormone; URTI=Upper Respiratory Tract Infection; UTI=Urinary Tract Infection; WOB=Work of Breathing;

[a] Category of evidence underlying the original recommendations on which quality of care indicators were based and strength of recommendation, both as reported in individual CPGs. CPGs used a variety of classification schemes for allocating categories of evidence as Levels (with I indicate highest quality evidence in all classification schemes) and strength of recommendation in Grades (with A indicating the strongest recommendation in all classification schemes). If neither Levels nor Grades were specified in the CPG, the term "Consensus-based recommendation" was assigned. Discrepancies between Grade and Level definitions can occur where different classification systems have been used within, or among multiple, CPGs (e.g. BRON14, BRON16, BRON17, BRON25, CROU21); or for different compliance actions within a single indicator (e.g. CROU18, CROU22);

[b] The type of quality of care assessed was classified as underuse or overuse: underuse refers to actions which are recommended, but not undertaken; overuse refers to actions which are not indicated, or contraindicated in the context of the indicator's inclusion criteria.

[*] Indicators removed prior to analysis due to lack of visits: *Fever* (1 visit) and *Tonsillitis* (3 visits) removed for SPs, as could not be taken to be representative.

eTable 2. Examples of Conversion of Recommendations With Multiple Inclusion Criteria and/or Compliance Actions Into Individual Indicators

CPG Recommendation[a]	Indicator ID	CTK indicator question	Rationale
Children with anxiety (and their parents/carers) receive first-line management including: - *psychotherapy (CBT) or behavioral therapy*, AND - *education and support.*	ANXI06	Children with anxiety were provided psychotherapy (CBT) OR behavioral therapy as first line management.	Multiple compliance actions
	ANXI07	Children with anxiety were provided education and support as first line management.	
Children diagnosed with OME are managed as follows: - *reviewed in 3 months* AND - if symptoms continue *refer for an audiogram*	OTIT24	Children diagnosed with OME were reviewed in 3 months.	Multiple inclusion criteria and compliance actions
	OTIT25	Children diagnosed with OME and continued symptoms were referred for an audiogram.	

[a] Inclusion criteria are underlined.

eTable 3. ICD-10 and SNOMED* Codes Provided to Hospitals for Record Identification

Condition	Principal diagnosis ICD-10 code(s)	SNOMED code[a]
NONCOMMUNICABLE		
Acute abdominal pain	R10.x	116290004
Asthma	J45.x; J46	195967001
Diabetes	E10.x	46635009
Eczema	L20.x	43116000
GERD	K21.x	235595009
MENTAL HEALTH		
Anxiety	F40.x; F41.x; F93.0; F93.1; F93.2	48694002
Depression	F32.x; F33.x; F34.x	35489007
ACUTE INFECTIONS		
Acute gastroenteritis	A08.x; A09.x	69776003
Bronchiolitis	J21.x	4120002
Croup	J05.0	71186008
Fever	A68.9; R50.x	386661006
Otitis media	H65.x; H66.x; H67.x	65363002
Tonsillitis	J03.x	90176007
URTI	J00; J01.x; J02.x; J04.x; J06.x	54150009
INJURY		
Head Injury	S02.x; S03.x; S04.x; S05.x; S06.x; S07.x; S08.x; S09.x	82271004

[a] A single SNOMED code was provided to NSW hospitals, to simplify record identification, and to minimize the likelihood of false positive records

eTable 4. ICD-10 Codes Used to Identify Occasions of Inpatient Care

Condition	Principal diagnosis ICD-10 code(s)
NONCOMMUNICABLE	
Acute abdominal pain	R10.x
Asthma	J45.x; J46
Diabetes	E10.x
Eczema	L20.x
GERD	K21.x
MENTAL HEALTH	
Anxiety	F40.x; F41.x; F93.0; F93.1; F93.2
Depression	F32.x; F33.x; F34.x
ACUTE INFECTIONS	
Acute gastroenteritis	A08.x; A09.x
Bronchiolitis	J21.x
Croup	J05.0
Fever	A68.9; R50.x
Otitis media	H65.x; H66.x; H67.x
Tonsillitis	J03.x
URTI	J00; J01.x; J02.x; J04.x; J06.x
INJURY	
Head Injury	S02.x; S03.x; S04.x; S05.x; S06.x; S07.x; S08.x; S09.x

eTable 5. ICD-10 and ICD-9[a] Codes Used to Identify Occasions of ED Care

Condition	Principal diagnosis ICD-10 code(s)	Principal diagnosis ICD-9 code(s) (NSW only)
NONCOMMUNICABLE		
Acute abdominal pain	R10.x	789.x; 608.9; 625.9
Asthma	J45.x; J46	493
Diabetes	E10.x	250.01; 250.03; 250.11; 250.13; 250.21; 250.23; 250.31; 250.33; 250.41; 250.43; 250.51; 250.53; 250.61; 250.63; 250.71; 250.73; 250.81; 250.83; 250.91; 250.93
Eczema	L20.x	691.8
GERD	K21.x	530.11; 530.81
MENTAL HEALTH		
Anxiety	F40.x; F41.x; F93.0; F93.1; F93.2	300.0x; 300.2x; 309.21; 313.0
Depression	F32.x; F33.x; F34.x	296.2x; 296.3x; 296.82; 296.99; 298.0; 300.4; 301.10; 301.12; 301.13; 311
ACUTE INFECTIONS		
Acute gastroenteritis	A08.x; A09.x	008.6x; 008.8; 009.x
Bronchiolitis	J21.x	466.1x
Croup	J05.0	464.01; 464.21; 464.4
Fever	A68.9; R50.x	087.9; 780.60; 780.61; 780.62; 780.63; 780.66
Otitis media	H65.x; H66.x; H67.x	381.0x; 381.1x; 381.2x; 381.3; 381.4; 382.0x; 382.1; 382.2; 382.3; 382.4; 382.9
Tonsillitis	J03.x	463
URTI	J00; J01.x; J02.x; J04.x; J06.x	460; 461.x; 464.00; 464.1x; 464.20; 464.5x; 465.x
INJURY		
Head Injury	S02.x; S03.x; S04.x; S05.x; S06.x; S07.x; S08.x; S09.x	800.x; 801.x; 802.x; 803.x; 804.x; 850.x; 851.x; 852.x; 853.x; 854.x; 870.3; 870.4; 872.6x; 872.7x; 872.8; 872.9; 905.0; 907.0; 907.1; 950.x; 951.x

[a] NSW only

eTable 6. SNOMED-CT Codes Provided to NSW Department of Health to Identify Occasions of ED Care

Condition	Principal diagnosis codes
NONCOMMUNICABLE	
Acute abdominal pain	"9209005" "9991008" "21005005" "21522001" "25959004" "30473006" "35363006" "35611005" "43478001" "53574006" "54586004" "60043000" "71850005" "73063007" "74704000" "79922009" "83132003" “88522004" "102570003" "102613000" "102614006" "102615007" "102626001" "102627005" "102628000" "102631004" "111985007" "116290004" "162038003" "162040008" "162042000" "162046002" "162047006" "162048001" "162049009" "162050009" "162051008" "162052001" "162053006" "162138001" "162147009" "162148004" "163214004" "163215003" "163216002" "163217006" "163218001" "163219009" "163220003" "163221004" "163222006" "163236001" "163238000" "163239008" "163240005" "163242002" "163244001" "163245000" "163246004" "163267004" "225565007" "235841007" "237067000" "247352008" "247353003" "247354009" "247355005" "247361008" "247362001" "247391003" "268941000" "271681002" "271853005" "271858001" "274277005" "274278000" "274287009" "274288004" "274289007" "274290003" "274292006" "274671002" "275315004" "275406005" "279032003" "285387005" "285388000" "300348008" "300566002" "301367001" "301368006" "301403003" "301404009" "301405005" "301406006" "301409004" "301410009" "301411008" "301412001" "301413006" "301414000" "301415004" "301418002" "301419005" "301420004" "301715003" "301716002" "301717006" "301754002" "304542004" "307225003" "308903002" "309737007" "314041007" "314212008" "314716005" "366463006" "371094000" "371102005" "425834005" "425860006" "426466001" "426702003" "427075000" "430968008" "433159008" "438506002" "439469002" "439774009" "440220007" "443503005" "444746004" "445386003" "448265002" "448660000" "448661001" "703619001" "707597009" "21621000000000" "85011000000000" "133731000000000" "136051000000000" "136571000000000" "137891000000000"
Asthma	"12428000" "30352005" "31387002" "34015007" "55570000" "56968009" "57607007" "59786004" "63088003" "170631002" "170632009" "170633004" "170634005" "195949008" "195967001" "195977004" "225057002" "233678006" "233679003" "233683003" "233687002" "233688007" "266361008" "281239006" "304527002" "312453004" "312454005" "370202007" "370204008" "370205009" "370206005" "370208006" "370218001" "370219009" "370220003" "370221004" "389145006" "390921001" "395022009" "401193004" "404804003" "404806001" "405944004" "409663006" "423889005" "424643009" "425969006" "426656000" "426979002" "427295004" "427603009" "427679007" "442025000" "445427006" "703953004" "703954005" "707444001" "707445000" "707446004" "707447008" "707511009" "707512002" "707513007" "707979007" "707980005" "707981009" "708038006" "708090002" "708093000" "708094006" "708095007" "708096008" "1741000000000" "99031000000000" "124991000000000" "125001000000000" "125011000000000" "125021000000000" "135171000000000" "135181000000000" “2360000000000000" "10674700000000000" "10675400000000000" "10675500000000000" "10675600000000000" "10675700000000000" "10675900000000000" "10676000000000000" "10676100000000000" "10676200000000000" "10676400000000000" "10676500000000000" "10676600000000000" "10676700000000000"
Diabetes	"11530004" "23045005" "28032008" "46635009" "80660001" "190330002" "190368000" "190369008" "190372001" "199229001" "290002008" "313435000" "314771006" "420270002" "420825003" "420868002" "421075007" "421165007" "421437000" "422228004" "426907004" "444073006" "444074000" "703137001" "31321000000000" "120711000000000" "367991000000000"
Eczema	"978003" "11011007" "24079001" "50650004" "57092006" "90823000" "200773006" "200775004" "238541000" "238542007" "238543002" "238544008" "238545009" "238546005" "238547001" "238548006" "238585003" "309461001" "402183009" "402186001" "402187005" "402188000" "402190004" "402191000" "402192007" "402195009" "402196005" "402197001" "402198006" "402199003" "402200000" "402201001" "442145005"
GERD	"1027000" "35023000" "57643001" "225587003" "235595009" "249496004" "266433003" "266435005" "300290000" "300291001" "300292008" "698065002" "709493000"

Condition	Principal diagnosis codes
MENTAL HEALTH	
Anxiety	"109006" "1380006" "1402001" "1816003" "3158007" "4932002" "5509004" "5874002" "8185002" "11458009" "11806006" "11941006" "19512009" "19766004" "19887002" "21897009" "22230001" "24109003" "24781009" "25501002" "30059008" "31492004" "31781004" "32388005" "34116005" "34652008" "35429005" "35607004" "37868008" "37872007" "38328002" "38617005" "43150009" "48694002" "49564006" "49971008" "50983008" "53956006" "54307006" "54587008" "54746005" "56576003" "58535001" "58963008" "59923000" "61212007" "61387006" "61569007" "62351001" "63701002" "63909006" "64060000" "64165008" "65064003" "70691001" "70997004" "72861004" "74010007" "74803002" "75007009" "76812003" "76868007" "79823003" "80583007" "81350009" "82415003" "82494000" "82738004" "83253003" "83631006" "85061001" "87798009" "89225005" "89948007" "90790003" "102912007" "102913002" "102916005" "102917001" "102918006" "102921008" "102922001" "102923006" "102924000" "102925004" "102927007" "102928002" "102929005" "102930000" "102931001" "102932008" "110357006" "110358001" "111490003" "111491004" "126943008" "129869000" "162723006" "191708009" "191709001" "191722009" "191724005" "191725006" "191726007" "191728008" "191733007" "192611004" "197480006" "198280005" "198288003" "207363009" "225624000" "225625004" "225626003" "225627007" "225628002" "225629005" "225630000" "225631001" "225632008" "225633003" "225635005" "225636006" "225637002" "225638007" "225639004" "225641003" "225642005" "225643000" "225644006" "225645007" "225646008" "231501003" "231502005" "231503000" "231504006" "231506008" "231507004" "231508009" "238965007" "238966008" "247808006" "247809003" "247810008" "247811007" "247813005" "247816002" "247817006" "247818001" "247819009" "247822006" "247825008" "247826009" "247827000" "247828005" "247829002" "247830007" "247831006" "247832004" "247833009" "247834003" "247835002" "247836001" "247838000" "247839008" "247840005" "247841009" "247842002" "247843007" "247844001" "247845000" "247846004" "247847008" "247848003" "247849006" "247850006" "247851005" "247852003" "247853008" "247854002" "247855001" "247857009" "247858004" "247861003" "247862005" "247864006" "247865007" "247870000" "247871001" "248780009" "268667008" "268668003" "271947006" "276241001" "276242008" "277816006" "277818007" "277820005" "277821009" "277822002" "277824001" "277825000" "277826004" "277827008" "277829006" "277831002" "277838008" "279622009" "279926005" "280947008" "286545003" "286568007" "300894000" "300895004" "313387002" "370567003" "371631005" "386808001" "386810004" "395017009" "397775001" "398304003" "403592009" "415136009" "417676004" "423170008" "431432003" "440575001" "699389008" "699391000" "704423008" "704424002" "705047004" "714667008" "288241000119105" "288251000119107" "10743001000119100"
Depression	"832007" "2506003" "2618002" "3109008" "6140007" "14183003" "15193003" "15639000" "18818009" “19527009" "19694002" "20250007" "28475009" "30605009" "33078009" "33135002" "33736005" "35489007" "36170009" "36474008" "36923009" "37273005" "38451003" "38694004" "39178003" "39809009" "40379007" "40568001" "42810003" "42925002" "46244001" "48079002" "48589009" "53339009" "60099002" "63412003" "63778009" "66344007" "67711008" "68019004" "69392006" "70747007" "73867007" "75084000" "76105009" "76187003" "76441001" "77911002" "78667006" "79298009" "79842004" "83176005" "83458005" "84788008" "85080004" "87414006" "87512008" "87842000" "162722001" “191601008" "191602001" "191604000" "191606003" "191610000" "191611001" "191613003" "191615005" "191616006" "191659001" "191676002" "192079006" "192080009" "231499006" "231500002" "247803002" "268620009" "268621008" "274948002" "279571009" "300706003" "309838005" "310495003" "310496002" "310497006" "319768000" "320751009" "321717001" "370143000" "386816005" "413296003" "430852001" "442057004" "450714000" "698946008" "698957003" "712823008" "251000000000" "281000000000" "112001000000000" “133121000000000" "288751000000000"

Condition	Principal diagnosis codes
ACUTE INFECTIONS	
Acute gastroenteritis	"11840006" "12463005" "14255005" "15699003" "18229003" "19213003" "20547008" "24789006" "25374005" "30140009" "32097002" "32580004" "36789003" "39341005" "39963006" "43240000" "43752006" "46799006" "47941007" "52111006" "52457000" "55184003" "57419008" "59253004" "62315008" "64226004" "64613007" "69776003" "70880006" "74621002" "74744007" "78420004" "79099006" "81318004" "86615009" "88773005" "95545007" "111843007" "111938001" "111939009" "128333008" “186150001" "186156007" "235224000" "235706001" "235755005" "236063005" "236066002" "240338009" "240339001" "240343002" "240358005" "266071000" "266079003" "266081001" "283876006" "283877002" "285344007" "286869007" "286870008" "302168000" "308119005" "312131008" "359613008" "359651008" "359662008" "373639002" "409506009" "409966000" "415353009" "415822001" "425739008" "445152004" "446754004" "446755003" "446756002" "707222009" "13641000000000" "1082730000000000"
Bronchiolitis	"718004" "4120002" "5505005" "15199004" "57089007" "195737004" "233602006"
Croup	"21060003" "29608009" "49908003" "59967003" "70976000" "71186008" "80384002" "232430006" "232432003" "232433008" "266337001" "371103000" "408669002" "12366700000000000"
Fever	"7520000" "9619006" "42136008" "43626008" "50177009" "52635002" "52715007" "58827009" "62166005" "63993003" "74873003" "77957000" "102496004" "103001002" "135882008" "164288004" "164303007" "164304001" "164307008" "164308003" "164309006" "164311002" "164312009" "164313004" "164314005" "164315006" "164316007" "186694006" "233773006" "248427009" "248433000" "248434006" "248435007" "248436008" "248443002" "248444008" "248445009" "248446005" "248449003" "248454007" "248456009" "271749004" "271750004" "271751000" "271752007" "271753002" "271755009" "271897009" "274308003" "274640006" "304213008" "308893005" "386661006" "405543000" "409702008" "416113008" "420079008" "426000000" "430691009" "449129007" "704425001"
Otitis media	"1980003" "3110003" "6485001" "6965008" "8304007" "8326008" "14948001" "16664009" "17866004" "19399000" "21186006" "26169004" "28795002" "29350000" "32760002" "35183001" "37936001" "38394007" "38596008" "39288006" "41954005" "43275000" "43561008" "52353000" "58194007" "59275002" "65363002" "71958004" "77478005" "78868004" "80327007" "81564005" "85108007" "86279000" "86359006" "86850004" "87665008" "89145009" "129127001" "194240006" "194248004" "194249007" "194281003" "194282005" "194286008" "194287004" "194288009" "194289001" "194290005" "232251007" "232252000" "232254004" "232256002" "232257006" "267759006" "270490007" "275481002" "312137007" "312218008" "359609001" "360595002" "449839003" "703469002" "7271000000000" "84261000000000"
Tonsillitis	"652005" "10351008" "14465002" "17741008" "27878001" "41582007" "90176007" "111816002" "164256007" "195666007" "195667003" "195668008" "195669000" "195670004" "195671000" "195676005" "195677001" "195804009" "232418000" "240444009" "281795003" "302911003" "703468005" "88171000000000"

Condition	Principal diagnosis codes
URTI	"1532007" "5028002" "6655004" "8519009" "10809006" "11134001" "13177009" "14310000" "15805002" "16036000" "17357005" "23884004" "25764005" "26650005" "27278006" "30239003" "32904004" "35168006" "37426002" "37948003" "39271004" "41048006" "43878008" "45913009" "50211006" "51476001" "54150009" "54398005" "55130001" "55355000" "58031004" "58763001" "59221008" "59471009" "61711004" "62994001" "63140003" "64369009" "64375000" "66011008" "67832005" "68272006" "70020005" "72430001" "75498004" "76651006" "76653009" "77919000" "78337007" "78430008" "80600003" "82228008" "82272006" "82690000" "85083002" "85832003" "86773000" "89194009" "91038008" "111274000" "126664009" "126665005" "129134004" "161959005" "162388002" "164186007" "186357007" "195655000" "195656004" "195657008" "195658003" "195662009" "195663004" "195680000" "195681001" "195682008" "195683003" "195684009" "195685005" "195686006" "195707008" "195708003" "195709006" "232343007" "232391008" "232420002" "232426008" "232428009" "232429001" "233785003" "234528007" "249369003" "281794004" "300932000" "301824001" "312118003" "312422001" "312423006" "363746003" "405737000" "431231008" "441551009" "444814009" "445130008" "703470001" "709663002"
INJURY	
Head Injury	778 unique SNOMED-CT codes identified; a listing can be provided on request.

eTable 7. ICPC-2 PLUS Codes Used to Identify Occasions of Pediatrician Care[a]

Condition	Pediatricians
NONCOMMUNICABLE	
Asthma	R96
Diabetes	T89
Eczema	S87
GERD	D84004; D84008; D84011
MENTAL HEALTH	
ADHD	P81
Anxiety	P01; P02; P74; P79; P22007; P29003; P29024; P29006
Autism	P99005; P29006; P29010
Depression	P03; P76; P73
ACUTE INFECTIONS	
Otitis media	H71; H72; H74

[a] Two conditions, Tonsillitis and Fever, were targeted at pediatricians, but not included as there was only a small number of visits (three for Tonsillitis and one for Fever)

eTable 8. ICPC-2 PLUS Codes Used to Identify Occasions of GP Care

Condition	GPs
NONCOMMUNICABLE	
Abdominal & pelvic pain	D01; D06
Asthma	R96
Diabetes	T89
Eczema	S87
GERD	D84004; D84008; D84011
MENTAL HEALTH	
ADHD	P81
Anxiety	P01; P02; P74; P79; P22007; P29003; P29024; P29006
Autism	P99005; P29006; P29010
Depression	P03; P76; P73
ACUTE INFECTIONS	
Acute gastroenteritis	D70; D73
Bronchiolitis	R78
Croup	R77
Fever	A03
Otitis media	H71; H72; H74
Tonsillitis	R76
URTI	R74
INJURY	
Head Injury	N80; N54005; N80012; N80013; N80014

eTable 9. Level at Which Final Sampling Fractions Were Calculated for Inpatient Discharges at Tertiary Hospitals

	Tertiary hospitals – inpatient discharge		
Condition	**QLD**	**NSW**	**SA**
NONCOMMUNICABLE			
Acute abdominal pain	Hospital	Hospital	Hospital
Asthma	Hospital	Hospital	Hospital
Diabetes	Hospital	Hospital	Hospital
Eczema	Hospital	Hospital	Hospital
GERD	Hospital	Hospital	Hospital
MENTAL HEALTH			
Anxiety	Hospital	Hospital	Hospital
Depression	Hospital	State	Hospital
ACUTE INFECTIONS			
Acute gastroenteritis	State	State	Hospital
Bronchiolitis	Hospital	Hospital	Hospital
Croup	State	State	Not calculated
Fever	State	Hospital	Hospital
Otitis media	State	State	Hospital
Tonsillitis	State	State	Hospital
URTI	Hospital	Hospital	Hospital
INJURY			
Head Injury	Hospital	Hospital	Hospital

eTable 10. Number of Children[a], Visits and Indicators Assessed in Each Health Care Setting[b] and Included in Analysis

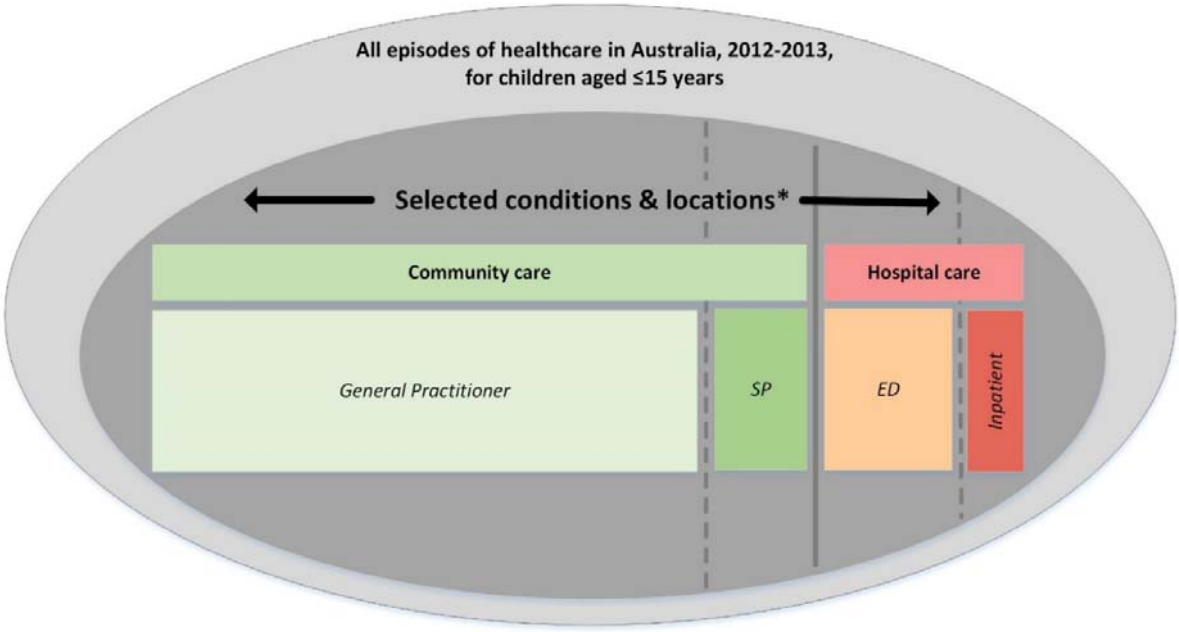
	No. of Children				No. of Visits				No. of Indicators assessed			
Condition	**GP**	**Ped-iatrician**	**ED**	**In-patient**	**GP**	**Ped-iatrician**	**ED**	**In-patient**	**GP**	**Ped-iatrician**	**ED**	**In-patient**
NONCOMMUNICABLE												
Abdominal pain	246	NA	257	73	288	NA	327	81	4003	NA	4659	1123
Asthma	519	105	244	98	959	151	359	131	10954	1179	4529	1791
Diabetes	10	33	184	140	31	84	269	186	190	497	3390	2459
Eczema	438	71	88	34	582	85	114	48	2804	413	678	346
GERD	77	65	113	58	96	77	123	63	491	425	870	464
MENTAL HEALTH												
ADHD	172	134	NA	NA	300	291	NA	NA	3084	3460	NA	NA
Anxiety	139	107	87	38	216	144	111	43	1403	878	633	245
Autism	113	115	NA	NA	196	186	NA	NA	1307	1331	NA	NA
Depression	56	17	67	34	86	20	93	40	764	220	858	439
ACUTE INFECTIONS												
Acute gastroenteritis	312	NA	342	94	351	NA	403	100	5402	NA	7234	1798
Bronchiolitis	223	NA	259	126	299	NA	345	152	4153	NA	6696	3130
Croup	398	NA	321	70	496	NA	403	83	7508	NA	6195	1307
Fever	198	0[c]	342	93	217	0[c]	393	98	4322	0[c]	8484	2073
Otitis media	834	12	198	34	1270	13	215	35	5583	73	1037	229
Tonsillitis	561	0[c]	242	81	753	0[c]	285	89	1580	0[c]	586	188
URTI	1202	NA	423	80	2094	NA	531	89	20669	NA	4938	852
INJURY												
Head injury	162	NA	453	90	164	NA	492	90	1585	NA	7375	1318
OVERALL (17 conditions)	3116	591	2813	1053	8398	1051	4463	1328	75802	8476	58162	17762

[a] Many children had visits for more than one condition, so the sum of the number of children with each condition, within a healthcare setting, exceeds the Overall total. In addition, children whose medical record was selected for an ED visit also had that record reviewed for eligible inpatient visits, and vice versa; thus, the number of children summed across the four healthcare settings is greater than the total number of children for a condition, or overall.

[b] Note that tertiary and non-tertiary hospital data are aggregated within the ED and inpatient settings.

[c] Fever and tonsillitis were targeted in medical records at pediatrician's offices, but were removed prior to analysis as we successfully sampled only one visit for fever (for one child, generating 19 indicators with 'Yes' or 'No' responses) and three visits for tonsillitis (for one child, generating a total of five indicators with 'Yes' or 'No' responses), and this was deemed insufficient for analysis.

eFigure. Conceptual Model of the CareTrack Kids Study



Legend: SP=pediatrician; ED=Emergency Department;

* Three states of Australia: Queensland, New South Wales and South Australia.

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