

# Application Form

## Indicator and Methodology Assurance Service

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### Title: Unplanned Hospitalisation For Chronic Ambulatory Care Sensitive Conditions

Set or domain: CCG OIS 2.6

IAS Reference Code: IAP00068

#### Version History

Version	Date	Changed By	Change
V0.1	28/07/2017	Andy Besch	Uplift to new application form commenced
V0.2	31/07/2017	Andy Besch	Uplift completed
V0.3	21/12/2017	Pauline Musa	Review of comments & completion of remainder of form
V0.4	28/12/2017	Pam Murray	Review & minor updates for submission
V0.5	29/01/2018	Ruth Thompson / Pam Murray	Updated application form to reflect actions from MRG appraisal log
V0.6	08/02/2018	Ruth Thompson / Pam Murray	Updated application form to reflect actions from MRG appraisal log

# Application Form

## Section 1. Introduction / Overview

1.1. Title	Unplanned Hospitalisation For Chronic Ambulatory Care Sensitive Conditions
1.2. Set or domain	Clinical Commissioning Group Outcome Indicator Set (CCG OIS)  Domain 2 – Enhancing quality of life for people with long-term conditions (indicator 2.6)
1.3. Topic area	Hospital Admissions
1.4. Definition	<p><b>Plain English description</b></p> <p>CCG OIS 2.6 measures how many people with specific long-term conditions, which should not normally require hospitalisation, are admitted to hospital in an emergency. These conditions include, for example, diabetes, epilepsy and high blood pressure.</p> <p><b>Technical description</b></p> <p>Directly age and sex standardised admission rate for unplanned hospitalisation for chronic ambulatory care sensitive conditions per 100,000 registered patients, 95% confidence intervals (CI)</p> <p>This indicator forms part of Domain 2 - Enhancing quality of life for people with long-term conditions, and is intended to measure progress in preventing chronic ambulatory care sensitive conditions (ACSC) – such as diabetes or hypertension – from becoming more serious. For a full list of the conditions included in this indicator please see Appendix 1</p> <p>This indicator will be presented at CCG level and national level broken down by gender, with a 12 month rolling reporting period published on a quarterly basis.</p>
1.5. Indicator owner & contact details	Clinical Indicators team, NHS Digital  <a href="mailto:Clinical.indicators@nhs.net">Clinical.indicators@nhs.net</a>
1.6. Publication status	Currently in publication

## Section 2. Rationale

2.1. Purpose	ACSC's (e.g. chronic hepatitis B; asthma; congestive heart failure; diabetes; chronic obstructive pulmonary disease; angina; iron deficiency anaemia; hypertension; epilepsy; dementia) are those where effective community care and case management can help prevent the need for hospital admission. ACSCs
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## Unplanned Hospitalisation For Chronic Ambulatory Care Sensitive Conditions

	<p>account for a significant percentage of all emergency admissions nationally (8.1 per cent in 2015/16).</p> <p>Providing effective ambulatory care for these conditions will lead to better patient care and case management, and a reduction in avoidable emergency admissions, which are costly and expose patients to otherwise avoidable clinical risks such as health care acquired infections. The aim of this indicator is to look at emergency admissions for all long-term conditions where optimum management can be achieved in the community.</p> <p>Conditions are included if treatment or management of the condition in primary care or within the community should have prevented the exacerbation that led to the emergency admission.</p> <p>The indicator uses primary diagnosis for ACSC conditions only. Co-morbidity ACSC conditions such as epilepsy are documented on a patients record regardless of whether the admission was due to the ACSC or not. Including secondary diagnosis would therefore inflate figures.</p> <p>The intended audience for the indicator is CCGs, the Department of Health, Provider Managers, Commissioning Managers, Clinicians, Patients and the Public.</p> <p>It is expected that CCGs will use this to identify how improvements in care and the desired reduction in emergency hospital admissions will be delivered.  </p>
<b>2.2. Sponsor</b>	<p>  The CCGOIS indicators were originally commissioned by NHS England however NHS England has not recommissioned these indicators as they are awaiting the outcome of the Kings Fund Report. Therefore we do not have a current sponsor. However, we will write to MRG when the sponsorship arrangements have been formalised.  </p>
<b>2.3. Endorsement</b>	<p> </p>
<b>2.4. Evidence and Policy base</b>  Including related national incentives, critical business question, NICE quality standard and set or domain rationale, if appropriate	<p>  This indicator fits within CCGOIS Domain 2: Enhancing quality of life for people with long-term conditions.</p> <p>Managing Ambulatory care-sensitive conditions is listed within the ten priorities for commissioners as outlined by the Kings Fund (<a href="https://www.kingsfund.org.uk/publications/articles/transforming-our-health-care-system-ten-priorities-commissioners/summary#_-acs-conditions">https://www.kingsfund.org.uk/publications/articles/transforming-our-health-care-system-ten-priorities-commissioners/summary#_-acs-conditions</a>)</p> <p>The King's Fund Data Briefing on ACSCs, April 2012<sup>1</sup>, suggests there is a link between poor primary care management of ACSCs and the escalation of the condition to require emergency treatment. The report also indicates that not only would a person's care improve with better primary care management but there would also be a potential saving of between £96 million and £238 million per year due to savings on emergency admissions at the time of writing.</p>

<sup>1</sup> <https://www.kingsfund.org.uk/publications/data-briefing-emergency-hospital-admissions-ambulatory-care-sensitive-conditions>

	<p>The chronic ambulatory care-sensitive conditions used in this indicator are included in the definition of ambulatory care-sensitive conditions reported on within the Kings fund, however the Kings fund definition also includes acute and vaccine preventable conditions. Therefore only a proportion of the savings quoted in the report could be saved with effective management of the indicator conditions.</p> <p>The following quotes are from the King's Fund Data Briefing:</p> <p>'ACSCs are conditions for which effective management and treatment should prevent admission to hospital. They can be classified as: chronic conditions, where effective care can prevent flare-up; acute conditions, where early intervention can prevent more serious progression; and preventable conditions, where immunisation and other interventions can prevent illness (Ham et al 2010'</p> <p>'High levels of admissions for ACSCs often indicate poor co-ordination between the different elements of the health care system, in particular between primary and secondary care. An emergency admission for an ACSC is a sign of the poor overall quality of care, even if the ACSC episode itself is managed well. The wide variation of emergency hospital admissions for ACSCs implies that they, and the associated costs for commissioners, can be reduced.'</p> <p>'In order to realise the potential savings, in the short to medium term better management of ACSCs in primary care is needed to reduce emergency hospital admissions (i.e. secondary prevention).'</p> <p>'According to our estimates, emergency admissions for ACSCs could be reduced by between 8 and 18 per cent. We estimate this would result in savings of between £96 million and £238 million per year.'</p>
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## Section 3. Data

3.1. Data source	<p><b>Denominator:</b> Registered patient counts by single year of age and sex from the National Health Application &amp; Infrastructure Services (NHAIS), commonly known as 'Exeter' System. <a href="http://systems.digital.nhs.uk/ssd/prodserv/vaprodoopenexe/">http://systems.digital.nhs.uk/ssd/prodserv/vaprodoopenexe/</a></p> <p><b>Numerator:</b> Hospital Episode Statistics (HES) Admitted Patient Care (APC), provided by NHS Digital. <a href="http://digital.nhs.uk/hes">http://digital.nhs.uk/hes</a></p> <p><b>Standard Population:</b> European Standard Population 2013</p>
3.2. Justification of source and others considered	<p><b>National Health Application &amp; Infrastructure Services – GP registered populations</b></p> <p>NHAIS is a system implemented for managing patient registration details for England, Wales and Northern Ireland. The NHAIS system contains a wealth of</p>

	<p>secure information used by a range of bodies and professionals within the NHS. Access to patient data held on NHAIS systems is via Open Exeter. Data are extracted as a quarterly snapshot in time from the GP Payments system (NHAIS) maintained by NHS Digital.</p> <p><b>Hospital Episode Statistics – Admitted Patient Care</b></p> <p>HES is a well established administrative database for activity in NHS hospitals. It contains details of all admissions to NHS hospitals in England, including private patients treated in NHS hospitals, patients who are resident outside of England, and care delivered by treatment centres (including those in the independent sector) funded by the NHS. HES is the data source for a wide variety of healthcare analysis for the NHS, Government, and many other organisations and individuals. The APC dataset includes details of episodes where the patient is admitted into hospital. The data consist of individual records of patient care that are held within the HES database. Each record in the HES APC database is known as an episode – this is a continuous period of admitted patient care under the care of a consultant within one hospital provider. Provisional HES statistics are produced and published on a monthly basis and so are readily available for rolling quarterly publications of this indicator.</p> <p><b>European Standard Population 2013</b></p> <p>The current European Standard Population was introduced in 2013 and is widely used to produce age standardised rates. This will also allow for timeseries comparison.</p>																																								
<p><b>3.3. Data availability</b></p>	<p><b>European Standard Population 2013</b></p> <table border="1"> <thead> <tr> <th>Age group</th><th>ESP2013</th></tr> </thead> <tbody> <tr><td>0-4</td><td>5,000</td></tr> <tr><td>5-9</td><td>5,500</td></tr> <tr><td>10-14</td><td>5,500</td></tr> <tr><td>15-19</td><td>5,500</td></tr> <tr><td>20-24</td><td>6,000</td></tr> <tr><td>25-29</td><td>6,000</td></tr> <tr><td>30-34</td><td>6,500</td></tr> <tr><td>35-39</td><td>7,000</td></tr> <tr><td>40-44</td><td>7,000</td></tr> <tr><td>45-49</td><td>7,000</td></tr> <tr><td>50-54</td><td>7,000</td></tr> <tr><td>55-59</td><td>6,500</td></tr> <tr><td>60-64</td><td>6,000</td></tr> <tr><td>65-69</td><td>5,500</td></tr> <tr><td>70-74</td><td>5,000</td></tr> <tr><td>75-79</td><td>4,000</td></tr> <tr><td>80-84</td><td>2,500</td></tr> <tr><td>85-89</td><td>1,500</td></tr> <tr><td>90+</td><td>1,000</td></tr> </tbody> </table>	Age group	ESP2013	0-4	5,000	5-9	5,500	10-14	5,500	15-19	5,500	20-24	6,000	25-29	6,000	30-34	6,500	35-39	7,000	40-44	7,000	45-49	7,000	50-54	7,000	55-59	6,500	60-64	6,000	65-69	5,500	70-74	5,000	75-79	4,000	80-84	2,500	85-89	1,500	90+	1,000
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	<p><b>NHAIS</b> (GP practice population reference data): <a href="https://digital.nhs.uk/data-and-information/data-tools-and-services/data-services/general-practice-data-hub">https://digital.nhs.uk/data-and-information/data-tools-and-services/data-services/general-practice-data-hub</a></p> <p>CCG level count of patients registered with the constituent GP Practices extracted from NHAIS (Exeter) Systems. Counts of registered patients are extracted on 1st April each year, and GP practices are mapped to CCGs using the mapping on this date. When calculating indicators, the count of registered patients and the GP to CCG mapping are taken from the 1st April within the specific time period. For example the 12 month period July 2013 to June 2014 would use the 1st April 2014 registered patient counts and the GP to CCG map as it was on this date. An extract is taken quarterly and published in the same month, with all data tables available and free of charge.</p> <p><b>HES</b> <a href="https://digital.nhs.uk/data-and-information/data-tools-and-services/data-services/hospital-episode-statistics">https://digital.nhs.uk/data-and-information/data-tools-and-services/data-services/hospital-episode-statistics</a></p> <p>This indicator uses both finalised and provisional HES data, the provisional data is produced and published two months in arrears due to HES processing and quality controls. The final annual HES data is reported approximately seven months in arrears (October, following the financial year end) after the HES annual refresh. The annual refresh gives providers the opportunity to revise and update their submissions for the year.</p> <p>Extracts and tabulations of data from HES are available to order for a charge. This is managed by the NHS Digital Data Access Request Service (DARS). <a href="https://digital.nhs.uk/services/data-access-request-service-dars">https://digital.nhs.uk/services/data-access-request-service-dars</a></p>
<b>3.4. Data quality</b>	<p><b>i) What data quality checks are relevant to this indicator?</b></p> <p><b>Coverage</b> <input checked="" type="checkbox"/></p> <p><b>Completeness</b> <input checked="" type="checkbox"/> <b>Validity</b> <input checked="" type="checkbox"/></p> <p><b>Default</b> <input type="checkbox"/></p> <p><b>Integrity</b> <input type="checkbox"/> <b>Timeliness</b> <input type="checkbox"/> <b>Other</b> <input type="checkbox"/></p> <p><b>If you included 'Other' as a data quality check, please describe the check, how it will be measured, and its reason for use below:</b> n/a</p> <p><b>ii) What are the current values for the data quality checks selected?</b> The period of data the current values are calculated from should be stated. Current values should be recorded as a percentage and calculated as described below.</p> <p>Each release of HES APC data is accompanied by a data quality report. The 2016/17 data quality report is available via the following link: <a href="https://digital.nhs.uk/data-and-information/data-tools-and-services/data-services/general-practice-data-hub">https://digital.nhs.uk/data-and-information/data-tools-and-services/data-services/general-practice-data-hub</a></p> <p>More detailed HES data quality reports covering all data sets and all years are available here: <a href="https://digital.nhs.uk/data-and-information/data-tools-and-services/data-services/hospital-episode-statistics/the-processing-cycle-and-hes-data-quality">https://digital.nhs.uk/data-and-information/data-tools-and-services/data-services/hospital-episode-statistics/the-processing-cycle-and-hes-data-quality</a></p>

	<p><b>Period of data:</b> 2016/17</p> <p>HES APC data is available at CCG level from 2010/11 onwards. CCGs replaced Primary Care Trusts (PCTS) on 1 April 2013, HES processing allowed for the mapping of CCGs in years prior to this, back to 2010/11</p> <p><b>Coverage:</b></p> <p>HES APC 2016/17 data contained 19.7million Finished Consultant Episodes (FCEs).</p> <p><b>Calculation:</b></p> <p>Data quality information available in respective data set reports.</p> <p><b>Completeness:</b></p> <p>The completeness of individual fields within HES APC is generally very high, details of specific issues in the 2016/17 data set are outlined in the data quality report.</p> <p><b>Calculation:</b></p> <p>Data quality information available in respective data set reports.</p> <p><b>Validity:</b></p> <p>Healthcare providers collect administrative and clinical information locally to support the care of the patient. The data is submitted to the Secondary Uses Service (SUS), which as well as making it available to the commissioners, also copies the information to a database. At pre-arranged dates during the year, SUS takes an extract from their database and sends it to HES. HES then validate and clean the extract, before deriving new items and making the information available in the data warehouse. Data quality reports and checks are completed at various stages in the cleaning and processing cycle.</p> <p><b>Calculation:</b></p> <p>The HES data quality team review provisional data on a monthly basis reporting back to providers to drive up quality throughout the year.</p> <p><b>Default:</b> n/a</p> <p><b>Calculation:</b> n/a</p> <p><b>Integrity:</b> n/a</p> <p><b>Calculation:</b> n/a</p> <p><b>Timeliness:</b></p> <p>Aggregated reports of HES data are released on provisional monthly data approximately two months after the end of the reference month.</p> <p><b>Calculation:</b> n/a</p> <p><b>Other:</b> n/a</p>
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	<div data-bbox="507 141 715 174"> <b>Calculation:</b> n/a </div> <div data-bbox="507 197 1299 230"> <b>iii) What are the thresholds for the data quality checks selected?</b> </div> <div data-bbox="507 253 1469 353"> <p>HES is a mandated collection and as such there is no threshold set. Data quality issues are reviewed and fed back to providers to ensure continual improvement in all areas.</p> </div> <div data-bbox="507 432 734 465"> <b>Coverage:</b> n/a </div> <div data-bbox="507 488 772 519"> <b>Completeness:</b> n/a </div> <div data-bbox="507 542 715 575"> <b>Validity:</b> n/a </div> <div data-bbox="507 598 703 629"> <b>Default:</b> n/a </div> <div data-bbox="507 651 718 685"> <b>Integrity:</b> n/a </div> <div data-bbox="507 705 748 739"> <b>Timeliness:</b> n/a </div> <div data-bbox="507 761 732 795"> <b>Other:</b> n/a </div> <div data-bbox="507 817 1385 882"> <b>iv) What is the rationale for the selection of the data quality checks and thresholds selected above?</b> </div> <div data-bbox="507 904 633 938"> <p>See above</p> </div> <div data-bbox="507 965 1469 1030"> <b>v) Describe how you would plan to improve data quality should it not meet, or subsequently fall below, the thresholds required for this indicator.</b> </div> <div data-bbox="507 1052 1463 1155"> <p>The HES data quality team continually feedback to providers to maintain high standards of data quality. If any issues were found in the HES data, these would be investigated by the team and reported back to Clinical Indicators.</p> </div> <div data-bbox="507 1234 1335 1267"> <b>vi) Who will own the data quality risks and issues for this indicator?</b> </div> <div data-bbox="507 1290 719 1321"> <b>Name:</b> Chris Dew </div> <div data-bbox="507 1344 1051 1375"> <b>Job Title:</b> Information Analysis Lead Manager </div> <div data-bbox="507 1400 798 1431"> <b>Role:</b> Clinical Indicators </div> <div data-bbox="507 1453 919 1485"> <b>Email:</b> clinical.indicators@nhs.net </div> <div data-bbox="507 1509 833 1541"> <b>Telephone:</b> 0300 303 5678 </div> <div data-bbox="507 1592 1422 1659"> <b>vii) Describe how the data quality risks and issues will be managed for this indicator, including the escalation process.</b> </div> <div data-bbox="507 1682 1474 1751"> <p>Any issues will be managed and mitigated through agreed engagement channels with the data suppliers.</p> </div> <div data-bbox="507 1776 1402 1841"> <b>viii) Describe any assumptions you have made about data quality for this indicator.</b> </div> <div data-bbox="507 1865 1398 1933"> <p>Please see section 3.5 'Quality Assurance' and Section 5 'Presentation and Interpretation'</p> </div> <div data-bbox="507 1957 1431 1991"> <b>ix) Describe any data quality constraints you are aware of for this indicator.</b> </div>
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	<p><b>x) Additional data quality information:</b></p> <p>The monthly provisional HES data is subject to change this is because each extract is cumulative and contains data submitted for the financial year so far, i.e. Month 1 will only contain the data submitted with an activity date in April, but Month 6 will contain data submitted with an activity date from April to September. One of the reasons for this is that additional data may be needed to update patient records from earlier in the year, e.g. an episode may potentially run for several months or an amendment may need to be made as clinical coding takes place on discharge. After the 12 monthly submissions, there is an additional submission date to support what is called the Annual Refresh. This gives providers the opportunity to revise and update their submissions for the year prior to the final publication.</p> <p>The final publication is subject to consultation and providers are given the opportunity to amend provider organisation code mapping or the removal of any duplicate records. HES data is fixed after the final publication.</p> <p>As provisional HES data is subject to change it should be treated as an estimate until the final annual data is released. When the indicator is produced with finalised data previously reported provisional quarterly datasets are replaced with the single annual dataset.</p> <p>Reporting periods are broken down as follows:</p> <ul style="list-style-type: none"> <li>• Q1: July to June. Comprised of July to March (final) and April to June (provisional). The finalised annual figures for the previous year – April to March (final) are also released at this time.</li> <li>• Q2: October to September. Comprised of October to March (final) and April to September (provisional)</li> <li>• Q3: January to December. Comprised of January to March (final) and April to December (provisional)</li> <li>• Q4: April to March. Comprised of April to March (provisional).</li> </ul> <p>These indicators are official statistics and the publication date is pre-announced. There is no gap between the planned and actual publication date.</p>
<p><b>3.5. Quality assurance</b></p>	<p>There is no other national data set to compare HES against to obtain an overall quantitative assessment of accuracy. The data are completed from administrative records recorded by each Trust on their Patient Administration Systems (PAS) with the clinical information added by clinical coders based on doctors' notes. The trusts are required to complete this information to inform how much they are paid under PbR. Historically, the Audit Commission ran a rolling programme of audits of organisations' coding to check for accuracy. As of April 2015 this role was replaced by Public Sector Audit Appointments Ltd. (PSAA). Further to this, from 2017/18 PSAA is no longer responsible for appointing auditors to NHS trusts and CCGs. Under the Local Audit and Accountability Act 2014, NHS trusts and</p>

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	<p>CCGs must select and appoint their own auditors, and directly manage their contracts, for the audits for financial years starting from 1 April 2017.</p> <p>The HES Processing Cycle and Data Quality report includes and explains the data cleaning process, the provider organisation code mapping and the derivation rules which include examples of correction and validation rules and derivation is available at the following link: <a href="http://content.digital.nhs.uk/article/1825/The-processing-cycle-and-HES-data-quality">http://content.digital.nhs.uk/article/1825/The-processing-cycle-and-HES-data-quality</a>.</p>
<b>3.6. Data linkage</b>	N/A
<b>3.7. Quality of data linkage</b>	N/A
<b>3.8. Data fields</b>	<p>The data fields and filters that are used are as follows. Details of HES fields and classifications are available in the HES Data Dictionary: <a href="https://digital.nhs.uk/data-and-information/data-tools-and-services/data-services/hospital-episode-statistics/hospital-episode-statistics-data-dictionary">https://digital.nhs.uk/data-and-information/data-tools-and-services/data-services/hospital-episode-statistics/hospital-episode-statistics-data-dictionary</a></p> <p>HES APC:</p> <p>DIAG_3_01 – Diagnosis, 3 characters</p> <p>DIAG_4_01 – Diagnosis, 4 characters</p> <p>DIAG_3_CONCAT – 3 character concatenated diagnosis</p> <p>OPERTN_3_CONCAT – 3 character concatenated procedure</p> <p>STARTAGE – Age at the start of the episode</p> <p>ADMIMETH – Method of admission</p> <p>EPISTAT – Status of episode</p> <p>ADMIDATE – Date of admission</p> <p>SEX – Sex of patient</p> <p>EPIORDER – Episode number within a spell</p> <p>ADMISORC – Source of admission</p> <p>EPITYPE – Type of admission</p> <p>CLASSPAT – Patient classification</p>

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	<p>CCG_RESPONSIBILITY – CCG of responsibility. CCG derived from the patient's GP practice, or if this is not recorded, from their residence, or if this is not recorded, from the location of the hospital provider supplying care</p> <p>EPIKEY – Unique record identifier</p>
<p><b>3.9. Data filters</b></p>	<ul style="list-style-type: none"> <li>Field Name: DIAG_3_01, DIAG_4_01, DIAG_3_CONCAT , OPERTN_3_CONCAT Conditions Any of the below are true. Defined as follows: <ul style="list-style-type: none"> <li>DIAG_4_01 is equal to either: B18.0, B18.1 AND DIAG_3_CONCAT does not contain: D57 [where DIAG_3_CONCAT is a concatenated field containing the values of all 20 diagnosis fields separated by commas. This condition excludes episodes with a subsequent diagnosis of D57 (Sickle-cell disorders)]</li> <li>DIAG_3_01 is equal to J45 OR DIAG_4_01 is equal to J46X</li> <li>(DIAG_3_01 is equal to I50 OR DIAG_4_01 is equal to any of: I11.0, J81X, I13.0) AND (OPERTN_3_CONCAT does not contain any of: K0, K1, K2, K3, K4, K50, K52, K55, K56, K57, K60, K61, K66, K67, K68, K69, K71, K73, K74) [where OPERTN_3_CONCAT is a concatenated field containing the values of all 24 operation/procedure fields, separated by commas. K73 and K74 are valid for data from 1<sup>st</sup> April 2017.]</li> <li>DIAG_3_01 is equal to any of: E10, E11, E12, E13, E14</li> <li>DIAG_3_01 is equal to any of: J41, J43, J44 OR DIAG_4_01 is equal to either of: J42X, J47X OR (DIAG_3_01 is equal to J20 AND DIAG_3_CONCAT contains any of: J41, J42, J43, J44, J47)</li> <li>DIAG_3_01 is equal to either of: I20, I25 AND OPERTN_3_CONCAT does not contain any of: A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, V, W, X0, X1, X2, X4, X5</li> <li>DIAG_3_01 is equal to either of: D51, D52 OR DIAG_4_01 is equal to any of: D50.1, D50.8, D50.9</li> </ul> </li> </ul>

	<ul style="list-style-type: none"> <li>○ DIAG_4_01 is equal to either of: I10X, I11.9 AND (OPERTN_3_CONCAT does not contain: K0, K1, K2, K3, K4, K50, K52, K55, K56, K57, K60, K61, K66, K67, K68, K69, K71, K73, K74) [where OPERTN_3_CONCAT is a concatenated field containing the values of all 24 operation/procedure fields, separated by commas. K73 and K74 are valid for data from 1st April 2017.]</li> <li>○ DIAG_3_01 is equal to any of: I48, G40, G41, F00, F01, F02, F03</li> </ul> <p>Rationale: This gives the primary diagnosis of the patient in the episode when the patient was admitted to hospital.</p> <ul style="list-style-type: none"> <li>• Field Name: STARTAGE Conditions: Is between (inclusive): 0 and 120 OR is between (inclusive): 7001 and 7007 Rationale: This field describes the age of the patient at the start of their spell in hospital. For children under the age of one year, codes 7001 to 7007 may be used instead of 0 to describe their age in days. This is why the further classification relating to 7000 is needed.</li> <li>• Field Name: ADMIMETH Conditions: Is equal to the following: 21, 22, 23, 24, 25, 28, 2A, 2B, 2C, 2D Rationale: This restricts the data to emergency admissions only. 25, 2A, 2B, 2C and 2D are valid for data from 1st April 2013 and replace 28.</li> <li>• Field Name: EPISTAT Conditions: Is equal to the following: 1 or 3 Rationale: This includes both finished and unfinished hospital episodes.</li> <li>• Field Name: ADMIDATE Conditions: Limited to admissions within the current rolling quarter year. Rationale: Data is presented annually with an admission date within the year of interest.</li> <li>• Field Name: SEX Conditions: Is equal to the following: 1 or 2 Rationale: Data is shown for males and females separately. Data for persons is the sum of males and females and excludes the small number of records where sex was unknown or unspecified.</li> <li>• Field Name: EPIORDER Conditions: Is equal to: 1 Rationale: This restricts the data to the first episode in a hospital spell.</li> <li>• Field Name: ADMISORC Conditions: Is not equal to: 51, 52 or 53 Rationale: This excludes transfers.</li> <li>• Field Name: EPITYPE Conditions: Is equal to: 1</li> </ul>
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## Unplanned Hospitalisation For Chronic Ambulatory Care Sensitive Conditions

	<p>Rationale: This restricts the data to general episodes (excludes birth, delivery and mental health episodes).</p> <ul style="list-style-type: none"> <li>Field Name: CLASSPAT Conditions: Is equal to: 1 Rationale: This restricts the data to ordinary admissions (excludes day case, regular day/night attenders and mothers and babies using only delivery facilities).</li> <li>Field Name: CCG_RESPONSIBILITY Conditions: CCGs in England only. Rationale: Excludes those patients who are registered with GPs outside England. Reference file provided at: <a href="http://digital.nhs.uk/ccgois">http://digital.nhs.uk/ccgois</a></li> </ul>
<p><b>3.10. Justifications of inclusions and exclusions</b></p> <p>and how these adhere to standard definitions</p>	<p>The list of conditions used in the indicator definition was compiled using expert clinical advice, approved for both indicators by the research directorate and reviewed for the NHS Outcomes Framework. The list of conditions included is considered to be the most up-to-date and comprehensive available.</p> <p>ADMISORC – Excludes transfers from NHS hospital providers. This is a standard HES definition in the indicator set.</p> <p>CCG_RESPONSIBILITY – Selects valid CCGs, this is a standard HES definition in the indicator set.</p> <p>CLASSPAT – Selects ordinary admissions only. This is a standard definition in the indicator set when identifying emergencies.</p> <p>EPIORDER – Standard HES definition, selects the first admission in a spell, known as the admission episode.</p> <p>EPISTAT – Standard HES definition, to select both finished and unfinished episodes.</p> <p>EPITYPE – Standard HES definition, selects general episodes only.</p> <p>SEX – Selects valid genders only</p> <p>STARTAGE – Selects valid ages only</p> <p>This indicator counts all emergency admissions for ACSCs, therefore if a person is admitted twice within the reporting period for a ACS condition they will be counted twice.</p>
<p><b>3.11. Data processing</b></p>	<p>The Clinical Indicators team will extract the data and perform all calculations to produce the indicator.</p>

## Section 4. Construction

<b>4.1. Numerator</b>	<p>The number of finished and unfinished admission episodes, excluding transfers, for patients with an emergency method of admission and with a primary diagnosis for chronic ambulatory care sensitive conditions as shown in appendix 1.</p>
<b>4.2. Denominator</b>	<p>CCG level count of patients registered with the constituent GP Practices extracted from NHAIS (Exeter) Systems.</p> <p>Counts of registered patients are extracted on 1st April each year, and GP practices are mapped to CCGs using the mapping on this date. When calculating indicators, the count of registered patients and the GP to CCG mapping are taken from the 1st April within the specific time period. For example, the 12 month period July 2013 to June 2014 would use the 1st April 2014 registered patient counts and the GP to CCG map as it was on this date.</p>
<b>4.3. Computation</b>	<p>This indicator is calculated as a rate directly standardised by age and sex per 100,000 registered patients of the number of emergency admissions for ACSCs that should not usually require hospital admission</p> <p>Rates are presented at one decimal place.</p>
<b>4.4. Risk adjustment or standardisation type and methodology</b>	<p><b>Direct Standardisation</b></p> <p><i>Variables and methodology:</i> Eayres D. Technical Briefing 3: Commonly used public health statistics and their confidence intervals. York: APHO; 2008. Available at <a href="http://webarchive.nationalarchives.gov.uk/20080728093252/http://www.apho.org.uk/resource/item.aspx?RID=48457">http://webarchive.nationalarchives.gov.uk/20080728093252/http://www.apho.org.uk/resource/item.aspx?RID=48457</a></p> <p>The directly age and sex standardised rate (DSR) is the rate of events that would occur in a standard population if that population were to experience the age and sex specific rates of the subject population. The age and sex specific rates of the subject population are applied to the age and sex structure of the standard population.</p> $DSR = \frac{1}{\sum_i w_i} \times \sum_i \frac{w_i O_i}{n_i}$ <p>where:</p> <p><math>O_i</math> is the observed number of events in the local or subject population in age and sex group <math>i</math>;</p> <p><math>n_i</math> is the number of individuals in the local or subject denominator population in age and sex group <math>i</math>;</p> <p><math>w_i</math> is the number of individuals in the standard population in age and sex group <math>i</math>.</p> <p>The standard population used for the direct method is the European Standard Population 2013.</p> <p>The age groups used are: 0-4, 5-9, 10-14, 15-19, 20-24, 25-29... 85-89, 90+.</p>

<p><b>4.5. Justification of risk adjustment type and variables</b></p> <p>or why risk adjustment is not used</p>	<p>Directly age-standardised rates express an indicator in terms of the overall rate that would occur in a standard population age-structure if it experienced the age-specific rates of the observed population  <a href="http://webarchive.nationalarchives.gov.uk/20080728093252/http://www.apho.org.uk/resource/item.aspx?RID=48457">http://webarchive.nationalarchives.gov.uk/20080728093252/http://www.apho.org.uk/resource/item.aspx?RID=48457</a></p> <p>Directly standardised rates are utilised as they allow for comparisons of emergency admissions to hospital for ACSCs between different areas using the same standard population – in this instance, European Standard Population 2013. The rates can also be used as a means to assess the trend of these admissions over time.</p>
<p><b>4.6. Confidence interval / control limit use and methodology</b></p>	<p>Confidence Intervals</p> <p><i>Methodology:</i></p> <p>95% confidence intervals are calculated using Dobson's<sup>2</sup> and Byar's<sup>3</sup> methods for large counts and Dobson and exact chi-squared for small counts (under 389).</p> <p><b>Dobson's method:</b></p> $DSR_{lower} = DSR + \sqrt{\frac{Var(DSR)}{Var(O)}} (O_{lower} - O)$ $DSR_{upper} = DSR + \sqrt{\frac{Var(DSR)}{Var(O)}} (O_{upper} - O)$ <p>where: <b>O</b> is the total number of observed admissions in the subject population.</p> $Var(DSR) = \frac{\sum_i \frac{w_i^2 O_i}{n_i^2}}{(\sum_i w_i)^2}$ $Var(O) = \sum_i O_i$ <p><b>O<sub>lower</sub></b> and <b>O<sub>upper</sub></b> are the lower and upper confidence limits for the observed number of events;</p> <p><b>Exact chi-squared:</b></p> <p>When <b>O</b> &lt; 389 then,</p>

<sup>2</sup> Dobson A et al. Confidence intervals for weighted sums of Poisson parameters. Stat Med 1991;10:457-62

<sup>3</sup> Breslow NE, Day NE. Statistical methods in cancer research, volume II: The design and analysis of cohort studies. Lyon: International Agency for Research on Cancer, World Health Organization; 1987: 69.

	$O_{lower} = \frac{\chi^2_{lower}}{2}$ $O_{upper} = \frac{\chi^2_{upper}}{2}$ <p>where:</p> <p><math>\chi^2_{lower}</math> is the 97.5th percentile value from the <math>\chi^2</math> distribution with <math>2O</math> degrees of freedom;</p> <p><math>\chi^2_{upper}</math> is the 2.5th percentile value from the <math>\chi^2</math> distribution with <math>2O+2</math> degrees of freedom.</p> <p><b>Byar's method:</b></p> <p>When <math>O \geq 389</math> then,</p> $O_{lower} = O \left( 1 - \frac{1}{9O} - \frac{z}{3\sqrt{O}} \right)^3$ $O_{upper} = (O + 1) \left( 1 - \frac{1}{9(O + 1)} + \frac{z}{3\sqrt{O + 1}} \right)^3$ <p>Where:</p> <p><math>z</math> is the 97.5<sup>th</sup> percentile value from the Standard Normal distribution.  </p>
<b>4.7. Justification of confidence intervals / control limits used</b>	<p>The indicator is published with 95% confidence intervals recognising the existence of natural variation between the CCG populations, as specified in the 'Commonly used public health statistics and their confidence intervals' (Association of Public Health Observatories (APHO) (now Public Health England), March 2008).</p> <p>The APHO guide recommends using Dobson and Byar's methods for large counts and Dobson and exact chi-squared for small counts. Further information can be found by following the link below.  <a href="http://webarchive.nationalarchives.gov.uk/20080728093252/http://www.apho.org.uk/resource/item.aspx?RID=48457">http://webarchive.nationalarchives.gov.uk/20080728093252/http://www.apho.org.uk/resource/item.aspx?RID=48457</a></p> <p> </p>

## Section 5. Presentation and Interpretation

### Presentation



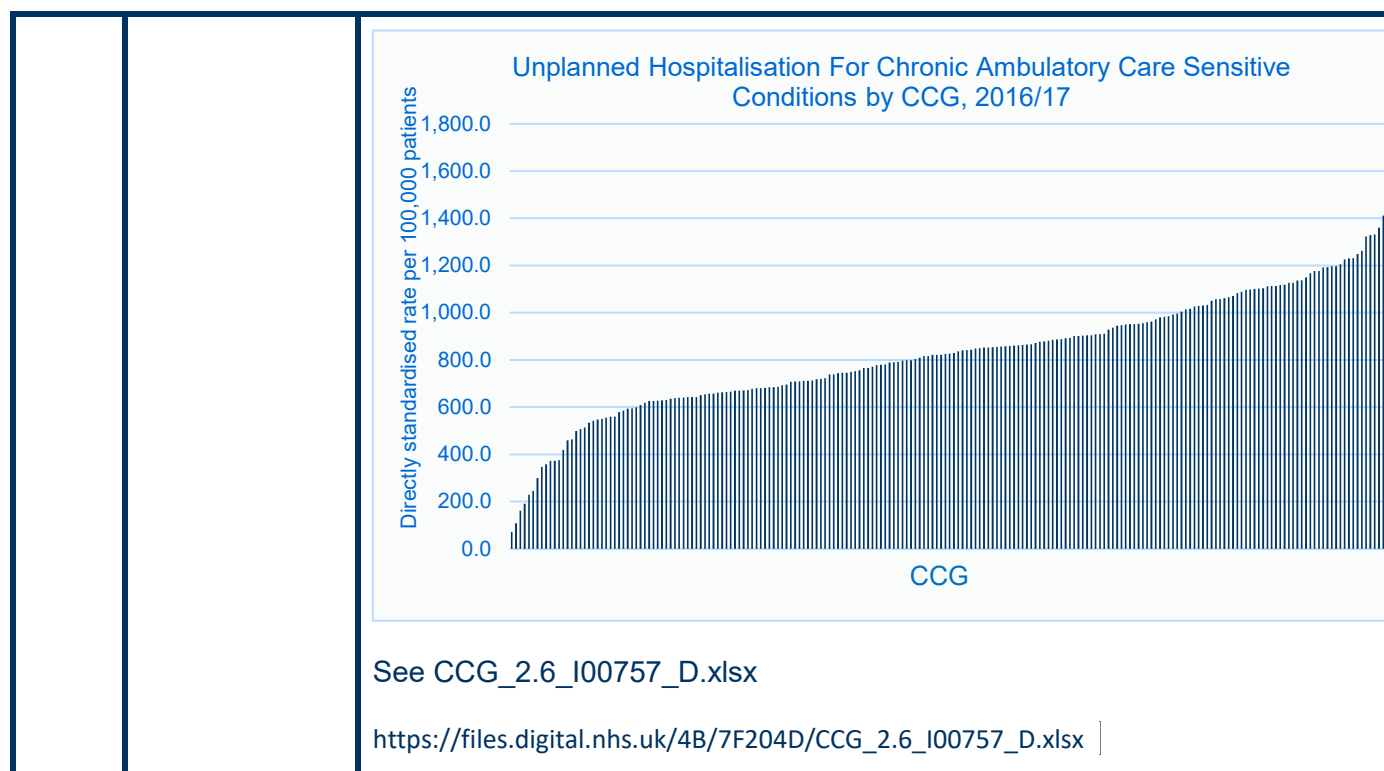
5.1.	<p><b>Presentation of indicator</b></p>	<p>The indicator is presented on the NHS Digital indicator portal in .csv and .xlsx formats. These files are accompanied by a Specification and an Indicator Quality Statement.</p> <p>The data is presented with a detailed header including information on the statistic presented, the reporting period, level of coverage, publication date, data sources, and any further notes to be aware of. Drop down filtering is also available.</p> <p>The indicator is presented at England and CCG level (for all England CCGs) broken down by gender. Previously published historic datasets starting from 2010/11 are also presented to enable time series analysis.</p> <p>Data is reported quarterly, on a rolling annual basis. Provisional HES data is used when final HES data is not available. When the indicator is produced with finalised data previously reported provisional quarterly datasets are replaced with the single annual dataset.</p> <p>The specific fields presented in the data are as follows:</p> <table><tr><th>Column Name</th><th>Output</th></tr><tr><td>Period</td><td>Year(s) of coverage</td></tr><tr><td>Reporting period</td><td>Period of coverage (years/rolling quarters)</td></tr><tr><td>Breakdown</td><td>National (All registered patients in England), CCG</td></tr><tr><td>ONS Code</td><td>ONS geography code</td></tr><tr><td>Level</td><td>CCG codes</td></tr><tr><td>Level description</td><td>CCG names</td></tr><tr><td>Gender</td><td>Person, Female, Male</td></tr><tr><td>Indicator value</td><td>Directly standardised rate (DSR) per 100000 registered patients</td></tr><tr><td>CI lower</td><td>DSR lower 95% confidence interval</td></tr><tr><td>CI upper</td><td>DSR upper 95% confidence interval</td></tr><tr><td>Denominator</td><td>The number of registered patients (denominator)</td></tr><tr><td>Numerator</td><td>The number of unplanned hospitalisations for chronic ambulatory care sensitive conditions</td></tr></table>	Column Name	Output	Period	Year(s) of coverage	Reporting period	Period of coverage (years/rolling quarters)	Breakdown	National (All registered patients in England), CCG	ONS Code	ONS geography code	Level	CCG codes	Level description	CCG names	Gender	Person, Female, Male	Indicator value	Directly standardised rate (DSR) per 100000 registered patients	CI lower	DSR lower 95% confidence interval	CI upper	DSR upper 95% confidence interval	Denominator	The number of registered patients (denominator)	Numerator	The number of unplanned hospitalisations for chronic ambulatory care sensitive conditions
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5.2.	<p><b>Contextual information provided alongside indicator</b></p> <p>with justification</p>	<p>GP registered patients (denominator) and admission episode counts (numerator) are presented for each CCG, as well as at a national level to provide further information.</p> <p>95% confidence intervals are also provided for the DSRs for further information.</p>																										
5.3.	<p><b>Calculation and data source of contextual information</b></p>	<p>[ ]</p>																										

5.4.	<b>Use of bandings, benchmarks or targets</b>  with justification	The indicator is presented without target or ranking. If a CCG believes their figure to be disproportionately high, for example when compared to the national figure, the factors contributing to this can be investigated and appropriate action can be taken.
5.5.	<b>Banding, benchmark or target methodology</b>  if appropriate	N/A
<b>Interpretation</b>		
5.6.	<b>Interpretation guidelines</b>	This indicator requires careful interpretation and should not be viewed in isolation, but <b>instead</b> be considered alongside information from other indicators and alternative sources such as patient feedback, staff surveys and similar material. When evaluated together, these will help to provide a holistic view of CCG outcomes and provide a more complete overview of the impact of the CCGs' processes on outcomes.  
5.7.	<b>Limitations and potential bias</b>	<ol style="list-style-type: none"> <li>1. This indicator requires careful interpretation and should not be used in isolation. It should be taken in conjunction with other indicators and information from other sources (patient feedback, staff surveys and other such material) that together form a holistic view of CCG outcomes and a fuller overview of how CCG processes are impacting on outcomes.</li> <li>2. Standardisation is by age and sex and does not encompass any other factors that could potentially influence the rate.</li> <li>3. Differences in casemix (beyond that accounted for by standardisation), such as comorbidities and other potential risk factors may also contribute to variation.</li> <li>4. There may be variation in the prevalence of particular conditions due to differing levels of deprivation, for other geo-demographic reasons or between patients of different ethnic heritages. For example, Type 2 diabetes is up to six times more common in people of South Asian descent and up to three times more common amongst those of African and Afro-Caribbean origin.</li> <li>5. A number of factors outside the control of healthcare providers, such as the socio-economic mix of local populations, may determine whether a patient is admitted; thus this could influence rates.</li> <li>6. The patterns of providing care may vary between organisations in terms of: extent of treatment in primary care settings; referral policies</li> </ol>

## Unplanned Hospitalisation For Chronic Ambulatory Care Sensitive Conditions

		<p>and practices; hospital outpatient facilities/walk-in clinics; and hospital inpatient admission policies and practices.</p> <p>7. There may be local variation in data quality, particularly in terms of diagnostic and procedure coding.</p> <p>8. Some factors causing or exacerbating relevant conditions are outside the control and influence of the NHS and CCGs. These can vary by region, and may include environmental factors such as air quality, occupational hazards and deprivation.</p> <p>9. The indicator is calculated based on the primary diagnosis field which is defined as follows:</p> <ul style="list-style-type: none"> <li>i) The main condition treated or investigated during the relevant episode of healthcare, and</li> <li>ii) Where there is no definitive diagnosis, the main symptom, abnormal findings or problem.</li> </ul> <p>As a result of the above, if a patient is admitted to hospital as a result of an injury or condition which has been caused by a badly managed ACSC they may be omitted from this indicator if the injury or condition was the main condition being treated or investigated in the admission episode, rather than if the ACSC were the main condition being treated.</p> <p>10. GP patient registration figures can be subject to over and under coverage issues. List inflation may occur for a number of reasons including but not limited to ; high turnover of patients followed by subsequent registrations not being processed in a timely manner, people who do not de-register, people who live abroad who fail to deregister, people with a temporary residence. Equally there may be under coverage for reasons including but not limited to; patients solely registered with private GPs, babies yet to be registered, migrants yet to register. The affects of this may vary between CCGs.  </p>
<b>5.8.</b>	<b>Improvement actions</b>	<p> It is expected that CCGs will use this to identify how improvements in care and the desired reduction in emergency hospital admissions will be delivered.</p> <p> </p>
<b>5.9.</b>	<b>Evidence of variability</b>	<p>2016/17 data shows that the numerator value for CCGs ranged from 87 to 7,954 emergency admissions, with only 1 being under 100.</p> <p>In 2016/17 CCG Indicator values ranged from a rate of 71.7 to 1,686.1 per 100,000 patients</p>

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### Section 6. Risks

<b>6.1.</b>	<b>Similar existing indicators</b>	<p>2.3.i Unplanned hospitalisation for chronic ambulatory care sensitive conditions - NHS Outcomes Framework (NHS OF)</p> <p><a href="https://digital.nhs.uk/data-and-information/publications/clinical-indicators/nhs-outcomes-framework/current/domain-2-enhancing-quality-of-life-for-people-with-long-term-conditions-nof/2-3-i-unplanned-hospitalisation-for-chronic-ambulatory-care-sensitive-conditions">https://digital.nhs.uk/data-and-information/publications/clinical-indicators/nhs-outcomes-framework/current/domain-2-enhancing-quality-of-life-for-people-with-long-term-conditions-nof/2-3-i-unplanned-hospitalisation-for-chronic-ambulatory-care-sensitive-conditions</a></p>
<b>6.2.</b>	<b>Coherence and comparability</b>	<p>A similar indicator, 2.3.i, exists in the NHS OF upon which this indicator is based. However, the NHS OF indicator uses a different standard population and standardisation method in its calculation and different breakdowns to reflect the different purposes of the NHS OF and the CCGOIS. The aim of NHS OF indicators are to provide national level accountability for the outcomes the NHS delivers, whereas the CCG OIS aims to provide clear, comparative information for CCGs and Health and Wellbeing Boards (HWBs) in England about the quality of health services they commission in order to understand where they may need to focus their efforts to improve services and outcomes.</p> <p>The list of conditions used in the indicator definition was compiled using expert clinical advice, approved for both indicators by the research directorate and reviewed for the NHS OF.</p> <p>Similar indicators also exist in Compendium of Population Health Indicators and the Organisation for Economic Cooperation and Development (OECD)</p>

<b>6.3.</b>	<b>Undesired behaviours and/or gaming</b>	n/a
<b>6.4.</b>	<b>Approach to indicator review</b>	<p>NHS England review the list of indicators included in the CCG OIS on an annual basis. As well as initially assuring the quality and methodology of this indicator, the NHS Digital's Indicator Assurance Process will be used on an on-going basis to review any new indicators. User needs and feedback will be taken into consideration during this assurance process.</p> <p>Comments can be made through various media, including NHS Digital general enquiries by email <a href="mailto:enquiries@nhsdigital.nhs.uk">enquiries@nhsdigital.nhs.uk</a> or by telephone 0300 303 5678.</p>
<b>6.5.</b>	<b>Disclosure control</b>	<p>The indicator is calculated following the HES Analysis guide on suppression of small numbers. The numerator and indicator value is suppressed and replaced with a '*' when the numerator is between one and five (inclusive). This is in order to protect against the potential for disclosing the identity of an individual. Secondary suppression is carried out where only one rate is suppressed for a certain breakdown and time period and this value could be calculated by differencing. This is to reduce the risk of one suppressed number being identifiable in isolation.</p> <p>These suppression rules are set out in the HES Analysis Guide <a href="https://digital.nhs.uk/binaries/content/assets/website-assets/data-and-information/data-tools-and-services/data-services/hospital-episode-statistics/hes_analysis_guide_march_2015.pdf">https://digital.nhs.uk/binaries/content/assets/website-assets/data-and-information/data-tools-and-services/data-services/hospital-episode-statistics/hes_analysis_guide_march_2015.pdf</a></p> <p>Indicator values calculated from numerators under 10 are also suppressed following the recommendations in the PHE Technical Guide Calculating Directly Standardised Rates.<sup>4</sup></p>
<b>6.6.</b>	<b>Copyright</b>	Copyright © 2018, NHS Digital. All rights reserved.

<sup>4</sup> <https://fingertips.phe.org.uk/documents/PHDS%20Guidance%20-%20DSRs.pdf>

## **Appendix 1 - List of conditions (ICD-10)**

### **Infections**

B18.1 Chronic viral hepatitis B without delta-agent  
B18.0 Chronic viral hepatitis B with delta-agent  
Nutritional, endocrine and metabolic  
E10 Type 1 diabetes mellitus  
E11 Type 2 diabetes mellitus  
E12 Malnutrition-related diabetes mellitus  
E13 Other specified diabetes mellitus  
E14 Unspecified diabetes mellitus

### **Diseases of the blood**

D50.1 Sideropenic dysphagia  
D50.8 Other iron deficiency anaemias  
D50.9 Iron deficiency anaemia, unspecified  
D51 Vitamin B12 deficiency anaemia  
D52 Folate deficiency anaemia

### **Mental and behavioural disorders**

F00 Dementia in Alzheimer disease  
F01 Vascular dementia  
F02 Dementia in other diseases classified elsewhere  
F03 Unspecified dementia

### **Neurological disorders**

G40 Epilepsy  
G41 Status epilepticus

### **Cardiovascular diseases**

I10X Essential (primary) hypertension  
I11.0 Hypertensive heart disease with (congestive) heart failure  
I11.9 Hypertensive heart disease without (congestive) heart failure  
I13.0 Hypertensive heart and renal disease with (congestive) heart failure  
I20 Angina pectoris  
I25 Chronic ischaemic heart disease  
I50 Heart failure  
I48 Atrial fibrillation and flutter  
J81X Pulmonary oedema

### **Respiratory diseases**

J20 Acute bronchitis  
J41 Simple and mucopurulent chronic bronchitis  
J42X Unspecified chronic bronchitis  
J43 Emphysema  
J44 Other chronic obstructive pulmonary disease  
J45 Asthma  
J46X Status asthmaticus  
J47X Bronchiectasis