National Diabetes Inpatient Audit (NaDIA) Harms, 2020

England

8 Jul 2021

Appendices

Information and technology
for better health and care

V1.0

Appendices: Contents

All documents are available on the publication landing page:
http://digital.nhs.uk/pubs/nadia-harms2020

The NaDIA harms audit publishes a main report and other supporting data:

Other reports	
Main report	The main annual report including audit recommendations
Trust participation report	Submission details for all eligible and/or participating NHS trusts

Supporting documents	
Tables and charts	In Excel format
Open data	Report data in CSV format
Data quality statement	Details about the data collection

Appendix 1: Participation details

Appendix 1: Participation details:
Participating NHS trusts by quarter

Figure A1: Number of participating NHS trusts[1], by quarter when inpatient harm occurred, England, May 2018 - October 2020
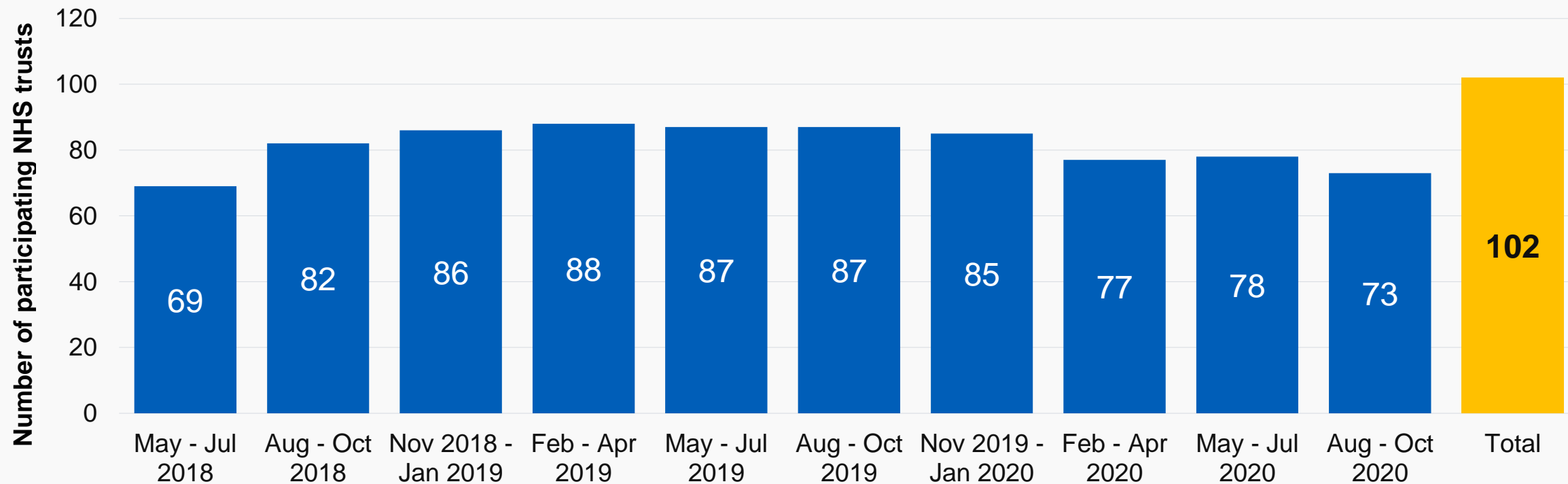
Results

- When compared to the number of NHS trusts known to be eligible for the NaDIA snapshot, NaDIA harms audit participation is around 81 per cent (102 of 126). The number of participants per quarter remained relatively constant since 2018, but then reduced during the COVID-19 pandemic.

Notes: 1. An NHS trust is defined as participating if they reported one or more inpatient harm or any verified monthly nil submission in the quarter.
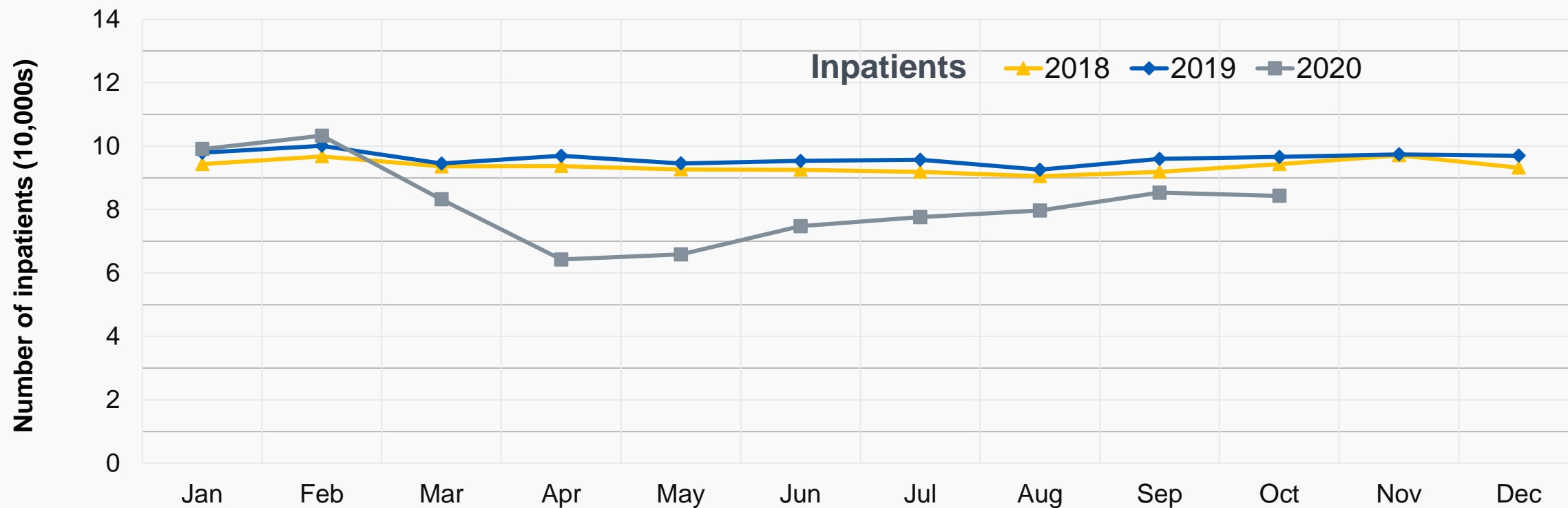
Appendix 2: Impact of COVID-19: Details

Appendix 2: Impact of COVID-19: Details
Patients 2018 to 2020

Figure A2: Inpatients with diabetes, by month[2]: inpatients[3], England (rounded[1])

Results:
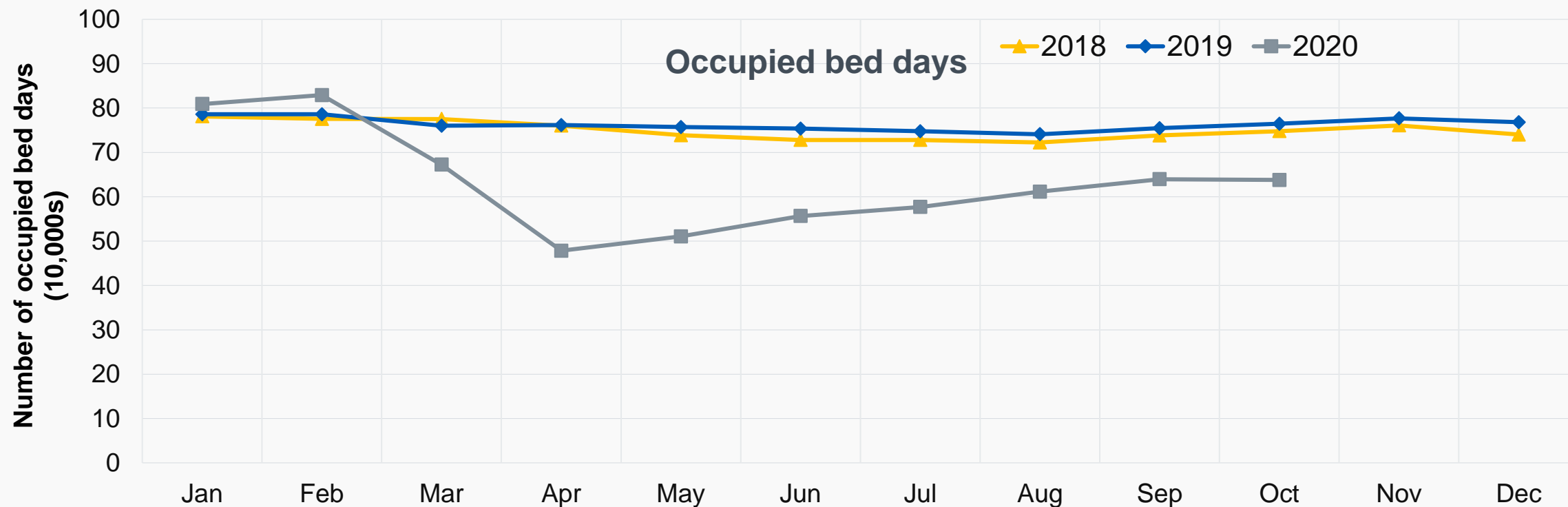
There were no large differences in monthly inpatient numbers between 2018 and 2019, demonstrating the exceptional nature of the reduction starting in March 2020.

Notes: **1**. Counts between 1 and 7 are set to 5. All counts greater than 7 are rounded to the nearest five. **2**. Adjusted for month length. **3**. Analysis covering April-Oct 2020 uses provisional data from HES and core NDA.

Appendix 2: Impact of COVID-19: Details
Occupied bed days 2018 to 2020

Figure A3: Inpatients with diabetes, by month[2]: occupied bed days[3], England (rounded[1])

Results:

There were no large monthly differences between the number of inpatient occupied bed days in 2018 and 2019, again demonstrating the exceptional nature of the reduction starting in March 2020.

Notes: **1**. Counts between 1 and 7 are set to 5. All counts greater than 7 are rounded to the nearest five. **2**. Adjusted for month length. **3**. Analysis covering April-Oct 2020 uses provisional data from HES and core NDA.

Appendix 2: Impact of COVID-19: Details
Hospital Admissions

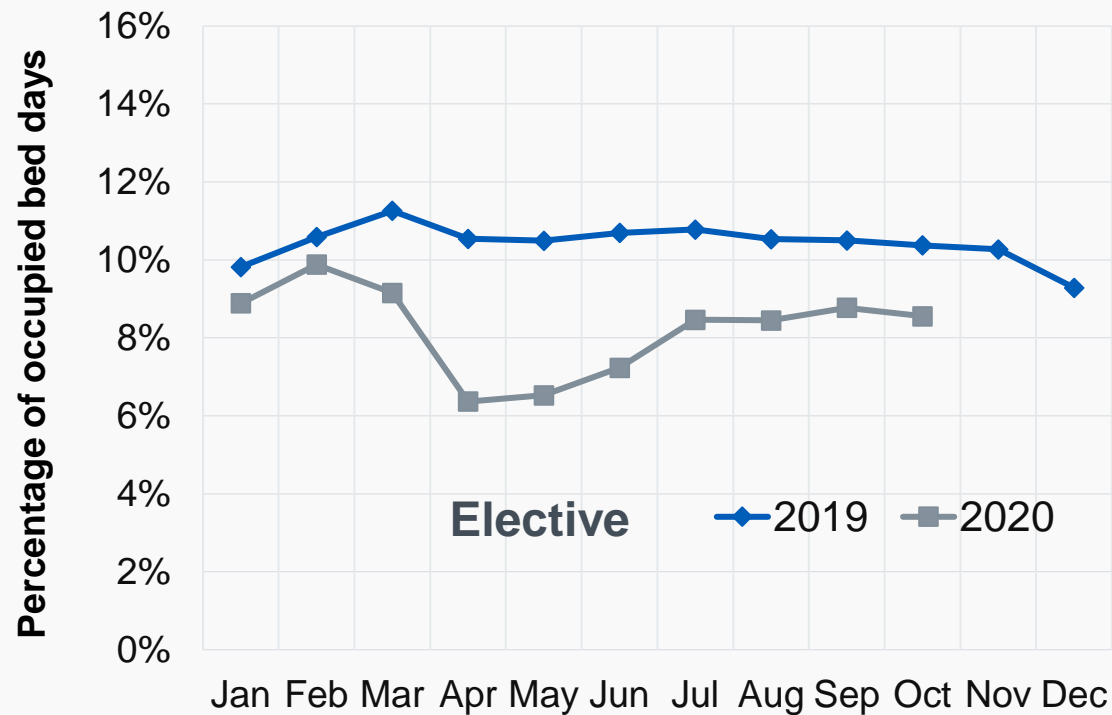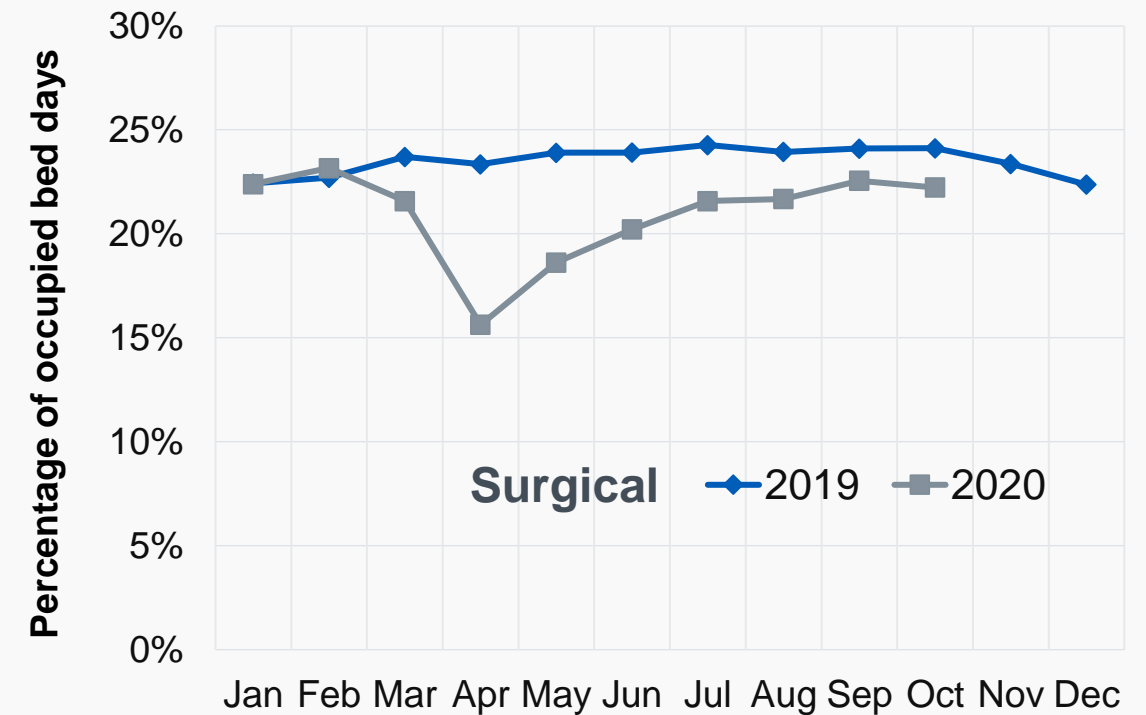**Figure A4: Inpatients with diabetes, by month: % elective admissions**[2,3,4]**,** England (rounded[1])

Figure A5: Inpatients with diabetes, by month: % surgical admissions[2,3,4]**,** England (rounded[1])

Results: The large reduction in elective admissions from March 2020 onwards reflects the cancellation of elective appointments to clear space for COVID-19 admissions. This trend is reflected in the reduction in surgical admissions, many of which are also elective.

Notes: **1**. Percentages are derived from rounded values. Underlying counts between 1 and 7 are set to 5. All counts greater than 7 are rounded to the nearest five. Consequently some percentages may not sum up to exactly 100 per cent. **2**. Proportions are calculated from the sum of nights in hospital during the period stated for people in the core NDA, where diabetes was diagnosed on or before admission. Day cases and same-day discharges are counted as zero days and are therefore excluded. For further information, see: Methodology: Inpatient population in the Main Report. **3**. Analysis covering April-Oct 2020 uses provisional data from HES and core NDA. **4**. An elective admission is one that has been arranged in advance. A surgical admission is defined by the speciality under which consultant is contracted, grouped as surgical or medical.

Appendix 2: Impact of COVID-19: Details
Sex and diabetes type

Figure A6: Inpatients with diabetes, by month: % male[2,3], England (rounded[1])
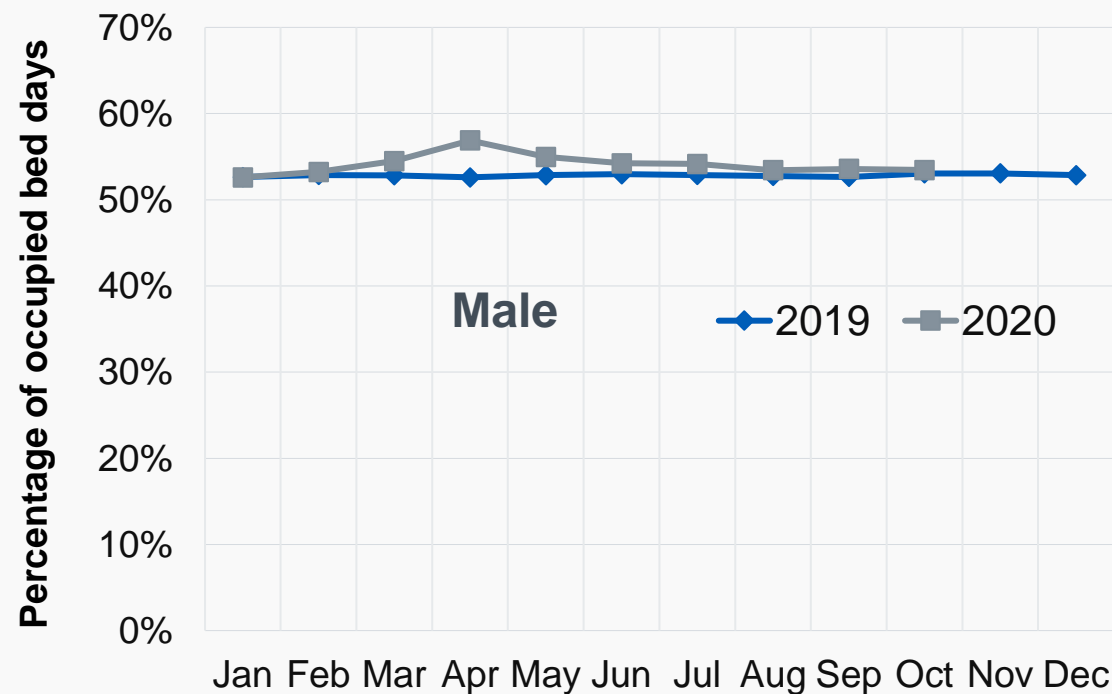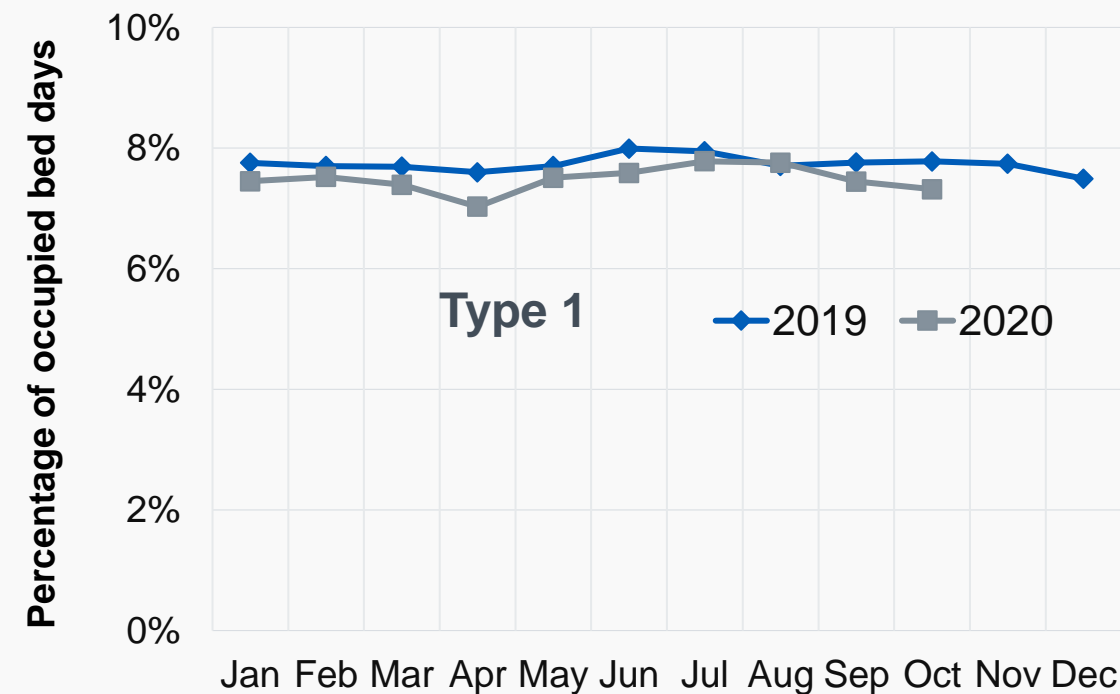

Male — 2019, 2020

Figure A7: Inpatients with diabetes, by month: % type 1 diabetes[2,3], England (rounded[1])

Type 1 — 2019, 2020

Results: There was an increase in the proportion of inpatient beds occupied by men during wave one of the COVID-19 pandemic. This may reflect the higher susceptibility of male patients to COVID-19. There was also a small decrease in the proportion of inpatients with type 1 diabetes. This may reflect the lower age profile of inpatients with type 1 diabetes, and their correspondingly lower susceptibility to COVID-19.

Notes: **1**. Percentages are derived from rounded values. Underlying counts between 1 and 7 are set to 5. All counts greater than 7 are rounded to the nearest five. Consequently some percentages may not sum up to exactly 100 per cent. **2**. Proportions are calculated from the sum of nights in hospital during the period stated for people in the core NDA, where diabetes was diagnosed on or before admission. Day cases and same-day discharges are counted as zero days and are therefore excluded. For further information, see: Methodology: Inpatient population in the Main Report. **3**. Analysis covering April-Oct 2020 uses provisional data from HES and core NDA.

Ethnicity

Figure A8: Inpatients with diabetes, by month: % ethnic minority[2,3], England (rounded[1])

Percentage of occupied bed days

Ethnic minority

— 2019 — 2020

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
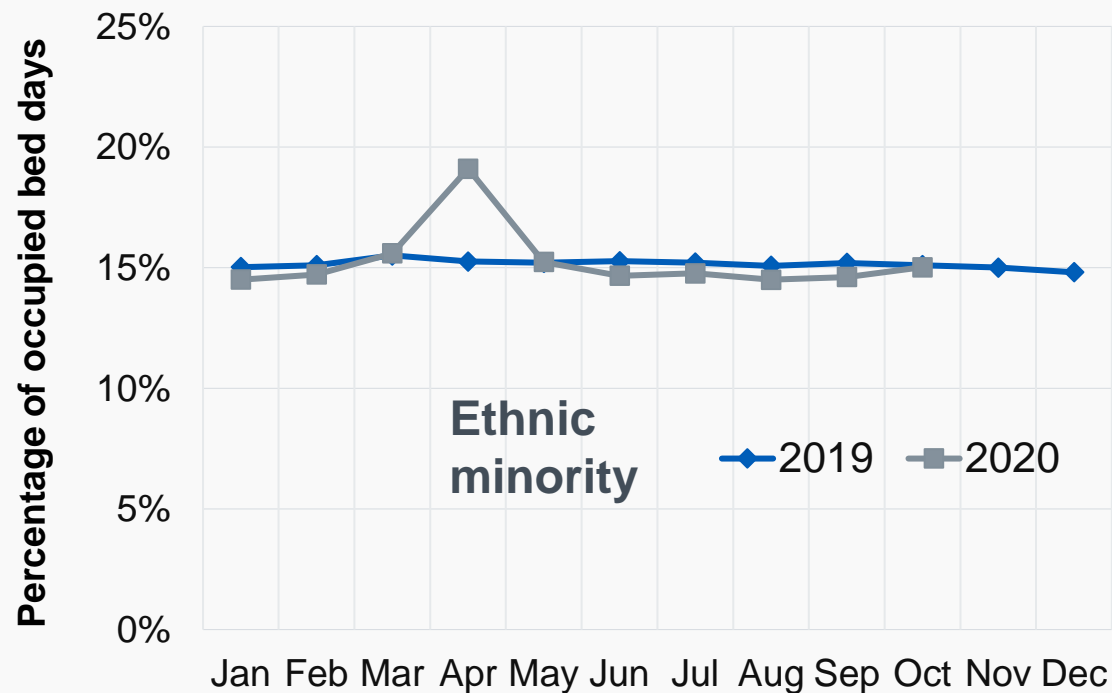
Figure A9: Inpatients with diabetes, by month: % Black ethnicity[2,3], England (rounded[1])

Percentage of occupied bed days

Black ethnicity

— 2019 — 2020

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
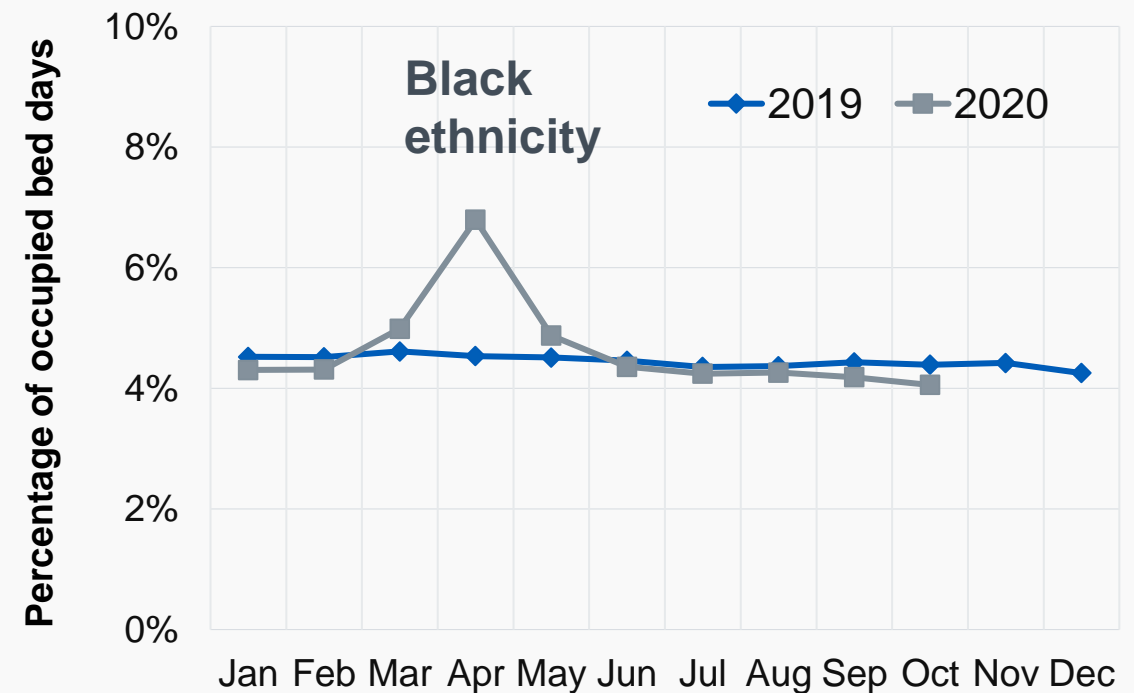
Results:

There was a spike in the proportion of inpatient population that were of minority ethnicity in April 2020. The spike is even more pronounced when looking at the Black ethnicity sub-category. This may reflect the higher impact of COVID-19 on ethnic minority groups compared to people of White ethnicity[4].

Notes: **1**. Percentages are derived from rounded values. Underlying counts between 1 and 7 are set to 5. All counts greater than 7 are rounded to the nearest five. Consequently some percentages may not sum up to exactly 100 per cent. **2**. Proportions are calculated from the sum of nights in hospital during the period stated for people in the core NDA, where diabetes was diagnosed on or before admission. Day cases and same-day discharges are counted as zero days and are therefore excluded. For further information, see: Methodology: Inpatient population in the Main Report. **3**. Analysis covering April-Oct 2020 uses provisional data from HES and core NDA. **4**. See for example: Why have Black and South Asian people been hit hardest by COVID-19? Office for National Statistics, December 2020.
https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/conditionsanddiseases/articles/whyhaveblackandsouthasianpeoplebeenhithardestbycovid19/2020-12-14. Accessed 22 February 2021.

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Appendix 2: Impact of COVID-19: Details
Smoking and angina

Figure A10: Inpatients with diabetes, by month: % current smokers[2,3], England (rounded[1])
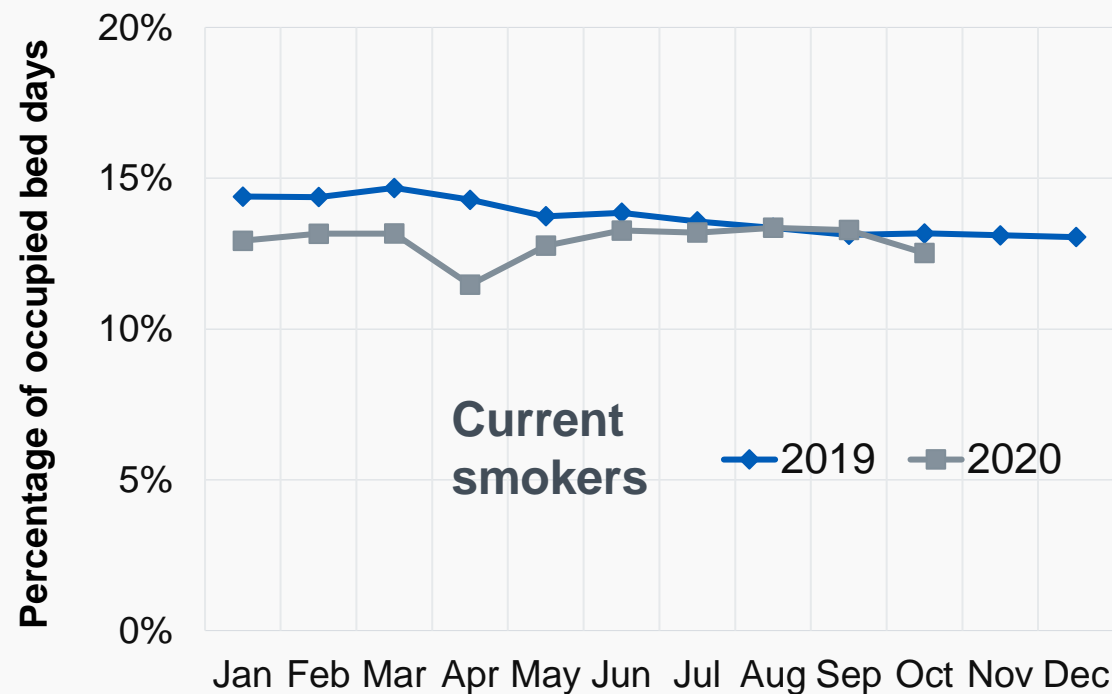
Figure A11: Inpatients with diabetes, by month: % angina[2,3], England (rounded[1])
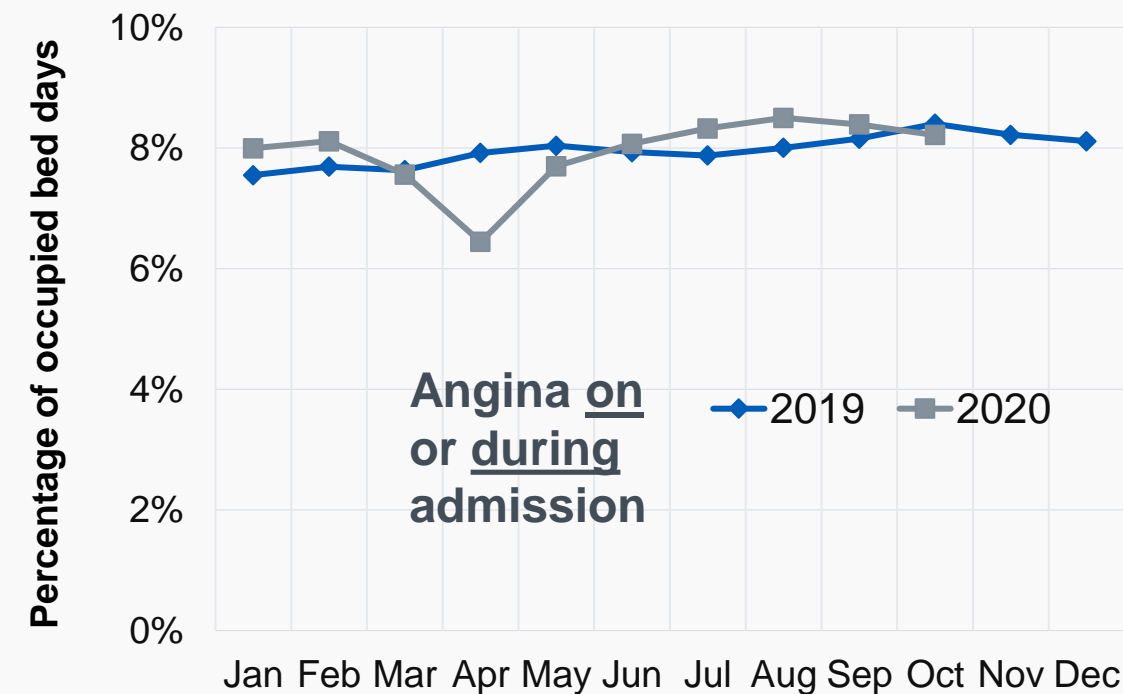
Results: There was a noticeable dip in the proportion of diabetes inpatients that were current smokers in April 2020, at the peak of the pandemic. There was also a dip in the prevalence of angina in the same month.

Notes: **1**. Percentages are derived from rounded values. Underlying counts between 1 and 7 are set to 5. All counts greater than 7 are rounded to the nearest five. Consequently some percentages may not sum up to exactly 100 per cent. **2**. Proportions are calculated from the sum of nights in hospital during the period stated for people in the core NDA, where diabetes was diagnosed on or before admission. Day cases and same-day discharges are counted as zero days and are therefore excluded. For further information, see: Methodology: Inpatient population in the Main Report. **3**. Analysis covering April-Oct 2020 uses provisional data from HES and core NDA.

Appendix 2: Impact of COVID-19: Details
DKA

Figure A12: Inpatients with diabetes, by month: % admitted for DKA[2,3], England (rounded[1])
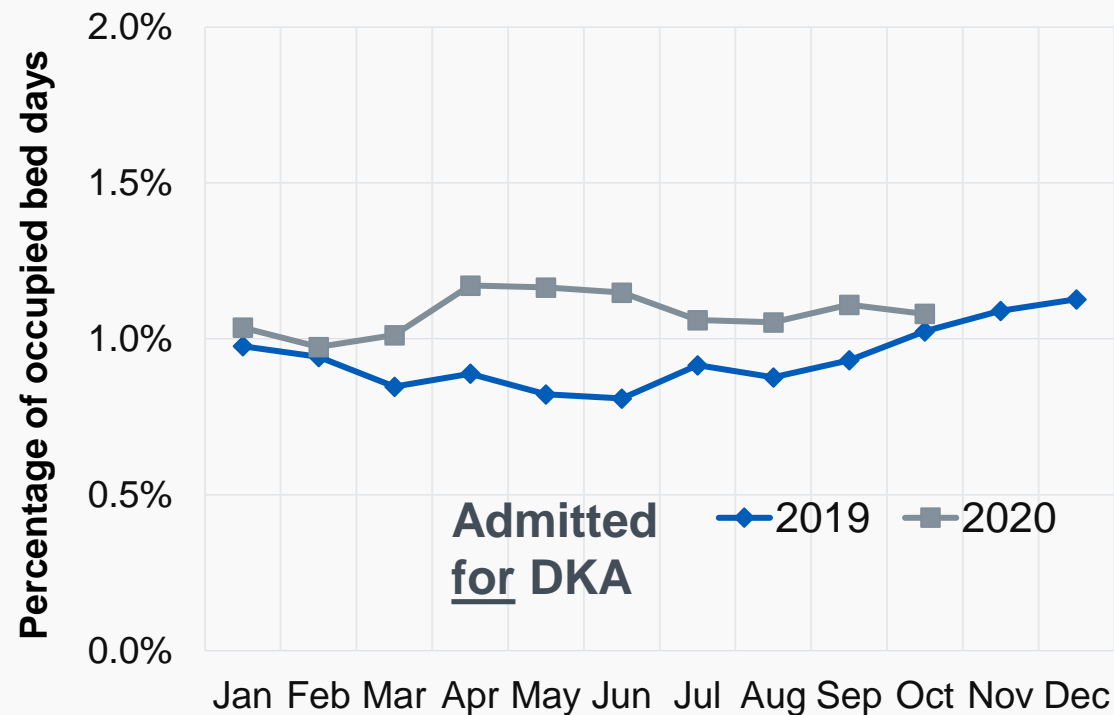
Figure A13: Inpatients with diabetes, by month: DKA inpatient harm rate[2,3], England (rounded[1])
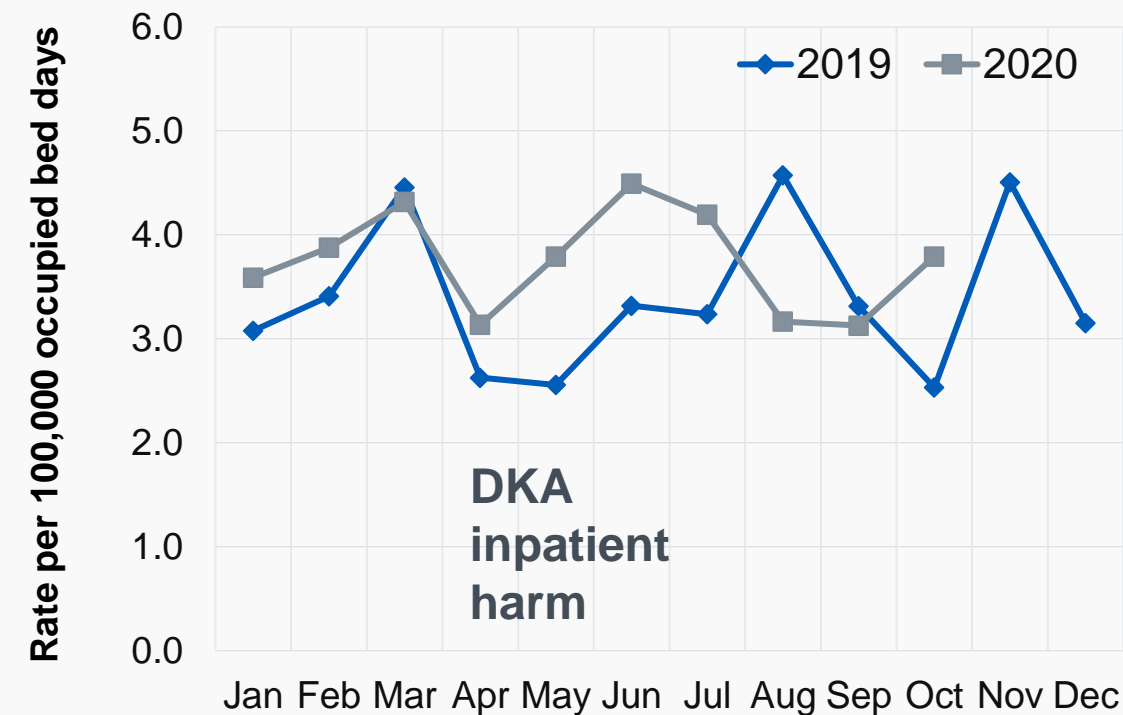
Results: The proportion of inpatients with diabetes admitted <u>for</u> DKA was higher between March and September 2020 compared to the preceding year. The relatively small number of DKA inpatient harms that occur each month make it difficult to draw firm conclusions about changes in the <u>rate</u>.

Notes: **1**. Proportions and rates are derived from rounded values. Underlying counts between 1 and 7 are set to 5. All counts greater than 7 are rounded to the nearest five. Consequently some percentages may not sum up to exactly 100 per cent. **2**. Proportions and rates are calculated from the sum of nights in hospital during the period stated for people in the core NDA, where diabetes was diagnosed on or before admission. Day cases and same-day discharges are counted as zero days and are therefore excluded. For further information, see: Methodology: Inpatient population in the Main Report. **3**. Analysis covering April-Oct 2020 uses provisional data from HES and core NDA.

Appendix 3: Patient profiles: All diabetes

Appendix 3: Patient profiles: All diabetes Demographics

Table A1: Patient demographics, by inpatient harm[2],
England, May 2018 - October 2020 (rounded[1])

Group	Patients	Age	Sex			Ethnicity			Smoking status				Deprivation quintile			BMI	
	Number	Median	Male	Female		White	Ethnic minority		Current smoker	Ex-smoker	Non-smoker[4]		Most deprived	Least deprived		Median	
			%	%		%	%		%	%	%		%	%			
Inpatient population with diabetes	**1,160,250**	**76.0**		**53.3**	**46.7**		**84.8**	**15.2**		**13.1**	**39.8**	**47.1**		**25.7**	**14.4**		**28.4**	
• Hypoglycaemic rescue	2,620	74.0	*	52.0	48.0	n	89.2	10.8	*	18.3	37.4	44.3	*	23.4	15.9	*	26.3	*
• DKA	680	66.0	*	47.6	52.4	*	94.1	6.6	*	18.8	34.0	47.2	*	23.8	15.4	*	24.9	*
• HHS	130	78.0	n	60.0	44.0	n	81.8	13.6	n	16.7	37.5	45.8	n	24.0	24.0	n	27.4	*
Inpatient population with diabetes[3] (LOS≥3)	**843,370**	**76.0**		**53.2**	**46.8**		**85.0**	**15.0**		**13.0**	**39.7**	**47.3**		**25.5**	**14.4**		**28.3**	
• Diabetic foot ulcer (LOS≥3)	500	76.0	n	62.1	38.9	*	90.8	9.2	*	11.8	41.9	46.2	n	26.9	12.9	n	28.7	n

Notes: * = statistically significant at the 0.05 level vs. inpatient population. n = not statistically significant. Proportions are tested using the Chi-squared test. Medians are tested using the Mann–Whitney U test. Cases with missing or unknown values are excluded from the calculations. The proportions of the inpatient population (data row 1, all diabetes) with missing or unknown values are: Age 0.1%; Sex 0.3%; Ethnicity 10.5%; Smoking status 4.7%; Deprivation quintile 4.9%; BMI 11.4%.
1. Percentages are derived from rounded values. Underlying counts between 1 and 7 are set to 5. All counts greater than 7 are rounded to the nearest five. Consequently some percentages may not sum up to exactly 100 per cent.
2. Proportions are calculated from the sum of nights in hospital during the period stated for people in the core NDA, where diabetes was diagnosed on or before admission. Day cases and same-day discharges are counted as zero days and are therefore excluded. For further information, see: Methodology: Inpatient population in the Main Report.
3. See note 2 above, with additional exclusion for admissions that are less than 3 nights due to the audit requirement that new onset foot ulcers must occur more than 72 hours after admission.
4. Group comprises of non-smokers whose history is unknown and patients who have never smoked.

Appendix 3: Patient profiles: All diabetes
Diabetes characteristics

Table A2: Diabetes characteristics, by inpatient harm[2],

England, May 2018 - October 2020 (rounded[1])

Group	Diabetes type			Diabetes duration		Renal function eGFR $(ml/min/1.73m^2)$	
	Type 1	Type 2		Median		Median	
	%	%					
Inpatient population with diabetes	**7.7**	**92.3**		**12.0**		**67.7**	
• Hypoglycaemic rescue	34.9	65.1	*	18.0	*	59.0	*
• DKA	67.3	32.7	*	22.0	*	78.5	*
• HHS	8.0	92.0	n	16.0	*	69.9	n
Inpatient population with diabetes[3] (LOS≥3)	**7.5**	**92.5**		**12.0**		**67.1**	
• Diabetic foot ulcer (LOS≥3)	14.7	85.3	*	15.0	*	58.3	*

Notes: * = statistically significant at the 0.05 level vs. inpatient population. n = not statistically significant. Proportions are tested using the Chi-squared test. Medians are tested using the Mann–Whitney U test. Cases with missing or unknown values are excluded from the calculations. The proportions of the inpatient population (data row 1, all diabetes) with missing or unknown values are: Diabetes type 3.3%; Diabetes duration 1.7%; eGFR 11.0%.
1. Percentages are derived from rounded values. Underlying counts between 1 and 7 are set to 5. All counts greater than 7 are rounded to the nearest five. Consequently some percentages may not sum up to exactly 100 per cent.
2. Proportions are calculated from the sum of nights in hospital during the period stated for people in the core NDA, where diabetes was diagnosed on or before admission. Day cases and same-day discharges are counted as zero days and are therefore excluded. For further information, see: Methodology: Inpatient population in the Main Report.
3. See note 2 above, with additional exclusion for admissions that are less than 3 nights due to the audit requirement that new onset foot ulcers must occur more than 72 hours after admission.

Appendix 3: Patient profiles: All diabetes Treatment targets and care processes

Table A3: Treatment targets and care processes in the audit year preceding hospital admission[4], by inpatient harm[2], England, May 2018 - October 2020 (rounded[1])

Group	Treatment targets[4] in year prior to admission				Received all 8 care processes[4] in year prior to admission
	Blood pressure (≤ 140/80)	Cholesterol (< 5 mmol/L)	HbA1c (≤ 58 mmol/mol)	Met all 3 treatment targets	
	%	%	%	%	%
Inpatient population with diabetes	**70.0**	**69.6**	**57.6**	**33.4**	**46.1**
• Hypoglycaemic rescue	69.5 n	65.3 *	26.0 *	15.2 *	39.4 *
• DKA	69.5 n	58.9 *	14.9 *	7.1 *	39.0 *
• HHS	73.9 n	69.6 n	39.1 *	21.7 *	47.8 n
Inpatient population with diabetes[3] (LOS≥3)	**70.0**	**69.6**	**57.6**	**33.4**	**45.5**
• Diabetic foot ulcer (LOS≥3)	64.4 *	70.0 n	45.6 *	24.4 *	36.7 *

Notes: * = statistically significant at the 0.05 level vs. inpatient population. n = not statistically significant. Proportions are tested using the Chi-squared test. Cases with missing or unknown values are excluded from the calculations. The proportions of the inpatient population (data row 1, all diabetes) with missing or unknown values are: 8.5-8.6% (all variables).

1. Percentages are derived from rounded values. Underlying counts between 1 and 7 are set to 5. All counts greater than 7 are rounded to the nearest five. Consequently some percentages may not sum up to exactly 100 per cent.

2. Proportions are calculated from the sum of nights in hospital during the period stated for people in the core NDA, where diabetes was diagnosed on or before admission. Day cases and same-day discharges are counted as zero days and are therefore excluded. For further information, see: Methodology: Inpatient population in the Main Report.

3. See note 2 above, with additional exclusion for admissions that are less than 3 nights due to the audit requirement that new onset foot ulcers must occur more than 72 hours after admission.

4. Treatment target and care process information is taken from the NDA audit year prior to the hospital admission (e.g. from 2017-18 where the hospital admission is in 2018-19).

Appendix 4: Patient profiles: Type 1 diabetes

Appendix 4: Patient profiles: Type 1 diabetes Summary

Table A4: Summary of characteristics associated with each inpatient harm[1]: type 1 diabetes,
England, May 2018 - October 2020

Characteristic		Inpatient harm	
		Hypoglycaemic rescue	DKA
Demo-graphics	Age	Older	None
	Sex	Female	Female
	Ethnicity	White	White
	Smoking status[2]	Current	None
	Deprivation quintile	Least	Least
	BMI	Lower	Lower
Diabetes charact-eristics	Diabetes duration	Longer	Longer
	Renal function	Worse	None
Treatment targets and care processes[3]	Blood pressure (≤ 140/80)	Met	Met
	Cholesterol (< 5 mmol/L)	Not met	None
	HbA1c (≤ 58 mmol/mol)	Not met	Not met
	Met 3 treatment targets?	No	No
	Had all 8 care processes?	No	None
Hospital admissions	Admission method[4]	Emergency	Emergency
	Admission type	Medical	Surgical
Complications during admission[5]		Heart failure, Admitted for DKA	Heart failure, Admitted for DKA

Notes:
1. Statistical significance of harms population vs. inpatient population with diabetes at the 95% level. Proportions are tested using the Chi-squared test. Medians are tested using the Mann–Whitney U test.
2. Group comprises of non-smokers whose history is unknown and patients who have never smoked.
3. Treatment target and care process information is taken from the NDA audit year prior to the hospital admission (e.g. from 2017-18 where the hospital admission is in 2018-19).
4. Admission method = The method of admission to hospital e.g. emergency or elective. An elective admission is one that has been arranged in advance. Admission type is defined by the speciality under which consultant is contracted e.g. surgical or medical. The category 'Other' covers: Admission methods 'Maternity' and 'Other'; Admission types 'Other', 'Pathology', 'Psychiatry' and 'Radiology'.
5. Complication recorded at any point during the admission, except: 'Admitted for DKA' and 'Admitted with diabetic foot disease'.

Appendix 4: Patient profiles: Type 1 diabetes Demographics

Table A5: Patient demographics, by inpatient harm[2]: type 1 diabetes,
England, May 2018 - October 2020 (rounded[1])

Group	Patients	Age		Sex			Ethnicity			Smoking status				Deprivation quintile			BMI	
	Number	Median		Male	Female		White	Ethnic minority		Current smoker	Ex-smoker	Non-smoker[4]		Most deprived	Least deprived		Median	
				%	%		%	%		%	%	%		%	%			
Inpatient population with type 1 diabetes	**83,540**	**60.0**		**52.0**	**48.0**		**87.1**	**12.9**		**20.7**	**31.4**	**48.0**		**28.0**	**13.6**		**26.1**	
• Hypoglycaemic rescue	790	63.0	*	46.9	53.1	*	93.0	7.0	*	23.3	32.7	44.1	*	23.6	17.2	*	24.5	*
• DKA	445	62.0	n	47.5	52.5	*	94.6	5.4	*	21.9	32.3	45.8	n	25.0	14.6	*	24.5	*
• HHS	10	*Insufficient data (<100 patients)*																
Inpatient population with type 1 diabetes[3] (LOS≥3)	**56,700**	**62.0**		**52.4**	**47.6**		**87.0**	**13.0**		**20.0**	**31.9**	**48.1**		**27.8**	**13.7**		**26.1**	
• Diabetic foot ulcer (LOS≥3)	70	*Insufficient data (<100 patients)*																

Notes: * = statistically significant at the 0.05 level vs. inpatient population. n = not statistically significant. Proportions are tested using the Chi-squared test. Medians are tested using the Mann–Whitney U test. Cases with missing or unknown values are excluded from the calculations. The proportions of the inpatient population (data row 1, all diabetes) with missing or unknown values are: Age 0.1%; Sex 0.3%; Ethnicity 10.5%; Smoking status 4.7%; Deprivation quintile 4.9%; BMI 11.4%.
1. Percentages are derived from rounded values. Underlying counts between 1 and 7 are set to 5. All counts greater than 7 are rounded to the nearest five. Consequently some percentages may not sum up to exactly 100 per cent.
2. Proportions are calculated from the sum of nights in hospital during the period stated for people in the core NDA, where diabetes was diagnosed on or before admission. Day cases and same-day discharges are counted as zero days and are therefore excluded. For further information, see: Methodology: Inpatient population in the Main Report.
3. See note 2 above, with additional exclusion for admissions that are less than 3 nights due to the audit requirement that new onset foot ulcers must occur more than 72 hours after admission.
4. Group comprises of non-smokers whose history is unknown and patients who have never smoked.

Appendix 4: Patient profiles: Type 1 diabetes
Diabetes characteristics

Table A6: Diabetes characteristics, by inpatient harm[2]: type 1 diabetes,
England, May 2018 - October 2020 (rounded[1])

Group	Diabetes duration		Renal function eGFR $(ml/min/1.73m^2)$	
	Median		Median	
Inpatient population with type 1 diabetes	**20.0**		**71.1**	
• Hypoglycaemic rescue	24.0	*	66.3	*
• DKA	26.0	*	76.9	n
• HHS	*Insufficient data (<100 patients)*			
Inpatient population with type 1 diabetes[3] (LOS≥3)	**21.0**		**69.0**	
• Diabetic foot ulcer (LOS≥3)	*Insufficient data (<100 patients)*			

Notes: * = statistically significant at the 0.05 level vs. inpatient population. n = not statistically significant. Proportions are tested using the Chi-squared test. Medians are tested using the Mann–Whitney U test. Cases with missing or unknown values are excluded from the calculations. The proportions of the inpatient population (data row 1, all diabetes) with missing or unknown values are: Diabetes type 3.3%; Diabetes duration 1.7%; eGFR 11.0%.
1. Percentages are derived from rounded values. Underlying counts between 1 and 7 are set to 5. All counts greater than 7 are rounded to the nearest five. Consequently some percentages may not sum up to exactly 100 per cent.
2. Proportions are calculated from the sum of nights in hospital during the period stated for people in the core NDA, where diabetes was diagnosed on or before admission. Day cases and same-day discharges are counted as zero days and are therefore excluded. For further information, see: Methodology: Inpatient population in the Main Report.
3. See note 2 above, with additional exclusion for admissions that are less than 3 nights due to the audit requirement that new onset foot ulcers must occur more than 72 hours after admission.

Appendix 4: Patient profiles: Type 1 diabetes Treatment targets and care processes

Table A7: Treatment targets and care processes in the audit year preceding hospital admission[4], by inpatient harm[2]: type 1 diabetes, England, May 2018 - October 2020 (rounded[1])

Group	Treatment targets[4] in year prior to admission				Received all 8 care processes[4] in year prior to admission
	Blood pressure ($\leq$ 140/80)	Cholesterol (< 5 mmol/L)	HbA1c ($\leq$ 58 mmol/mol)	Met all 3 treatment targets	
	%	%	%	%	%
Inpatient population with type 1 diabetes	**65.4**	**59.1**	**24.6**	**13.4**	**36.8**
• Hypoglycaemic rescue	68.3 *	55.4 *	14.9 *	7.9 *	33.2 *
• DKA	70.5 *	55.8 n	12.6 *	6.3 *	38.9 n
• HHS	*Insufficient data (<100 patients)*				
Inpatient population with type 1 diabetes[3] (LOS≥3)	**65.2**	**59.8**	**25.0**	**13.7**	**36.8**
• Diabetic foot ulcer (LOS≥3)	*Insufficient data (<100 patients)*				

Notes: * = statistically significant at the 0.05 level vs. inpatient population. n = not statistically significant. Proportions are tested using the Chi-squared test. Cases with missing or unknown values are excluded from the calculations. The proportions of the inpatient population (data row 1, all diabetes) with missing or unknown values are: 8.5-8.6% (all variables).
1. Percentages are derived from rounded values. Underlying counts between 1 and 7 are set to 5. All counts greater than 7 are rounded to the nearest five. Consequently some percentages may not sum up to exactly 100 per cent.
2. Proportions are calculated from the sum of nights in hospital during the period stated for people in the core NDA, where diabetes was diagnosed on or before admission. Day cases and same-day discharges are counted as zero days and are therefore excluded. For further information, see: Methodology: Inpatient population in the Main Report.
3. See note 2 above, with additional exclusion for admissions that are less than 3 nights due to the audit requirement that new onset foot ulcers must occur more than 72 hours after admission.
4. Treatment target and care process information is taken from the NDA audit year prior to the hospital admission (e.g. from 2017-18 where the hospital admission is in 2018-19).

Appendix 4: Patient profiles: Type 1 diabetes Hospital admissions

Table A8: Hospital admission method and main speciality, by inpatient harm[2]: type 1 diabetes,
England, May 2018 - October 2020 (rounded[1])

Group	Admission method[4]				Admission type[4]			
	Emergency	Elective	Other		Medical	Surgical	Other	
	%	%	%		%	%	%	
Inpatient population with type 1 diabetes	**82.1**	**10.4**	**7.5**		**73.0**	**22.0**	**5.2**	
• Hypoglycaemic rescue	92.1	3.7	4.7	*	78.9	21.1	0.5	*
• DKA	93.2	4.5	3.4	*	69.3	30.7	0.0	*
• HHS	*Insufficient data (<100 patients)*							
Inpatient population with type 1 diabetes[3] (LOS≥3)	**82.0**	**10.2**	**7.8**		**72.3**	**21.7**	**6.2**	
• Diabetic foot ulcer (LOS≥3)	*Insufficient data (<100 patients)*							

Notes: * = statistically significant at the 0.05 level vs. inpatient population. n = not statistically significant. Proportions are tested using the Chi-squared test. Cases with missing or unknown values are excluded from the calculations. The proportions of the inpatient population (data row 1, all diabetes) with missing or unknown values are: Admission method 0.0%; Admission type 0.2%.
1. Percentages are derived from rounded values. Underlying counts between 1 and 7 are set to 5. All counts greater than 7 are rounded to the nearest five. Consequently some percentages may not sum up to exactly 100 per cent.
2. Proportions are calculated from the sum of nights in hospital during the period stated for people in the core NDA, where diabetes was diagnosed on or before admission. Day cases and same-day discharges are counted as zero days and are therefore excluded. For further information, see: Methodology: Inpatient population.
3. See note 2 above, with additional exclusion for admissions that are less than 3 nights due to the audit requirement that new onset foot ulcers must occur more than 72 hours after admission.
4. Admission method = The method of admission to hospital e.g. emergency or elective. An elective admission is one that has been arranged in advance. Admission type is defined by the speciality under which consultant is contracted e.g. surgical or medical. The category 'Other' covers: Admission methods 'Maternity' and 'Other'; Admission types 'Other', 'Pathology', 'Psychiatry' and 'Radiology'.

Appendix 4: Patient profiles: Type 1 diabetes Complications

Table A9: Complications during hospital admission, by inpatient harm[2]: type 1 diabetes,
England, May 2018 - October 2020 (rounded[1])

Group	Cardiovascular complications[4] (on or during admission)				Diabetes-specific complications[4] (at specified point during admission)		
	Angina	Myocardial infarction	Heart failure	Stroke	Admitted for DKA	Admitted with diabetic foot disease	RRT required during admission
	%	%	%	%	%	%	%
Inpatient population with type 1 diabetes	**5.7**	**3.7**	**16.2**	**5.7**	**7.8**	**9.0**	**11.6**
• Hypoglycaemic rescue	5.8 n	3.7 n	20.0 *	6.8 n	20.5 *	9.5 n	11.1 n
• DKA	6.8 n	5.7 n	11.4 *	6.8 n	56.8 *	6.8 n	9.1 n
• HHS	*Insufficient data (<100 patients)*						
Inpatient population with type 1 diabetes[3] (LOS≥3)	**5.7**	**3.9**	**17.5**	**6.4**	**6.3**	**9.8**	**12.4**
• Diabetic foot ulcer (LOS≥3)	*Insufficient data (<100 patients)*						

Notes: * = statistically significant at the 0.05 level (vs. inpatient population with diabetes). n = not statistically significant (vs. Inpatient population with diabetes). Proportions are tested using the Chi-squared test.
1. Percentages are derived from rounded values. Underlying counts between 1 and 7 are set to 5. All counts greater than 7 are rounded to the nearest five. Consequently some percentages may not sum up to exactly 100 per cent.
2. Proportions are calculated from the sum of nights in hospital during the period stated for people in the core NDA, where diabetes was diagnosed on or before admission. Day cases and same-day discharges are counted as zero days and are therefore excluded. For further information, see: Methodology: Inpatient population.
3. See note 2 above, with additional exclusion for admissions that are less than 3 nights due to the audit requirement that new onset foot ulcers must occur more than 72 hours after admission.
4. Complication recorded at any point during the admission, except: 'Admitted for DKA' and 'Admitted with diabetic foot disease'.

Appendix 5: Patient profiles: Type 2 diabetes

Appendix 5: Patient profiles: Type 2 diabetes Summary

Table A10: Summary of characteristics associated with each inpatient harm[1]: type 2 diabetes,
England, May 2018 - October 2020

Characteristic		Inpatient harm			
		Hypoglycaemic rescue	DKA	HHS	Diabetic foot ulcer
Demo-graphics	Age	None	Younger	Older	None
	Sex	None	None	None	Male
	Ethnicity	White	White	None	White
	Smoking status	Current	None	None	None
	Deprivation quintile	Least	None	Least	None
	BMI	Lower	Lower	Lower	None
Diabetes charact-eristics	Diabetes duration	Longer	Longer	Longer	Longer
	Renal function	Worse	Better	None	Worse
Treatment targets and care processes[3]	Blood pressure (≤ 140/80)	None	None	None	Not met
	Cholesterol (< 5 mmol/L)	None	None	None	None
	HbA1c (≤ 58 mmol/mol)	Not met	Not met	Not met	Not met
	Met 3 treatment targets?	No	No	No	No
	Had all 8 care processes?	No	No	None	No
Hospital admissions	Admission method[4]	Emergency	None	None	Emergency
	Admission type	Medical	Surgical	Medical	Surgical
Complications during admission[5]		Myocardial infarction, Heart failure, Admitted for DKA, Admitted with diabetic foot disease, RRT required during admission	Angina, Heart failure, Admitted for DKA	Stroke, Admitted for DKA	Heart failure, Admitted for DKA, Admitted with diabetic foot disease, RRT required during admission

Notes:
1. Statistical significance of harms population vs. inpatient population with diabetes at the 95% level. Proportions are tested using the Chi-squared test. Medians are tested using the Mann–Whitney U test.
2. Group comprises of non-smokers whose history is unknown and patients who have never smoked.
3. Treatment target and care process information is taken from the NDA audit year prior to the hospital admission (e.g. from 2017-18 where the hospital admission is in 2018-19).
4. Admission method = The method of admission to hospital e.g. emergency or elective. An elective admission is one that has been arranged in advance. Admission type is defined by the speciality under which consultant is contracted e.g. surgical or medical. The category 'Other' covers: Admission methods 'Maternity' and 'Other'; Admission types 'Other', 'Pathology', 'Psychiatry' and 'Radiology'.
5. Complication recorded at any point during the admission, except: 'Admitted for DKA' and 'Admitted with diabetic foot disease'.

Appendix 5: Patient profiles: Type 2 diabetes Demographics

Table A11: Patient demographics, by inpatient harm[2]: type 2 diabetes,
England, May 2018 - October 2020 (rounded[1])

Group	Patients Number	Age Median		Sex Male %	Female %		Ethnicity White %	Ethnic minority %		Smoking status Current smoker %	Ex-smoker %	Non-smoker[4] %		Deprivation quintile Most deprived %	Least deprived %		BMI Median	
Inpatient population with type 2 diabetes	**1,024,475**	**77.0**		**53.7**	**46.3**		**84.5**	**15.5**		**12.4**	**40.7**	**46.9**		**25.5**	**14.5**		**28.6**	
• Hypoglycaemic rescue	1,640	76.0	n	54.7	45.3	n	86.9	13.1	*	15.2	40.0	44.8	*	23.3	15.2	*	27.4	*
• DKA	230	72.0	*	50.0	52.1	*	90.9	6.8	*	10.6	38.3	51.1	n	21.3	17.0	n	26.4	*
• HHS	110	80.0	*	60.9	39.1	n	89.5	15.8	n	13.6	36.4	50.0	n	22.7	22.7	*	27.6	*
Inpatient population with type 2 diabetes[3] (LOS≥3)	**754,125**	**77.0**		**53.6**	**46.4**		**84.7**	**15.3**		**12.4**	**40.5**	**47.2**		**25.4**	**14.5**		**28.4**	
• Diabetic foot ulcer (LOS≥3)	390	78.0	n	61.7	38.3	*	90.4	9.6	*	8.9	41.8	48.1	n	26.6	13.9	n	28.7	n

Notes: * = statistically significant at the 0.05 level vs. inpatient population. n = not statistically significant. Proportions are tested using the Chi-squared test. Medians are tested using the Mann–Whitney U test. Cases with missing or unknown values are excluded from the calculations. The proportions of the inpatient population (data row 1, all diabetes) with missing or unknown values are: Age 0.1%; Sex 0.3%; Ethnicity 10.5%; Smoking status 4.7%; Deprivation quintile 4.9%; BMI 11.4%.
1. Percentages are derived from rounded values. Underlying counts between 1 and 7 are set to 5. All counts greater than 7 are rounded to the nearest five. Consequently some percentages may not sum up to exactly 100 per cent.
2. Proportions are calculated from the sum of nights in hospital during the period stated for people in the core NDA, where diabetes was diagnosed on or before admission. Day cases and same-day discharges are counted as zero days and are therefore excluded. For further information, see: Methodology: Inpatient population in the Main Report.
3. See note 2 above, with additional exclusion for admissions that are less than 3 nights due to the audit requirement that new onset foot ulcers must occur more than 72 hours after admission.
4. Group comprises of non-smokers whose history is unknown and patients who have never smoked.

Appendix 5: Patient profiles: Type 2 diabetes
Diabetes characteristics

Table A12: Diabetes characteristics, by inpatient harm[2]: type 2 diabetes,
England, May 2018 - October 2020 (rounded[1])

Group	Diabetes duration		Renal function eGFR (ml/min/1.73m^2)	
	Median		Median	
Inpatient population with type 2 diabetes	**11.0**		**67.5**	
• Hypoglycaemic rescue	17.0	*	55.7	*
• DKA	17.0	*	82.0	*
• HHS	16.0	*	70.2	n
Inpatient population with type 2 diabetes[3] (LOS≥3)	**12.0**		**66.9**	
• Diabetic foot ulcer (LOS≥3)	14.0	*	58.7	*

Notes: * = statistically significant at the 0.05 level vs. inpatient population. n = not statistically significant. Proportions are tested using the Chi-squared test. Medians are tested using the Mann–Whitney U test. Cases with missing or unknown values are excluded from the calculations. The proportions of the inpatient population (data row 1, all diabetes) with missing or unknown values are: Diabetes type 3.3%; Diabetes duration 1.7%; eGFR 11.0%.
1. Percentages are derived from rounded values. Underlying counts between 1 and 7 are set to 5. All counts greater than 7 are rounded to the nearest five. Consequently some percentages may not sum up to exactly 100 per cent.
2. Proportions are calculated from the sum of nights in hospital during the period stated for people in the core NDA, where diabetes was diagnosed on or before admission. Day cases and same-day discharges are counted as zero days and are therefore excluded. For further information, see: Methodology: Inpatient population in the Main Report.
3. See note 2 above, with additional exclusion for admissions that are less than 3 nights due to the audit requirement that new onset foot ulcers must occur more than 72 hours after admission.

Appendix 5: Patient profiles: Type 2 diabetes Treatment targets and care processes

Table A13: Treatment targets and care processes in the audit year preceding hospital admission[4], by inpatient harm[2]: type 2 diabetes, England, May 2018 - October 2020 (rounded[1])

Group	Treatment targets[4] in year prior to admission								Received all 8 care processes[4] in year prior to admission	
	Blood pressure (≤ 140/80)		Cholesterol (< 5 mmol/L)		HbA1c (≤ 58 mmol/mol)		Met all 3 treatment targets			
	%		%		%		%		%	
Inpatient population with type 2 diabetes	**70.8**		**71.0**		**60.5**		**35.3**		**47.4**	
• Hypoglycaemic rescue	70.0	n	70.8	n	31.9	*	18.9	*	43.0	*
• DKA	67.4	n	65.2	n	17.4	*	8.7	*	37.0	*
• HHS	71.4	n	71.4	n	42.9	*	23.8	*	47.6	n
Inpatient population with type 2 diabetes[3] (LOS≥3)	**70.7**		**70.9**		**60.4**		**35.3**		**46.7**	
• Diabetic foot ulcer (LOS≥3)	64.9	*	68.8	n	50.6	*	27.3	*	36.4	*

Notes: * = statistically significant at the 0.05 level vs. inpatient population. n = not statistically significant. Proportions are tested using the Chi-squared test. Cases with missing or unknown values are excluded from the calculations. The proportions of the inpatient population (data row 1, all diabetes) with missing or unknown values are: 8.5-8.6% (all variables).
1. Percentages are derived from rounded values. Underlying counts between 1 and 7 are set to 5. All counts greater than 7 are rounded to the nearest five. Consequently some percentages may not sum up to exactly 100 per cent.
2. Proportions are calculated from the sum of nights in hospital during the period stated for people in the core NDA, where diabetes was diagnosed on or before admission. Day cases and same-day discharges are counted as zero days and are therefore excluded. For further information, see: Methodology: Inpatient population in the Main Report.
3. See note 2 above, with additional exclusion for admissions that are less than 3 nights due to the audit requirement that new onset foot ulcers must occur more than 72 hours after admission.
4. Treatment target and care process information is taken from the NDA audit year prior to the hospital admission (e.g. from 2017-18 where the hospital admission is in 2018-19).

Appendix 5: Patient profiles: Type 2 diabetes Hospital admissions

Table A14: Hospital admission method and main speciality, by inpatient harm[2]: type 2 diabetes,
England, May 2018 - October 2020 (rounded[1])

Group	Admission method[4]				Admission type[4]			
	Emergency	Elective	Other		Medical	Surgical	Other	
	%	%	%		%	%	%	
Inpatient population with type 2 diabetes	**84.1**	**10.0**	**5.9**		**70.8**	**23.1**	**6.2**	
• Hypoglycaemic rescue	94.6	3.1	2.0	*	80.2	19.3	0.6	*
• DKA	86.4	11.4	2.3	n	63.6	34.1	2.3	*
• HHS	94.7	5.3	5.3	n	89.5	10.5	5.3	*
Inpatient population with type 2 diabetes[3] (LOS≥3)	**84.3**	**9.1**	**6.6**		**71.0**	**21.8**	**7.3**	
• Diabetic foot ulcer (LOS≥3)	88.9	5.6	4.2	*	69.0	31.0	1.4	*

Notes: * = statistically significant at the 0.05 level vs. inpatient population. n = not statistically significant. Proportions are tested using the Chi-squared test. Cases with missing or unknown values are excluded from the calculations. The proportions of the inpatient population (data row 1, all diabetes) with missing or unknown values are: Admission method 0.0%; Admission type 0.2%.
1. Percentages are derived from rounded values. Underlying counts between 1 and 7 are set to 5. All counts greater than 7 are rounded to the nearest five. Consequently some percentages may not sum up to exactly 100 per cent.
2. Proportions are calculated from the sum of nights in hospital during the period stated for people in the core NDA, where diabetes was diagnosed on or before admission. Day cases and same-day discharges are counted as zero days and are therefore excluded. For further information, see: Methodology: Inpatient population.
3. See note 2 above, with additional exclusion for admissions that are less than 3 nights due to the audit requirement that new onset foot ulcers must occur more than 72 hours after admission.
4. Admission method = The method of admission to hospital e.g. emergency or elective. An elective admission is one that has been arranged in advance. Admission type is defined by the speciality under which consultant is contracted e.g. surgical or medical. The category 'Other' covers: Admission methods 'Maternity' and 'Other'; Admission types 'Other', 'Pathology', 'Psychiatry' and 'Radiology'.

Table A15: Complications during hospital admission, by inpatient harm[2]: type 2 diabetes,
England, May 2018 - October 2020 (rounded[1])

Group	Cardiovascular complications[4] (on or during admission)				Diabetes-specific complications[4] (at specified point during admission)		
	Angina	Myocardial infarction	Heart failure	Stroke	Admitted for DKA	Admitted with diabetic foot disease	RRT required during admission
	%	%	%	%	%	%	%
Inpatient population with type 2 diabetes	**8.2**	**3.6**	**22.3**	**7.6**	**0.4**	**5.1**	**4.4**
• Hypoglycaemic rescue	8.5 n	4.8 *	31.2 *	6.8 n	4.8 *	7.6 *	6.8 *
• DKA	2.3 *	6.8 n	15.9 *	6.8 n	52.3 *	4.5 n	2.3 n
• HHS	5.3 n	5.3 n	26.3 n	31.6 *	5.3 *	5.3 n	5.3 n
Inpatient population with type 2 diabetes[3] (LOS≥3)	**7.9**	**3.6**	**23.1**	**8.3**	**0.4**	**5.4**	**4.6**
• Diabetic foot ulcer (LOS≥3)	6.9 n	4.2 n	33.3 *	8.3 n	2.8 *	12.5 *	8.3 *

Notes: * = statistically significant at the 0.05 level (vs. inpatient population with diabetes). n = not statistically significant (vs. Inpatient population with diabetes). Proportions are tested using the Chi-squared test.
1. Percentages are derived from rounded values. Underlying counts between 1 and 7 are set to 5. All counts greater than 7 are rounded to the nearest five. Consequently some percentages may not sum up to exactly 100 per cent.
2. Proportions are calculated from the sum of nights in hospital during the period stated for people in the core NDA, where diabetes was diagnosed on or before admission. Day cases and same-day discharges are counted as zero days and are therefore excluded. For further information, see: Methodology: Inpatient population.
3. See note 2 above, with additional exclusion for admissions that are less than 3 nights due to the audit requirement that new onset foot ulcers must occur more than 72 hours after admission.
4. Complication recorded at any point during the admission, except: 'Admitted for DKA' and 'Admitted with diabetic foot disease'.

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NHS Digital is the new name for the Health and Social Care Information Centre. NHS Digital managed the publication of the 2020 annual report.

Diabetes UK is the largest organisation in the UK working for people with diabetes, funding research, campaigning and helping people live with the condition.

The **National Cardiovascular Intelligence Network** (NCVIN) is a partnership of leading national cardiovascular organisations which analyses information and data and turns it into meaningful timely health intelligence for commissioners, policy makers, clinicians and health professionals to improve services and outcomes.

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