



Public Health
England

Protecting and improving the nation's health

PHE and NPIS COVID-19 Toxicovigilance and Chemical Surveillance Summary Report 3

1 January to 28 December
(12 March 2021)

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1. Main findings

A review of UK poisoning and chemical incident data (from England) between January and December 2020, when compared to the equivalent period in 2019, has found that:

There has been a comparable total number of telephone enquiries in 2019 (32,775) to the same period in 2020 (32,654), with only a very slight (0.4%) potential decrease.

There is limited evidence to suggest that there has been an increase in enquiries for preventing or treating COVID-19 through the intentional use of (hydroxy)chloroquine, bleach, disinfectants and essential oils. There is no evidence to suggest an increase in intentional methanol ingestion for this purpose.

The previous reports have described a statistically significant increase in enquiries related to analgesic pharmaceuticals in dental patients. This increase may have been a result of a reduction in available dental services under lockdown measures. Further to this, following an analysis of the over 6 months of data since non-emergency dental practices reopened on 8 June, the number of dental analgesic enquiries have shown a statistically significant increase over this period rising from 1,018 telephone enquiries (24.8 average per week) to 1,599 (average 39.0 per week). Over 97% of these enquiries were recorded as having taken place in the home.

It should be noted that dental analgesic enquiry numbers were relatively low and only one enquiry in 2020 reported severe symptoms, 2 reported moderate symptoms, and all others were mild or asymptomatic at the time of enquiry. However, delayed symptoms following analgesic overdose are possible. The overall public health risk is likely to be low, but PHE will continue to monitor such enquiries going forward.

As in previous reports there has been a statistically significant increase in telephone enquiries related to hand sanitisers in all age groups over the study period, rising from 221 (average 4.1 per week) in 2019 to 519 (average 13.5 per week) in 2020, with 423 of these calls being related to children under 6. Since lockdown measures started to be eased from 11 May, the hand sanitiser enquiries have remained elevated compared to the same period in 2019. These enquiries may reflect increased use of, and potential exposure to, hand sanitisers during the COVID-19 pandemic. This increase could also reflect inappropriate storage of hand sanitisers. At the time of enquiry, 2 cases were recorded as having severe symptoms, 3 moderate symptoms and all other cases were minor or asymptomatic. The severe cases were a result of intentional exposure in adults (that is, recreational abuse due to alcohol content) rather than accidental exposures in children. Hence, based on the current evidence, the overall public health risk is considered to be low.

There was a decrease in the proportion of total enquiries related to intentional exposures, falling from 22.5% to 21.5%, this corresponded to a decrease in total intentional enquiries from 7,376

to 7,305. There was also a significant decrease in enquiries when considering data after the 1st lockdown was eased on 11 May.

Please note that previous toxicovigilance reports provided further detailed assessment of enquiries regarding cleaning products (disinfectants, bleaches, mixing of chemicals).

1.1 Limitations to data (see further Appendix 1)

It is not possible for the data provided in this report to demonstrate a causal association between poisoning and the COVID-19 pandemic as there may be other unrelated factors influencing trends, such as climatic or seasonal differences. It should be noted that trends identified may correspond with increased media coverage of COVID-19, use of specific products, and public health interventions including 'lockdown' and handwashing.

Small changes in enquiry numbers or percentage of total enquiries should be interpreted with caution. Statistical tests have been undertaken where indicated to identify potential significant trends in data.

Enquiries (especially TOXBASE® accesses) may be for educational reasons rather than directly related to a case. Enhanced media coverage may also lead to an increase in TOXBASE enquiries.

NPIS data are usually obtained at the time of initial presentation of the patient. Although follow-up of serious enquiries is attempted, information on patient outcome is often unavailable.

2. Background

Toxicovigilance is the active process of identifying and assessing the threat or potential toxicity from exposure in a community or population to consumer products, pesticides, pharmaceuticals, environmental and industrial chemicals, controlled substances, and natural toxins. It involves the monitoring of data to identify potential and confirmed trends in poisoning exposures and the emergence of new risks associated with toxic substances, as well as to assess the effectiveness of preventive measures. Since the onset of the COVID-19 outbreak, a number of proposed novel treatments, including a range of chemical and pharmaceutical preparations, have been proposed. In addition, due to changes in behaviour, members of the public may be at increased risk of being exposed to other domestic chemicals, such as cleaning products. Public Health England (PHE) has undertaken an analysis of their chemical incident data and UK poisoning data provided by the National Poisons Information Service (NPIS) to evaluate whether there are any potential public health risks related to toxic substances as a result of the COVID-19 pandemic. This was also informed by anecdotal reports of poisoning or exposures from NPIS and PHE staff. Further, this analysis seeks to inform potential preventative and harm-reduction measures where necessary.

This report builds on the previous 2 toxicovigilance reports and focuses on new data obtained within the past 6 months. This report has been prepared by the Centre for Radiation Chemicals and Environmental Hazards (CRCE) at Public Health England in conjunction with the NPIS.

Please direct any enquiries regarding this report to the National COVID-19 Response Centre (NCRC) at: NCRC.SPOC@dhsc.gov.uk

3. National Poisons Information Service (NPIS) data

3.1 Interpretation of NPIS data

The majority of NPIS data presented in this section is from telephone enquiries recorded on the UK Poisons Information Database (UKPID). Data is also provided where indicated on the number of total enquiries and hand sanitiser-related enquiries made on the NPIS clinical management database, TOXBASE. TOXBASE is available to all health professionals in the UK and, in treating a suspected poisoning, is normally accessed in the first instance. Typically, the NPIS are then telephoned directly for more complex enquiries. Whilst NPIS data cannot reflect the actual incidence of poisonings in the UK, the collated information does provide a good indication of overall trends to identify toxicovigilance 'signals', particularly when the data is compared to that of previous years.

Further detail on the interpretation of UKPID enquiry TOXBASE enquiry data can be found in [Appendix 1](#).

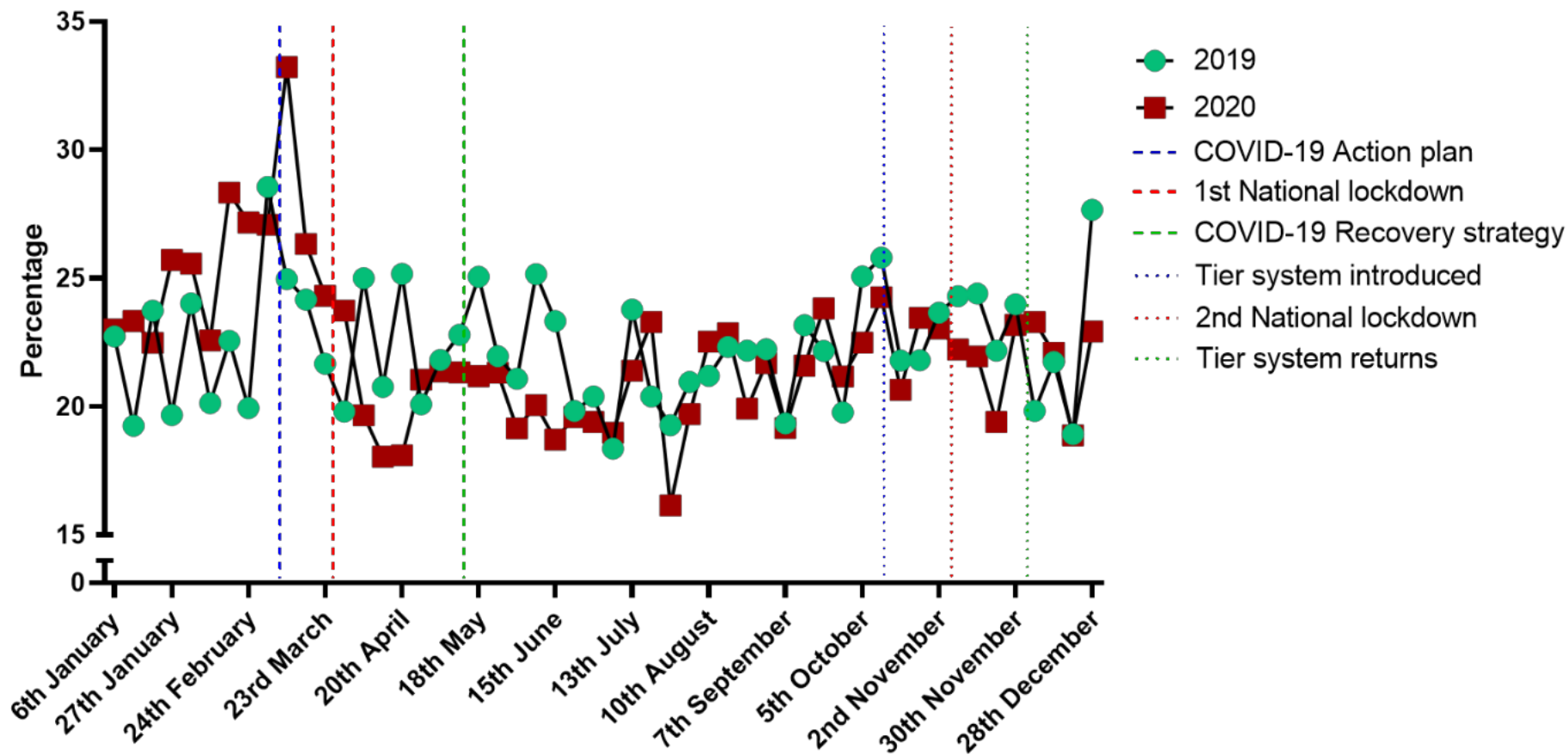
3.2 Total enquiries to the National Poisons Information Service

A review of NPIS data between 2 March and 28 December 2020, compared to the corresponding period in 2019 (4 March to 30 December) was undertaken and found that:

- unlike previous toxicovigilance reports, total telephone enquiry numbers were comparable in 2020 (32,775) to the same period in 2019 (32,654), with only a very slight (0.4%) decrease
- previous reports have indicated a statistically significant decrease in the proportion of total enquiries related to intentional exposure – this appeared to be mainly due to a reduction in intentional enquiries following the first lockdown on 24 March
- this report sees a statistically significant reduction in the proportion of intentional enquiries fall from 22.5% to 21.5% over the wider reporting period and corresponds to a decrease in total intentional enquiries from 7,376 to 7,305. Similarly, considering

enquiry numbers from 11 May, when initial lockdown measures started to be eased, show a similar fall in enquiry numbers from 5,656 (2019) to 5,548 (2020) (see also [Figure 1](#)). Hence, there is no evidence to suggest that intentional (self-harm) enquiries have increased over the reporting period.

Figure 1. Total UKPID intentional enquiries percentage of total enquiries 6 January to 28 December 2020

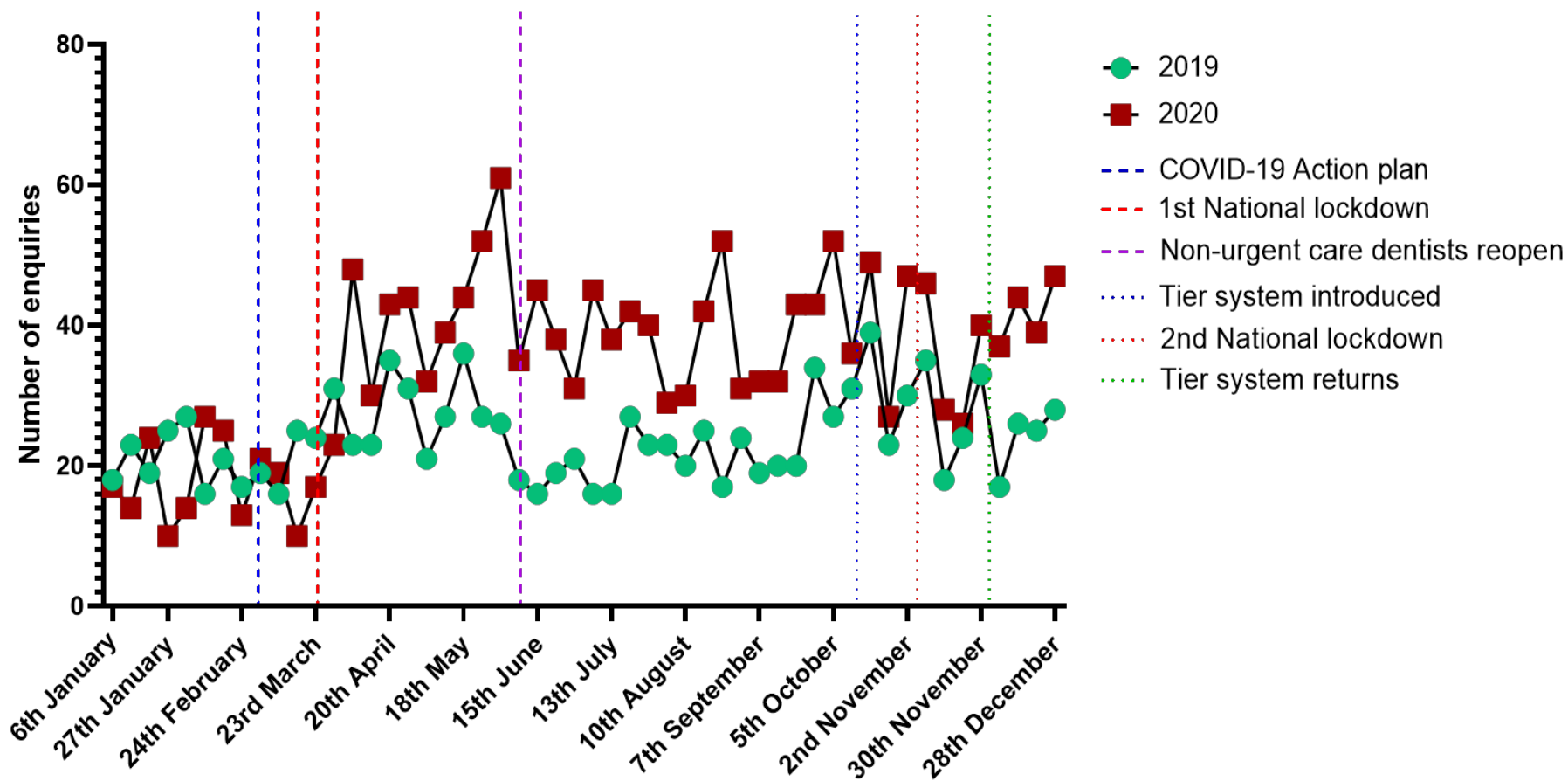


3.3 Analgesic enquiries due to dental pain

An analysis of NPIS enquiries involving paracetamol (and compound preparations), aspirin, other non-steroidal anti-inflammatory drugs (NSAIDs), and codeine-containing preparations was undertaken. These were further narrowed by enquiry records that referred to dental pain. The analysis found:

- a total of 1,793 dental analgesic enquiries in 2020, where 1,747 (over 97%) recorded the location as 'home or domestic'
- that, as reported previously, there remains a statistically significant increase in enquiries in relation to dental patients, rising from 1,018 telephone enquiries (24.8 average per week) in 2019 to 1,599 (average 39.0 per week) in 2020. These enquiries are suspected to be a result of supratherapeutic (excessive) dosages with analgesic pharmaceuticals (see [Figure 2](#)). This increase was initially observed following a reduction in available dental services due to lockdown measures.
- that, as per the previous report, there remains a statistically significant increase in analgesic enquiries when considering data after the reopening of non-urgent care dentists from 8 June 2020, rising from 714 in 2019 (average 23.8 per week) to 1,166 (average 38.9 per week) in 2020. This continues to suggest that the reopening of dental practices has not yet resulted in a reduction in phone enquiries to the NPIS.
- that of the 1,599 dental analgesic enquiries since 23 March 2020, the poisoning severity score was recorded as 'no symptoms' in 1453 cases, 'minor symptoms' in 124 cases, 'moderate symptoms' in 2 cases, 'severe symptoms' in 1 case, and 'unknown' in 20 cases at the time of enquiry. The severity of poisoning at the time of enquiry appears comparable between the 2019 and 2020 2 periods but clinical outcome data (see [Appendix 1](#)) is often not available.

Figure 2. UKPID telephone enquiries for dental analgesics

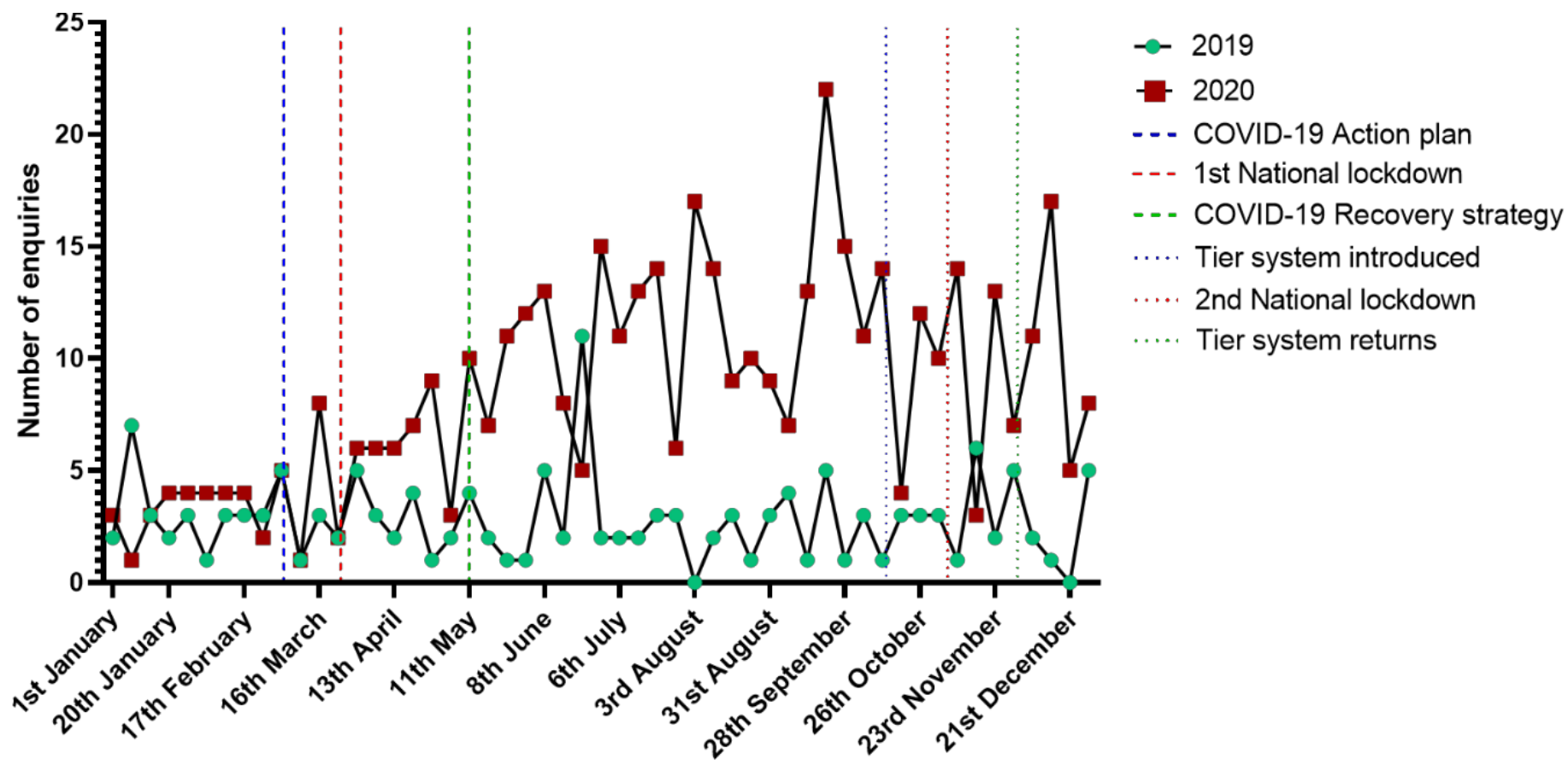


3.4 Hand sanitisers

A review of NPIS data and the total number of phone enquiries related to hand sanitiser from January to December 2020 and the equivalent period in 2019 found that:

- as in previous reports, there has been an increase in the total number of telephone enquiries from 2 March 2020 in relation to hand sanitiser exposure across all age groups, rising from 221 (average 4.1 per week) in 2019 to 598 (average 13.5 per week) in 2020
- enquiries were highest amongst children under 6 years of age with a statistically significant increase rising from 122 telephone enquiries (average 2.7 per week) in 2019 to 423 (average 9.6 per week) in 2020 (see [Figure 3](#))
- of the 598 hand sanitiser enquiries recorded in 2020, the poisoning severity score was recorded as 'no symptoms' in 132 cases, 'minor symptoms' in 29 cases and 'severe symptoms' in 2 cases at the time of enquiry. There were no severe cases attributed to hand sanitiser recorded in 2019, but the 2 severe cases in 2020 were linked to deliberate ingestion of hand sanitisers by adults (that is, recreational abuse).
- across all age groups, the majority of enquiries regarding hand sanitiser (91%) were recorded as 'accidental exposure' in 2020, a slight increase on the proportion of 'accidental' exposures in 2019 (86%)
- since measures from the first national lockdown started to be eased on 11 May 2020, enquiry numbers appear to remain elevated compared to 2019

Figure 3. UKPID hand sanitiser enquiries (children under 6 years)



Appendix 1. Interpretation of NPIS data

NPIS data reflects UK health professionals accessing information about specific substances via TOXBASE® or via the NPIS telephone information service. The following should be taken into account in its interpretation:

(i) The numbers of TOXBASE® accesses or telephone enquiries do not correlate directly with numbers of patients presenting to health professionals with toxicity for the following reasons:

(a) There may not be a contact with NPIS if the health professional is already familiar with the substance. Familiarity may increase with time and this effect may distort time trends

(b) Enquiries (especially TOXBASE® accesses) may be for educational reasons rather than directly related to a case. Enhanced media coverage may also lead to an increase in enquiries for TOXBASE.

(c) There may be several contacts for the same patient from different health professionals

(d) Contact by telephone is increasingly likely when poisoning is associated with severe features or when the presentation is unusual

(ii) NPIS data are usually obtained at the time of initial presentation of the patient. Although follow up of serious enquiries is attempted, information on patient outcome is often unavailable.

(iii) Telephone enquiry data are based on reported exposure. Analytical confirmation is not available.

(iv) Total numbers of NPIS telephone enquiries (all substances) have been declining as use of TOXBASE® increases, so time trends in total numbers of TOXBASE® accesses or telephone enquiries to specific drugs may be misleading. Annual data may therefore be expressed as proportions of the total numbers of TOXBASE® accesses or telephone enquiry numbers. Data collected over shorter time periods, such as that included in the current report, is unlikely to need correction in this way.

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Published: March 2021

PHE gateway number: GW-2011



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