



INJURIES DURING THE COVID-19 PANDEMIC

Monthly Bulletin – Edition 2

THE FOLLOWING HAS BEEN PREPARED BY THE VICTORIAN INJURY
SURVEILLANCE UNIT (VISU)

MONASH UNIVERSITY ACCIDENT RESEARCH CENTRE (MUARC)

MONTHLY BULLETIN – EDITION 2: SUMMARY



BACKGROUND

In response to the global COVID-19 pandemic, Australia, including Victoria, has implemented social distancing to limit transmission of the coronavirus. This monthly bulletin monitors injury rates related to the home (including DIY injuries), transport, self-harm and assault during the COVID-19 pandemic. This bulletin is a special VISU initiative, in addition to the usual annual reporting; VISU intends to produce these reports throughout the duration of the pandemic. This second edition of the bulletin examines rates in Victoria during **April 2020** relative to the same time last year.

METHOD

Data used to compile this bulletin were extracted from the Victorian Emergency Minimum Dataset (VEMD), which holds deidentified clinical records of presentations at Victorian public hospitals with designated 24-hour emergency departments (EDs) (currently 38 hospitals). ED presentations from 1 April 2019 to 30 April 2020 were analysed for this bulletin. A detailed outline of the methods used for case selection is provided in the Appendix section of this report. For more information on methods used by the Victorian Injury Surveillance Unit see [here](#) and background information and pre-COVID statistics see [here](#).

KEY INJURY GROUPS



HOME



DIY



TRANSPORT



SELF-HARM



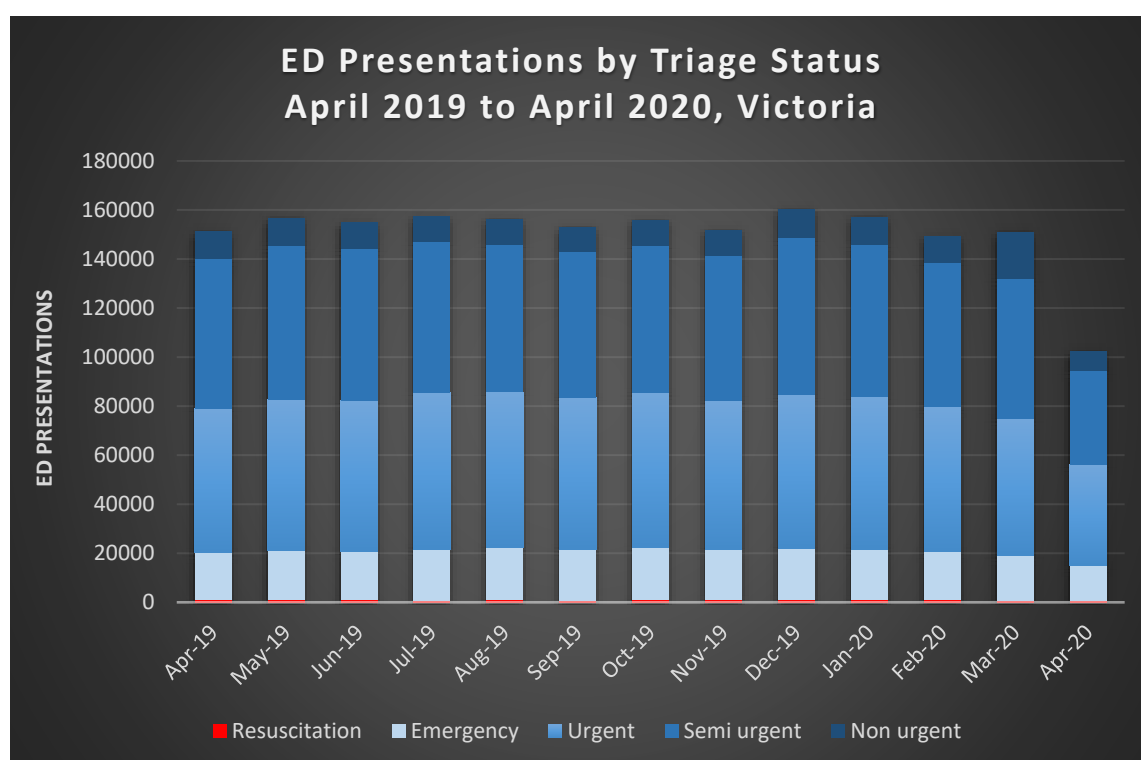
ASSAULT

CONTEXT: OVERALL EMERGENCY DEPARTMENT PRESENTATIONS

APRIL 2019 – APRIL 2020

SUMMARY OF ED HEALTH SERVICE UTILISATION BEFORE THE CORONAVIRUS PANDEMIC AND DURING THE SECOND MONTH OF RESTRICTIONS

ED presentations in Victoria decreased from **151,217** ED presentations in April 2019 to **102,220** in April 2020: a 32% reduction. This should be seen in the context of a steady growth in ED presentations (3.6% per year), which was observed in recent years in Victoria. Age standardised rates were **26,936** per 100,000 population per year in April 2019 vs **18,080** per 100,000 population per year in April 2020.



Data selection methods explained in the Appendix section.

EMERGENCY DEPARTMENT HEALTH SERVICE UTILISATION, VICTORIA, APRIL 2019 COMPARED WITH APRIL 2020

Respiratory illness or virus-related ED presentations

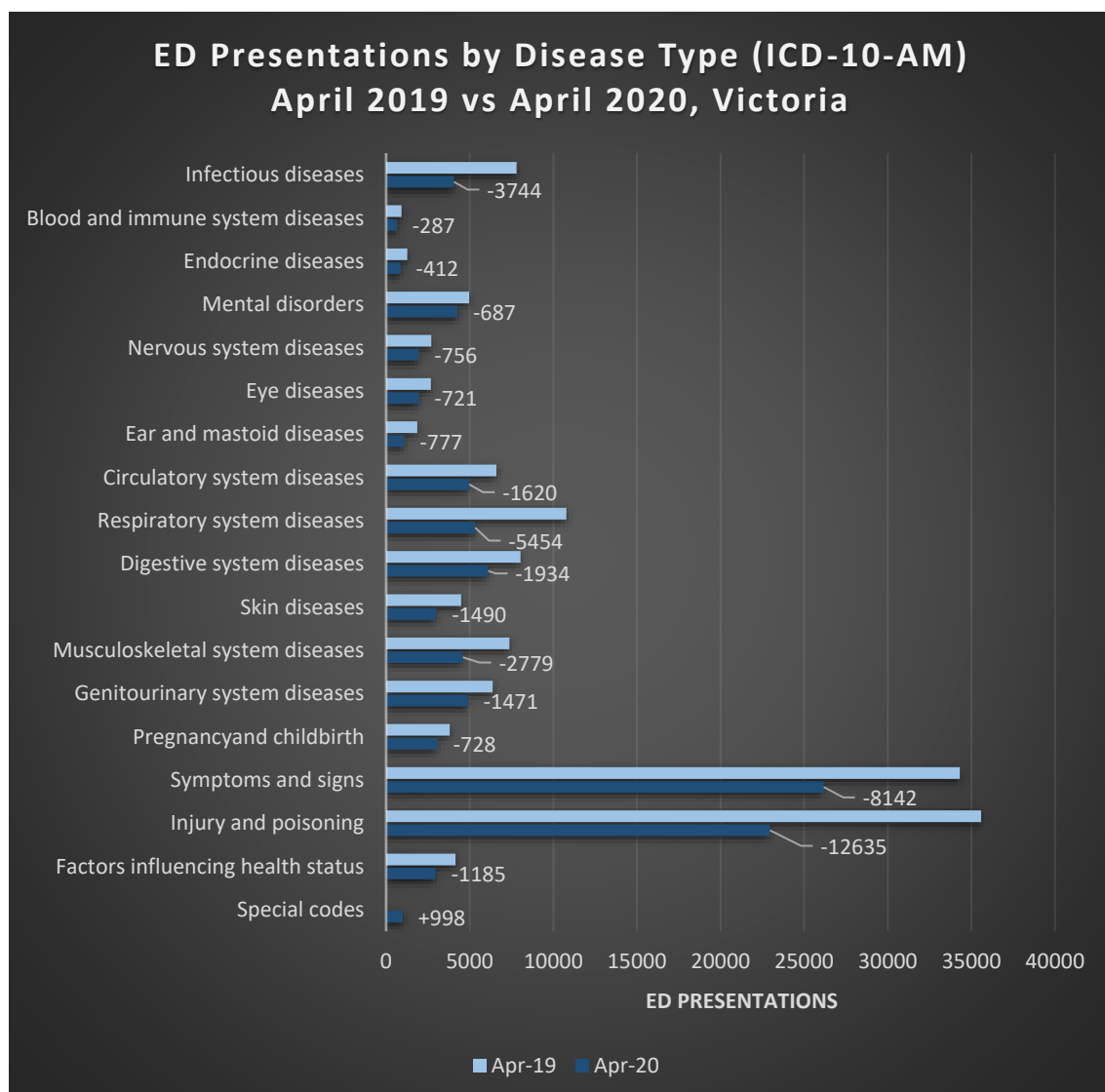
- **Viral infection, unspecified:** 3,545 vs 2,329 (April 2019 vs April 2020)
- **Upper respiratory infection, unspecified:** 1,266 vs 804 (April 2019 vs April 2020)
- **Pneumonia (broncho- or lobar):** 1,101 vs 786 (April 2019 vs April 2020)
- **Asthma:** 1,427 vs 681 (April 2019 vs April 2020)

Common ED presentations not related to viral or respiratory illness

- **Syncope/collapse:** 1,828 vs 1,130 (April 2019 vs April 2020)
- **Urinary tract infection:** 1,774 vs 1,284 (April 2019 vs April 2020)
- **Abdominal pain, unspecified:** 6,423 vs 4,776 (April 2019 vs April 2020)

Potentially life-threatening presentations not related to viral or respiratory illness

- **Myocardial infarction:** 626 vs 516 (April 2019 vs April 2020)
- **Angina pectoris:** 384 vs 241 (April 2019 vs April 2020)
- **Stroke:** 794 vs 602 (April 2019 vs April 2020)
- **Pulmonary embolism:** 194 vs 154 (April 2019 vs April 2020)
- **Appendicitis:** 621 vs 537 (April 2019 vs April 2020)



SUMMARY: EMERGENCY DEPARTMENT HEALTH SERVICE USE FINDINGS (VIC)



ED presentations overall have decreased by 32% from 151,217 in April 2019 to 102,220 in April 2020

In April 2020, ED service use for respiratory diseases overall was 50% lower compared to April 2019



In April 2020, ED presentations for potentially life-threatening conditions such as myocardial infarction/heart attack (↓18%) and stroke (↓24%) were reduced compared to April 2019

The reduction in ED presentations potentially indicates missed opportunities for early treatment and intervention



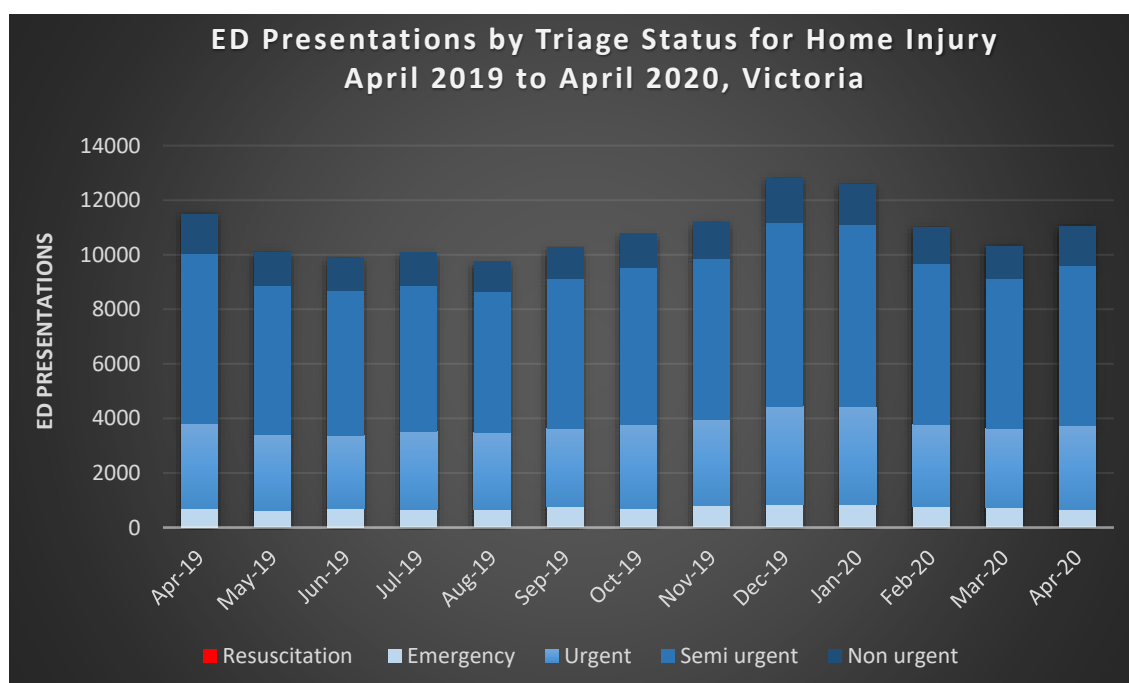
Physical distancing measures may have reduced transmission of the common cold and flu virus; whether this is the case, and to what extent this has affected rates of respiratory illness in Victoria, needs further investigation

Non-urgent health issues may have presented to the GP or nurse on call instead of the ED; this needs to be investigated further to identify potential gaps in service utilisation during the pandemic



Unintentional Home Injury

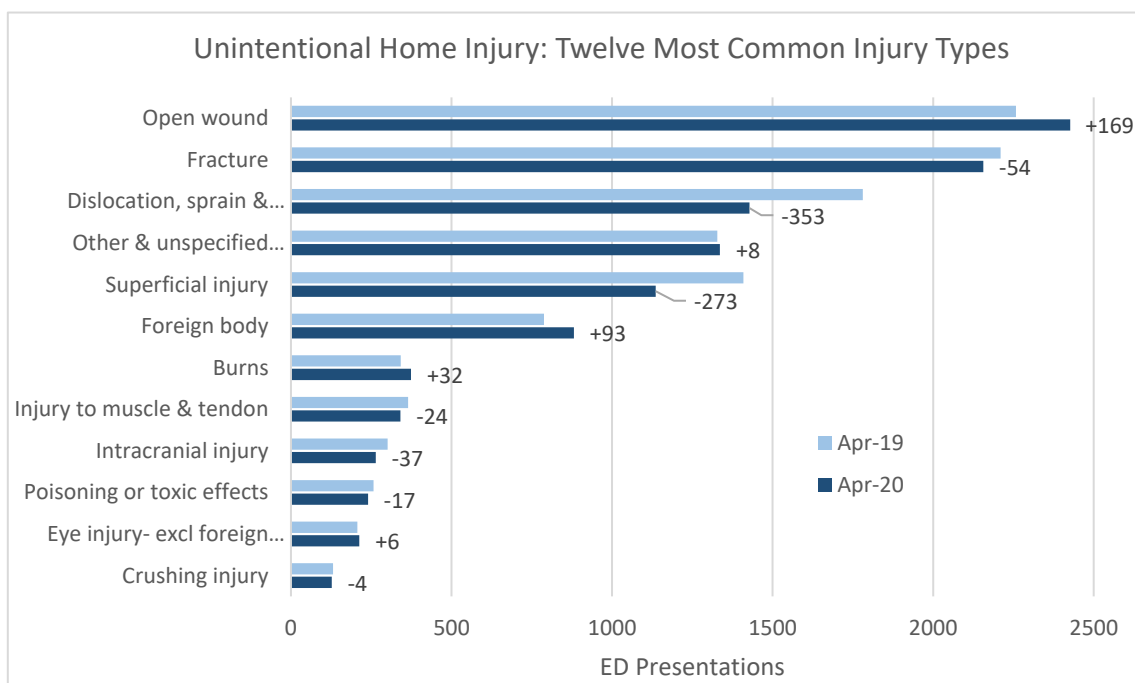
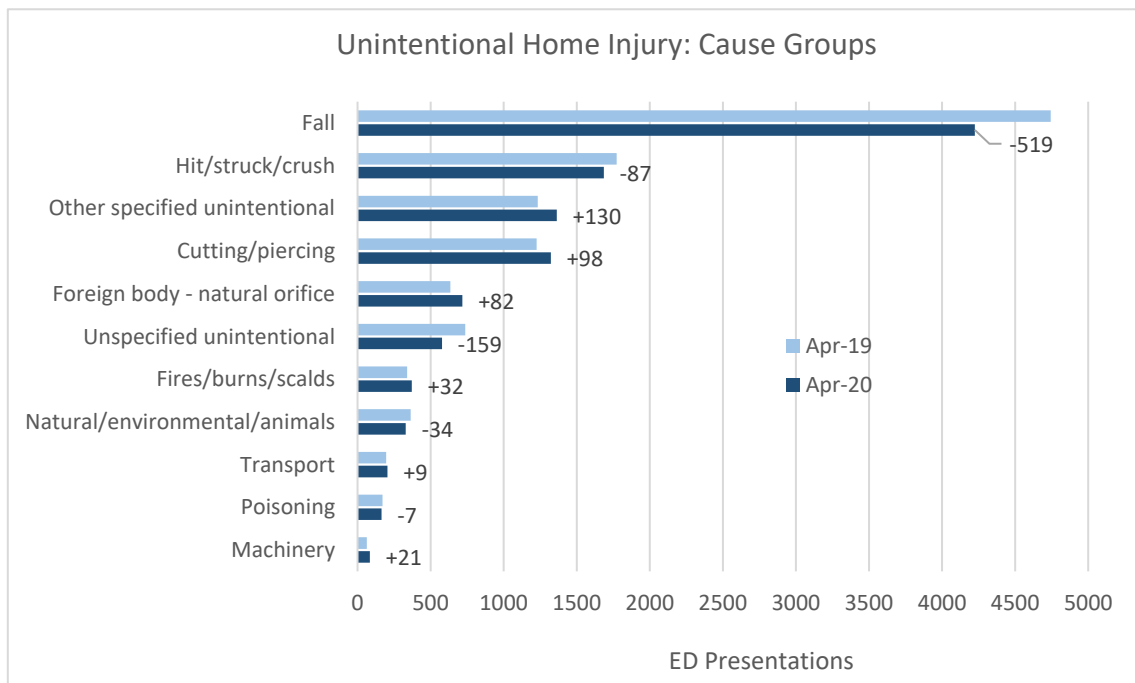
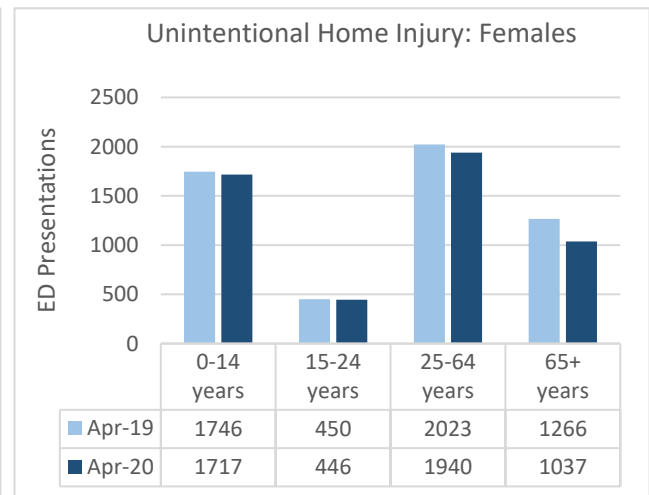
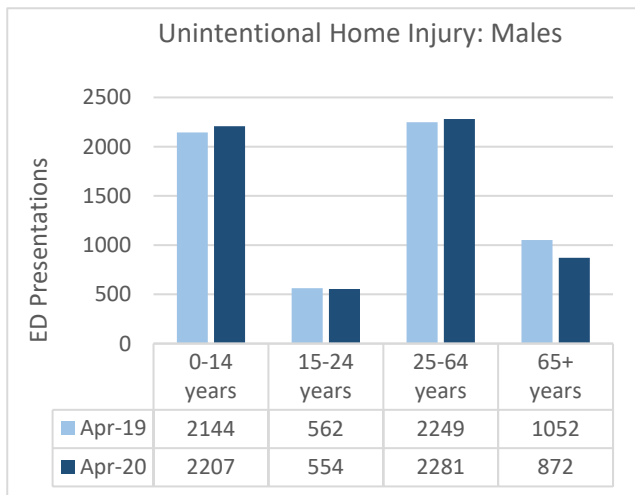
- The total number of unintentional home injuries was slightly lower in April 2020 than in April 2019; however, **proportional to ED caseload** (including only cases that were not directly or indirectly related to viral or respiratory illness), ED presentations for unintentional home injury **increased**.
- Given the overall reduction in health service utilisation through the ED (for non-viral or respiratory illness issues), the number of home injuries during lockdown are likely to be **underestimated** by these ED statistics.
- The numbers of home injury presentations for wounds, foreign body and burns were higher in April 2020 than in April 2019.



Data selection methods explained in the Appendix section.

April 2019				April 2020			
Triage status	Injury cases	ED Presentations*	Ratio	Injury cases	ED Presentations*	Ratio	Change in ratios
Resuscitation	14	409	0.034	29	292	0.099	+190%
Emergency	699	6990	0.100	632	5371	0.118	+18%
Urgent	3078	23990	0.128	3068	17043	0.180	+40%
Semi-urgent	6254	26013	0.240	5889	15779	0.373	+55%
Non-urgent	1448	4589	0.316	1436	2561	0.561	+78%
Total	11493	61991	0.185	11054	41046	0.269	+45%

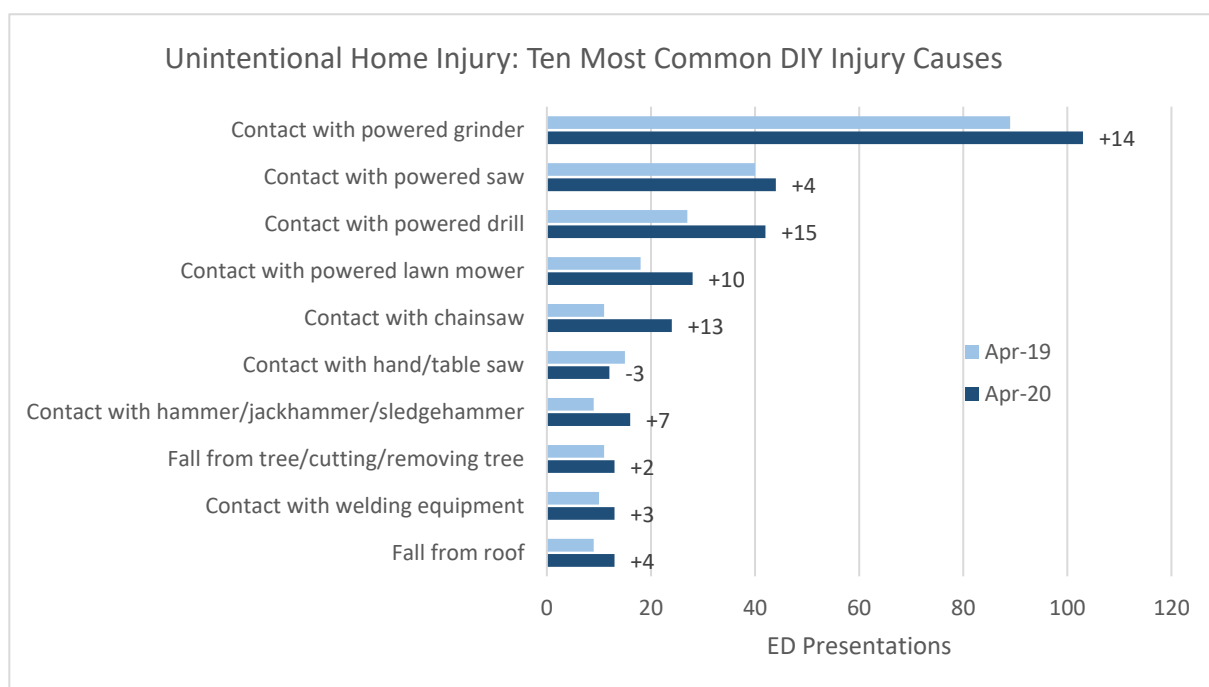
*For VEMD caseload calculations, only ED presentations that were considered unlikely to be directly or indirectly related to the pandemic were included. (See Appendix for details).



DO-IT-YOURSELF (DIY) INJURY PRESENTATIONS TO THE ED

The figure below lists the range of DIY injuries presenting to the ED in April 2019 and April 2020.

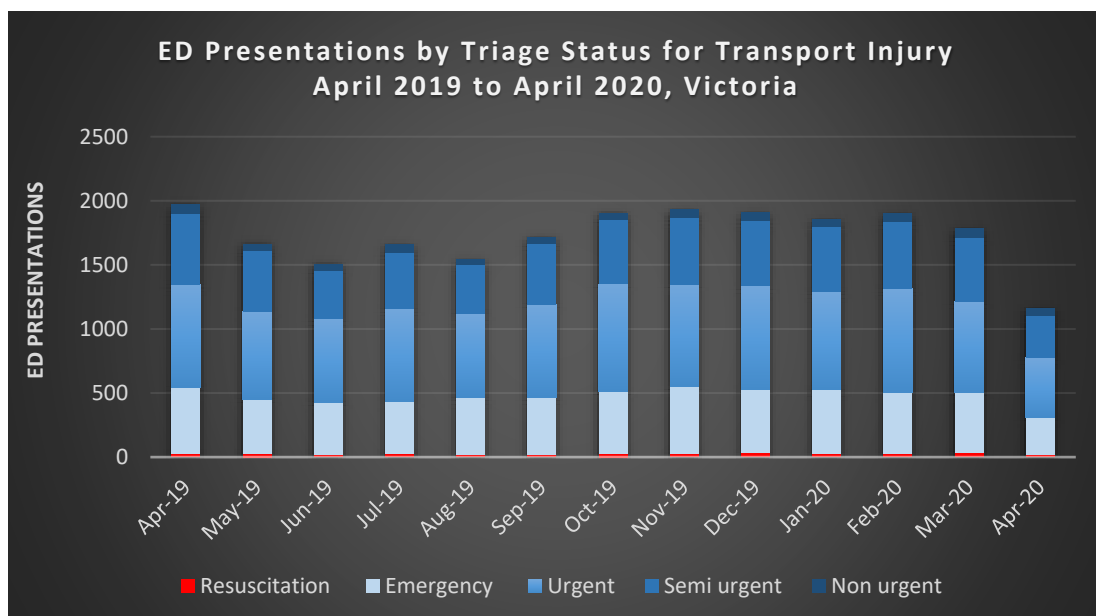
- There was an **increase** in Do-It-Yourself injuries (i.e. open wounds, foreign bodies and burns) presenting to the ED from 255 in April 2019 to 335 in April 2020 (31% increase).
- The majority (63%) were males aged 25-64 years.
- Given the overall reduction in health service utilisation through the ED (for non-viral or respiratory illness issues), the number of DIY injuries during lockdown are likely to be **underestimated** by these ED statistics.



DIY case selection methods explained in the Appendix section. Ladder falls (specifically) are not included as they were not in the top ten most common DIY injury causes.

Transport Injury

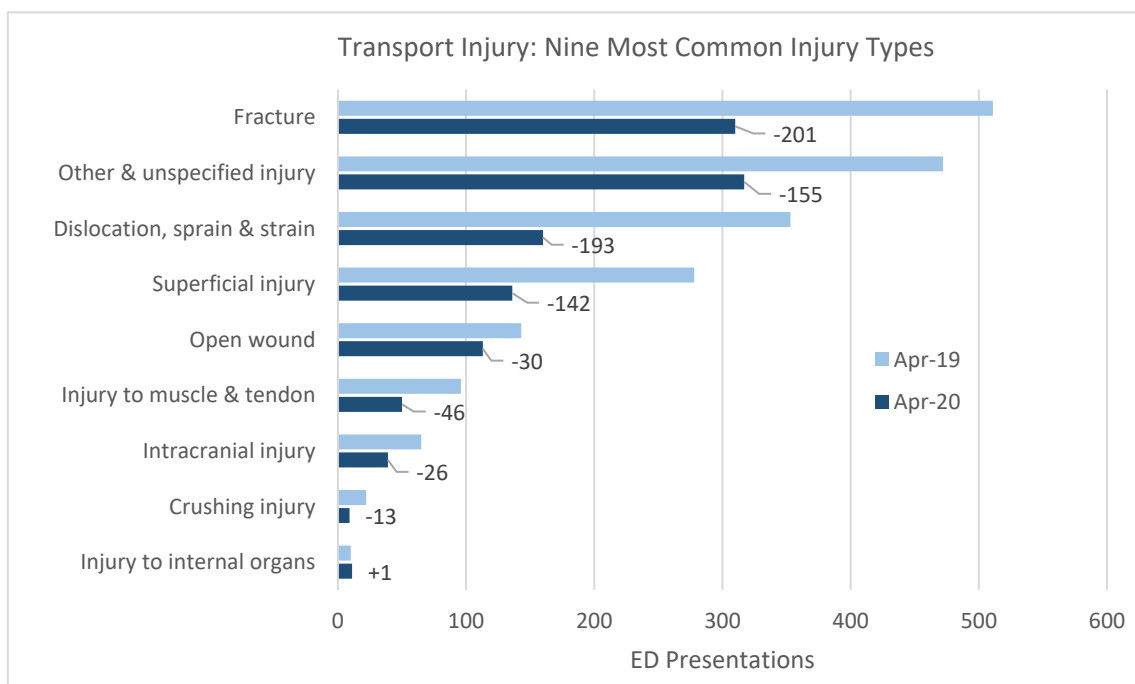
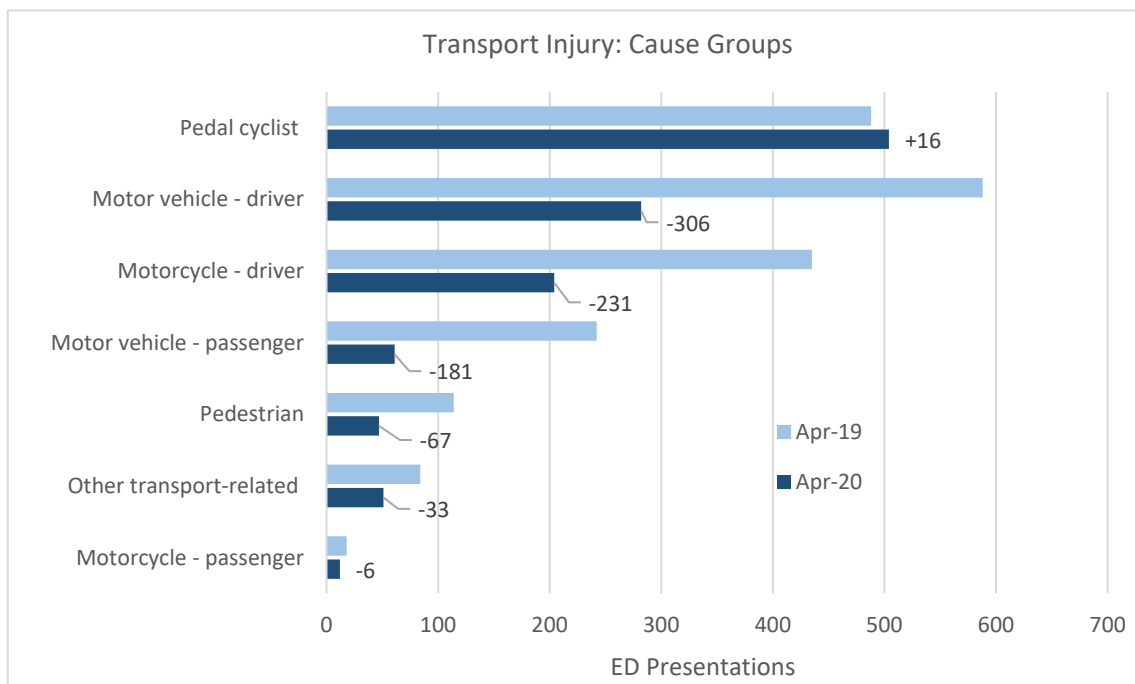
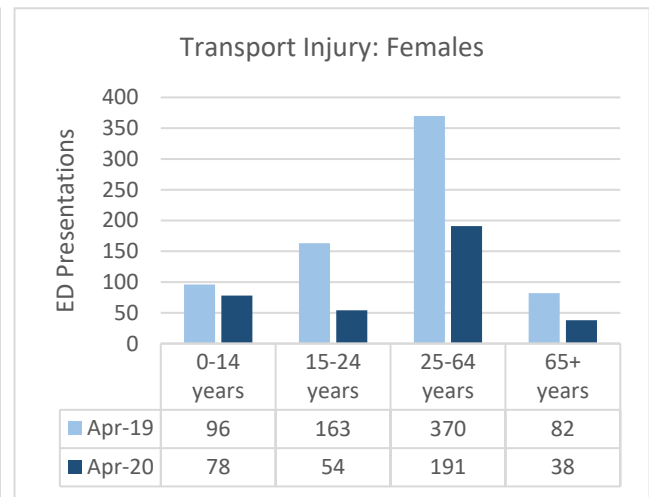
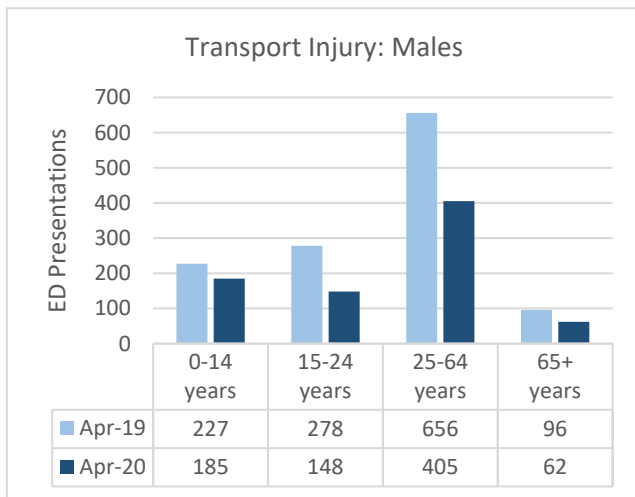
- The total number of ED presentations for transport injury was **lower** in April 2020 than in April 2019. This decrease was also observed **proportional to ED caseload** (including only cases that were not directly or indirectly related to viral or respiratory illness issues).
- Given the overall reduction in health service use through the ED (for non- viral or respiratory illness issues), the number of transport injuries during lockdown are likely to be **underestimated** by these ED statistics.
- The decrease in the number of transport injuries presentations to the ED in April 2020 compared to April 2019 was observed in all age groups, for males and females.
- A slight increase (not statistically significant) in pedal cyclist injuries was observed from April 2019 to April 2020; this is in the context of an observed concomitant **decrease** in injuries among other road users. In April 2020, the number of motor vehicle driver presentations to the ED was **52% lower** than in April 2019.



Data selection methods explained in the Appendix section.

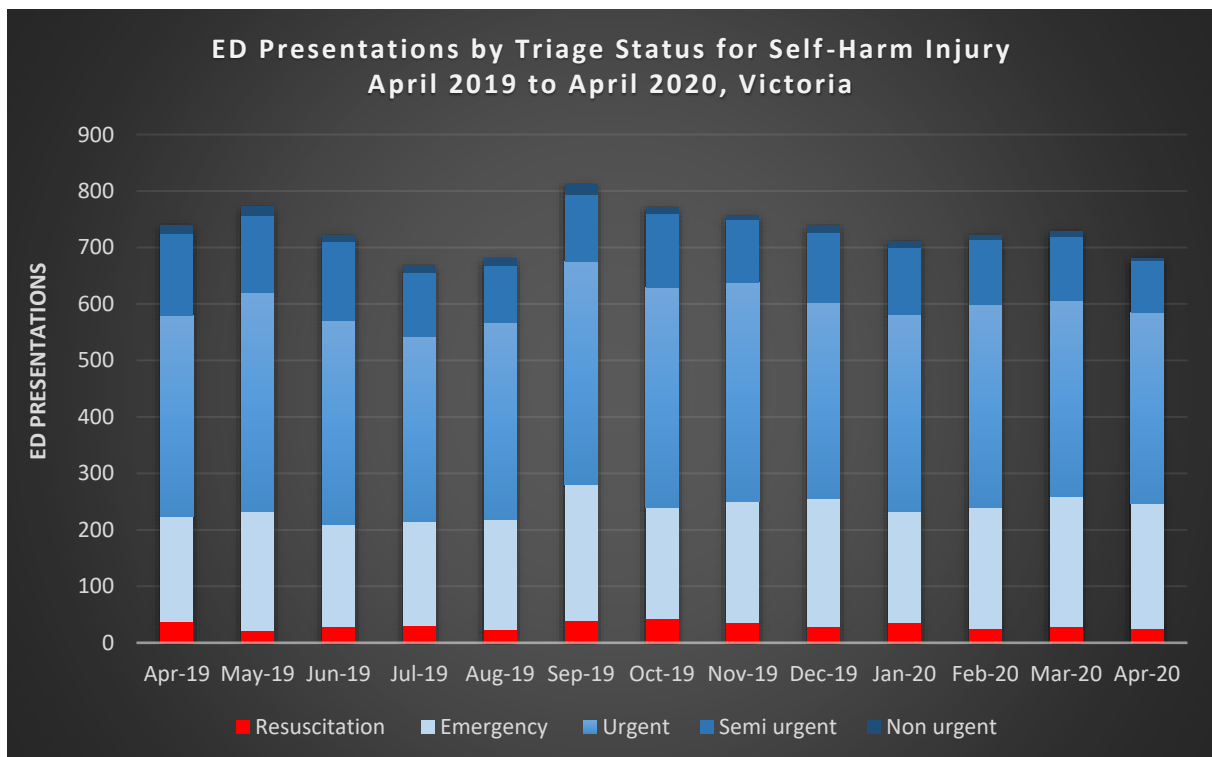
April 2019				April 2020			
Triage status	Injury cases	ED Presentations*	Ratio	Injury cases	ED Presentations*	Ratio	Change in ratios
Resuscitation	26	409	0.064	18	292	0.062	-3%
Emergency	517	6990	0.074	291	5371	0.054	-27%
Urgent	800	23990	0.033	465	17043	0.027	-18%
Semi-urgent	555	26013	0.021	329	15779	0.021	-2%
Non-urgent	71	4589	0.015	58	2561	0.023	+46%
Total	1969	61991	0.032	1161	41046	0.028	-11%

*For VEMD caseload calculations, only ED presentations that were considered unlikely to be directly or indirectly related to the pandemic were included. (See Appendix for details).



Self-Harm Injury

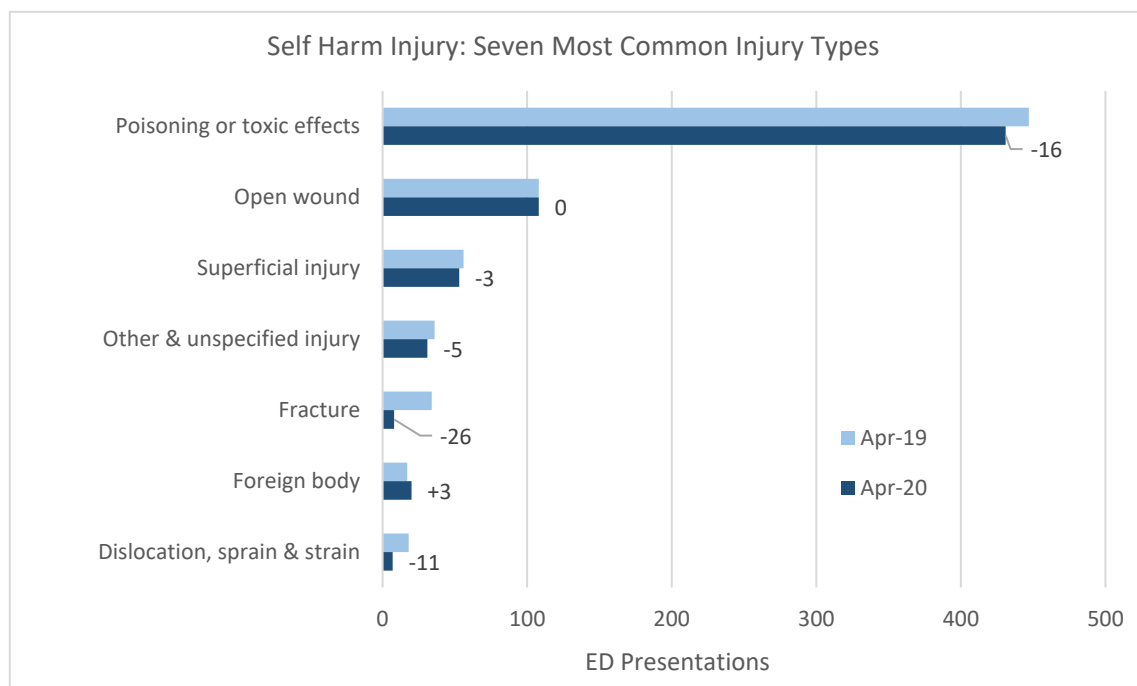
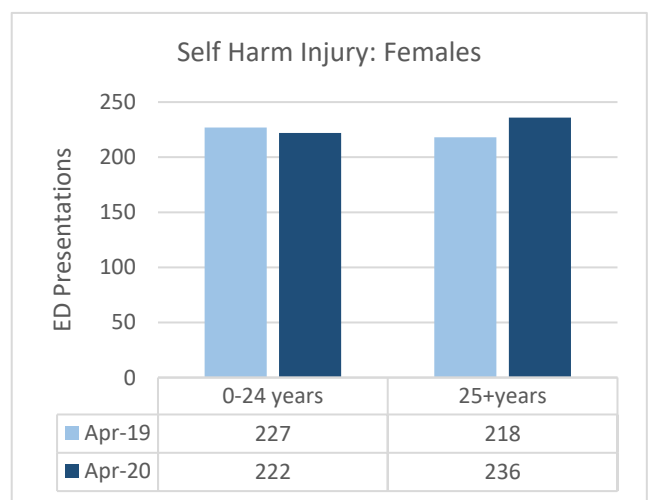
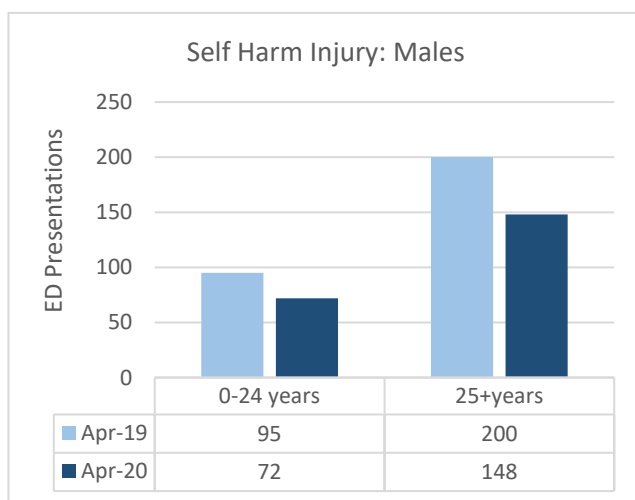
- All self-harm injury presentations to the ED were included; this analysis was not limited to incidents that occurred in the home.
- The total number of ED presentations for self-harm injury was **lower** in April 2020 than in April 2019; however, **proportional to ED caseload** (including only cases that were not directly or indirectly related to viral or respiratory illness), ED presentations for self-harm **increased**.
- This increase was observed at most of the triage levels except for non-urgent and resuscitation cases.
- Given the overall reduction in health service utilisation through the ED (for non-viral or respiratory illness issues), the number of self-harm injuries during lockdown is likely to be **underestimated** by these ED statistics.
- The number of self-harm injury presentations decreased from April 2019 to April 2020 among males; however, due to small sample size and general reductions in service use, these statistics are not suited for significance testing. At both timepoints, the majority of cases involved (young) women.
- At both timepoints, the most common injury type was **poisoning or toxic effects**.



Data selection methods explained in the Appendix section.

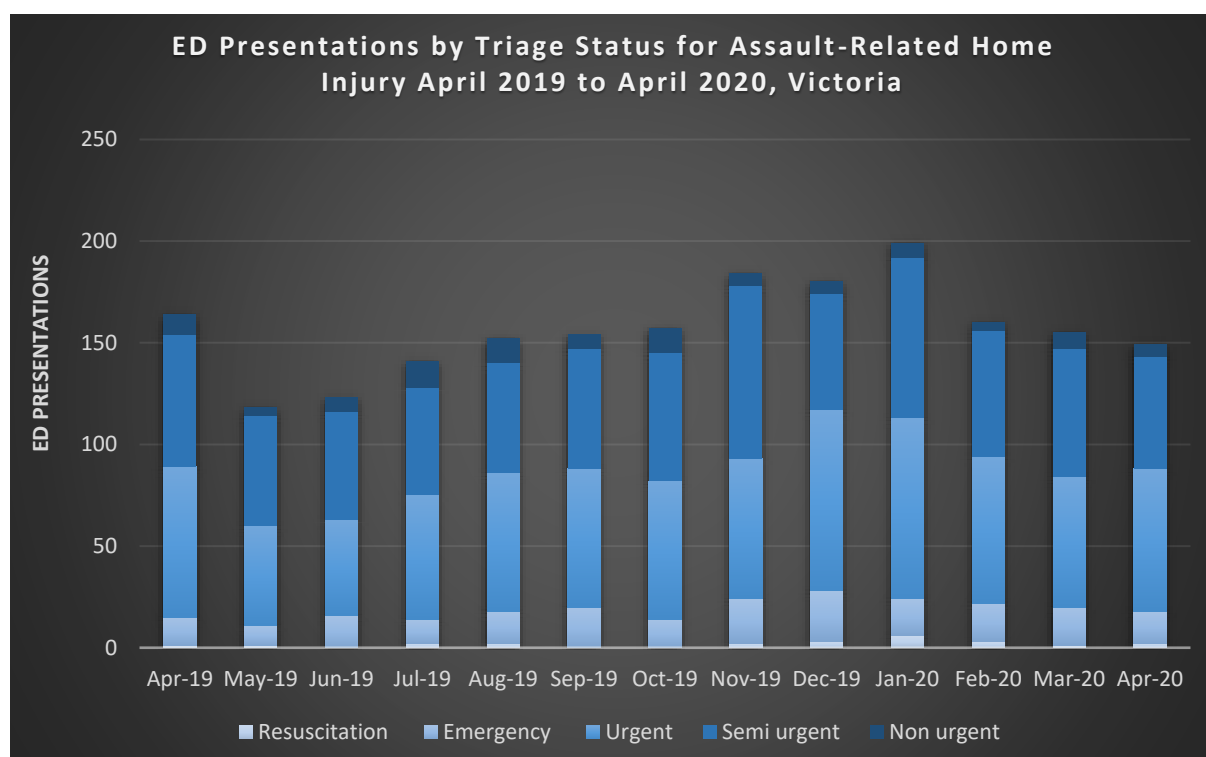
April 2019				April 2020			
Triage status	Injury cases	ED Presentations*	Ratio	Injury cases	ED Presentations*	Ratio	Change in ratios
Resuscitation	38	409	0.093	25	292	0.086	-8%
Emergency	185	6990	0.026	221	5371	0.041	+55%
Urgent	356	23990	0.015	338	17043	0.020	+34%
Semi-urgent	146	26013	0.006	92	15779	0.006	+4%
Non-urgent	15	4589	0.003	5	2561	0.002	-40%
Total	740	61991	0.012	681	41046	0.017	+39%

*For VEMD caseload calculations, only ED presentations that were considered unlikely to be directly or indirectly related to the pandemic were included. (See Appendix for details).



Assault Injury (Home only)

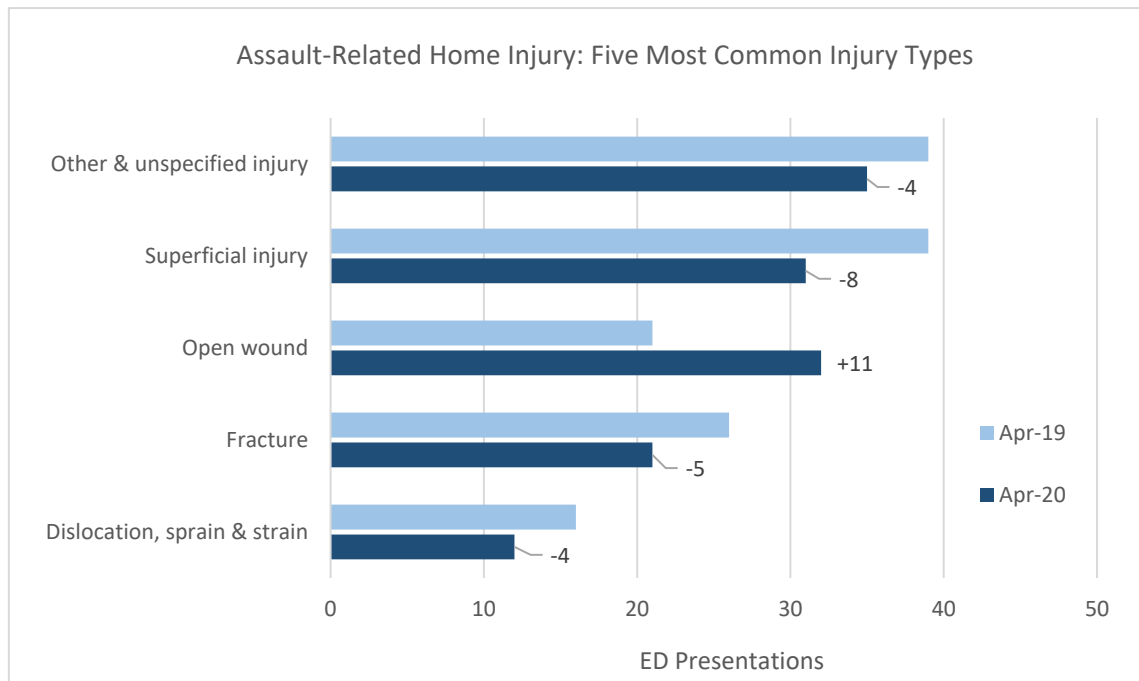
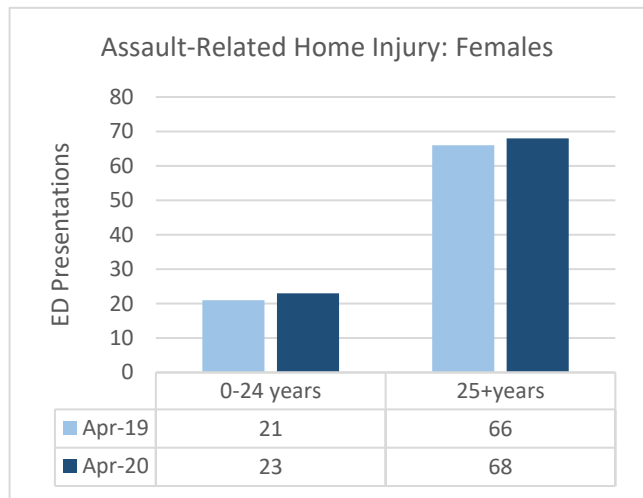
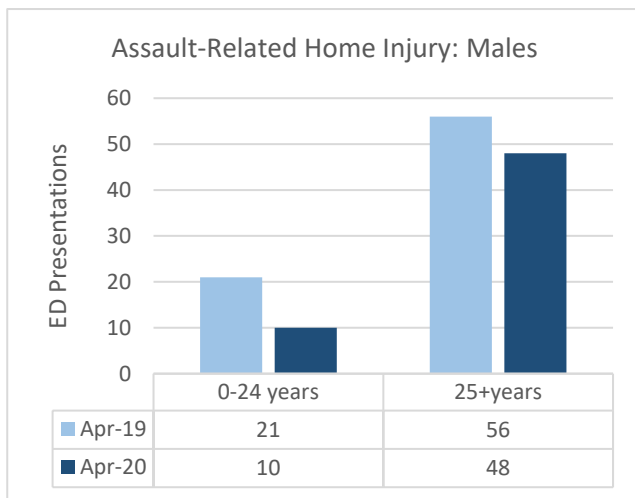
- The total number of ED presentations for assault-related injury that occurred in the home was **lower** in April 2020 than in April 2019. However, **proportional to ED caseload** (including only cases that were not directly or indirectly related to viral or respiratory illness), ED presentations for assault in the home **increased**.
- The *proportional increase* in ED presentations for assault injury (in the home) was observed at all triage levels.
- Given the overall reduction in health service use through the ED (for non-viral or respiratory illness issues), the number of assault-related home injuries during lockdown are likely to be **underestimated** by these ED statistics.
- The number of assault-related home injury presentations from April 2019 to April 2020 **increased** slightly among females; however, due to small sample size and general reductions in service use, these statistics are not suited for significance testing.
- The assault-related injury types that decreasing the most from April 2019 to April 2020 were superficial injuries; in contrast, the number of open wound-related ED presentations increased.



Data selection methods explained in the Appendix section.

April 2019				April 2020			
Triage status	Injury cases	ED Presentations*	Ratio	Injury cases	ED Presentations*	Ratio	Change in ratios
Resuscitation, Emergency	15	7399	0.0020	18	5663	0.0032	+57%
Urgent	74	23990	0.0031	70	17043	0.0041	+33%
Semi-urgent, non-urgent	75	30602	0.0025	61	18340	0.0033	+36%
Total	164	61991	0.0026	149	41046	0.0036	+37%

*For VEMD caseload calculations, only ED presentations that were considered unlikely to be directly or indirectly related to the pandemic were included. (See Appendix for details).



Appendix

METHODS

Data from April 2019 to April 2020 from the Victorian Emergency Minimum Dataset (VEMD), which holds deidentified clinical records of presentations at Victorian public hospitals with designated 24-hour emergency departments, are used to compile this bulletin.

The focus of this Ebulletin is on the latest available data (April 2020) to show the changes in injury profiles since the coronavirus pandemic; data from the same month last year (April 2019) are used as comparison.

The changes in injury-related ED presentations are calculated proportional to other ED presentations that are unlikely to be directly affected by the pandemic. This is to account for health service attendance threshold changes.

EMERGENCY DEPARTMENT HEALTH SERVICE UTILISATION

ED presentations overall (not limited to injury) were selected to generate statistics on health service use overall during the April 2019 to April 2020 period. Only ED presentations that were 'emergency presentations' were included: this excludes planned return visits, pre-arranged admissions and those that were dead on arrival. Rates per 100,000 population were calculated; the denominators used for calculating rates were September 2019 population estimates from the Australian Bureau of Statistics.

For comparisons between April 2019 and April 2020, September 2018 and September 2019 population data were used, respectively, as these were the most recent available data with 12 months in between. Age standardisation of rates was carried out using 5-year age groups and the direct method. The standard population used was the Victorian resident population at 30 June, 2001.

For VEMD caseload calculations, only ED presentations that were considered unlikely to be directly or indirectly related to the pandemic were included:

ED presentations with a first diagnosis code in:

- Certain infectious and parasitic diseases (a00–a99; all b codes excluded)
- Neoplasms (c00–d48);
- Diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism (d50–d89);
- Endocrine, nutritional and metabolic diseases (e00–e89);
- Mental and behavioural disorders (f00–f99);
- Diseases of the nervous system (g00–g99);
- Diseases of the eye and adnexa (h00–h59);
- Diseases of the ear and mastoid process (h60–h95);
- Diseases of the circulatory system (i00–i99);
- Diseases of the digestive system (k00–k93);
- Diseases of the skin and subcutaneous tissue (l00–l99);
- Diseases of the musculoskeletal system and connective tissue (m00–m99);
- Diseases of the genitourinary system (n00–n99);
- Pregnancy, childbirth and the puerperium (o00–o99);
- Certain conditions originating in the perinatal period (p00–p96);
- Congenital malformations, deformations and chromosomal abnormalities (q00–q99).

INJURY CASE SELECTION

ED presentations related to injury were selected only if the first occurring diagnosis code was a community injury (i.e., an ICD-10-AM code in the range of “S00” - “T75” or “T79”); this does not include medical injuries. Episode selection was limited to incidents (i.e., excludes return visits, pre-arranged admissions). For more information on methods used by the Victorian Injury Surveillance Unit see [here](#) and background information and pre-COVID statistics see [here](#).

Unintentional injury cases were those with a ‘Human intent’ code “1” (non-intentional harm).

Unintentional home injury cases were unintentional injury cases with a ‘Place where injury occurred’ code “H” (Home). **Do-It-Yourself (DIY) injuries** were extracted from unintentional home injury cases if the ‘Description of injury event’ variable, which is a short narrative of the incident, mentioned terms relevant to DIY injuries. Examples of terms were those related to the use of power tools (grinders, saws, drills), lawn mowers, hand or table saws, ladders, welding equipment, nail guns or phrase indicating falls from roofs and trees. Cases with an “Activity when injured” code “W” (Working for income) were excluded.

Transport injury cases were those with ‘Injury cause’ codes “1” through “8” (related to motor vehicle occupants, motor cyclists, pedal cyclists, pedestrians and other transport related circumstances), excluding “7” (Horse related (fall from, struck or bitten by)).

Self-harm injury cases were those with a ‘Human intent’ code “2” (intentional self-harm code for ED presentations in the 2018/19 financial year) and “18” through “20” (intentional self-harm codes for ED presentations in the 2019/20 financial year).

Assault injury cases were those with ‘Human intent’ codes “12” through “17” (codes related to sexual assaults, and neglect/maltreatment/assaults, by a current or former intimate partner, other family member or other/unknown persons). Additional cases were selected if the ‘Description of injury event’ text field contained terms such as “domestic”, “home” appearing with terms such as “violence”, “hit” etc., and “assault”, “hit”, “struck”, “punch” and other similar terms appearing with terms such as “partner”, “spouse” and other terms for family members. Cases selected using text searches were manually checked for relevance. Assault cases were contained to those with a ‘Place where injury occurred’ code “H” (Home).

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