

Idaho Time-Sensitive Emergency Registry Data – Annual Data Summary

TSE Council Meeting
August 8, 2023

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Idaho TSE Registry
Trauma, Stroke, STEMI



**IDAHO TIME SENSITIVE
EMERGENCY SYSTEM**
TRAUMA | STROKE | STEMI



IDAHO DEPARTMENT OF
HEALTH & WELFARE

Idaho Hospital Association



Idaho

Outline

- Traumatic injury data for events occurring during 2017–2021
- Stroke data for events occurring during 2019–2021
- STEMI data for events occurring during 2019–2021

As we go through these data, please consider:

What should be included herein that is not presented?

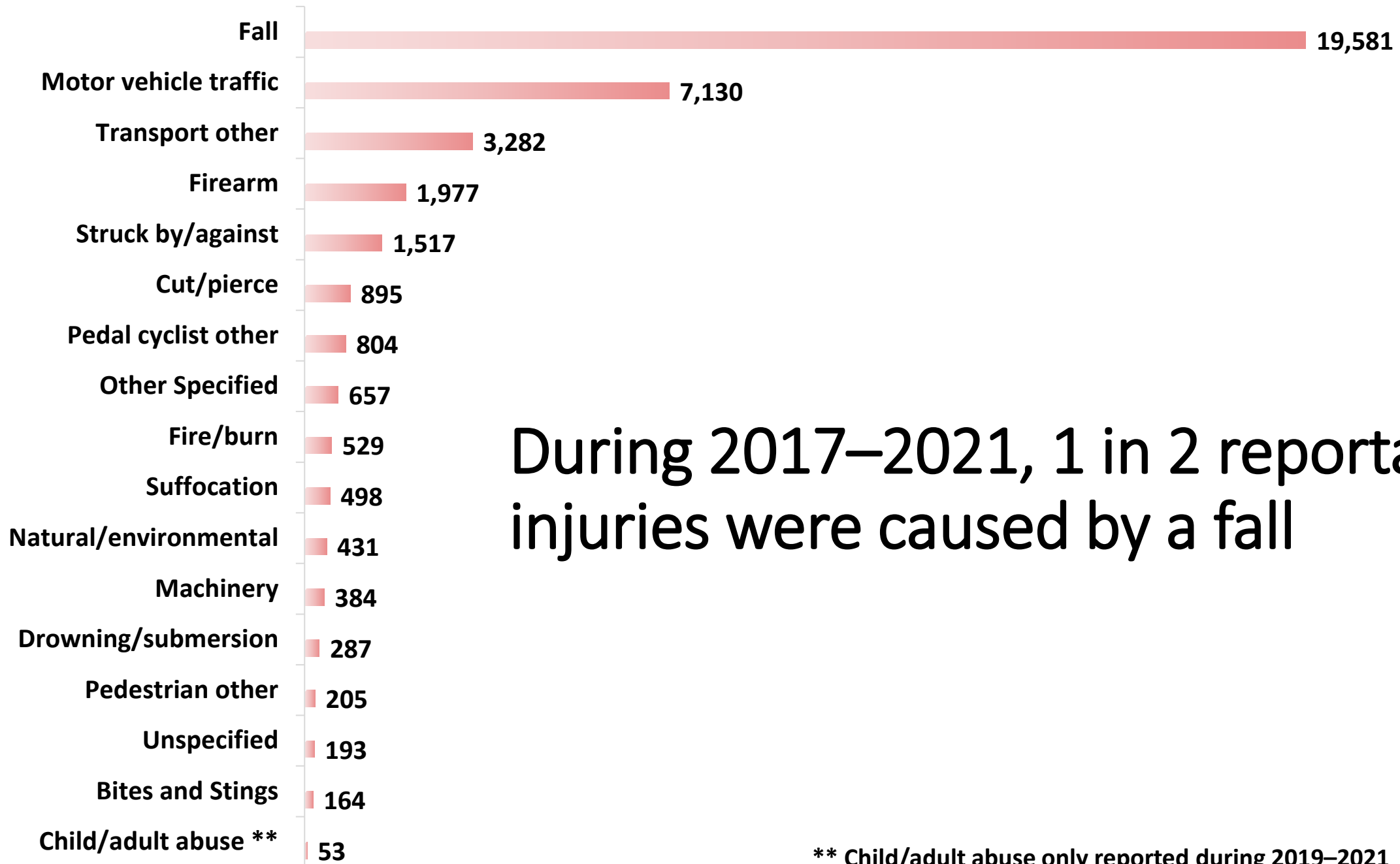
Is this the best format to communicate this type of data?

Idaho TSE Regions



***For purposes of these data, Minidoka and Cassia Counties have been included in Region 4 (South-Central)**

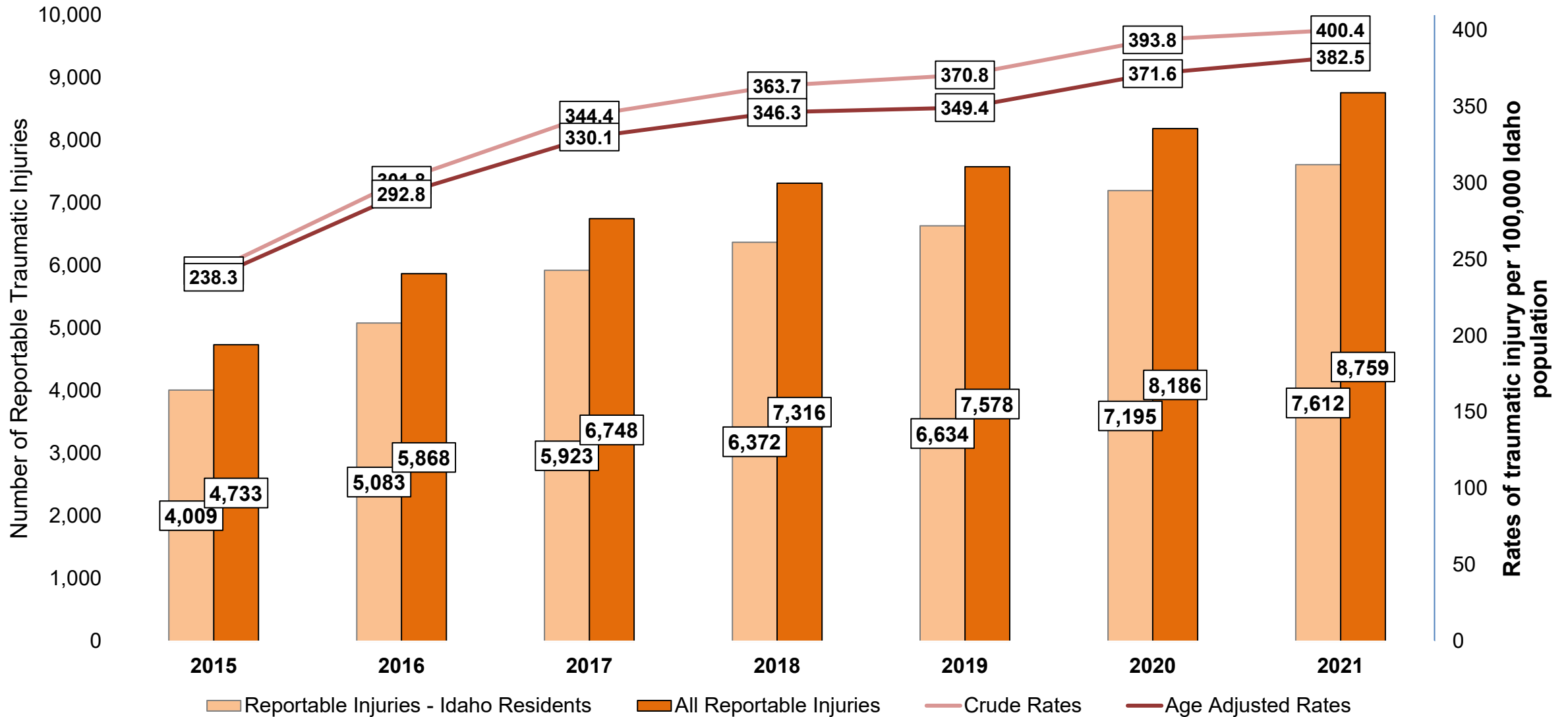
REPORTABLE TRAUMATIC INJURIES IN IDAHO ACUTE CARE FACILITIES, 2017–2021



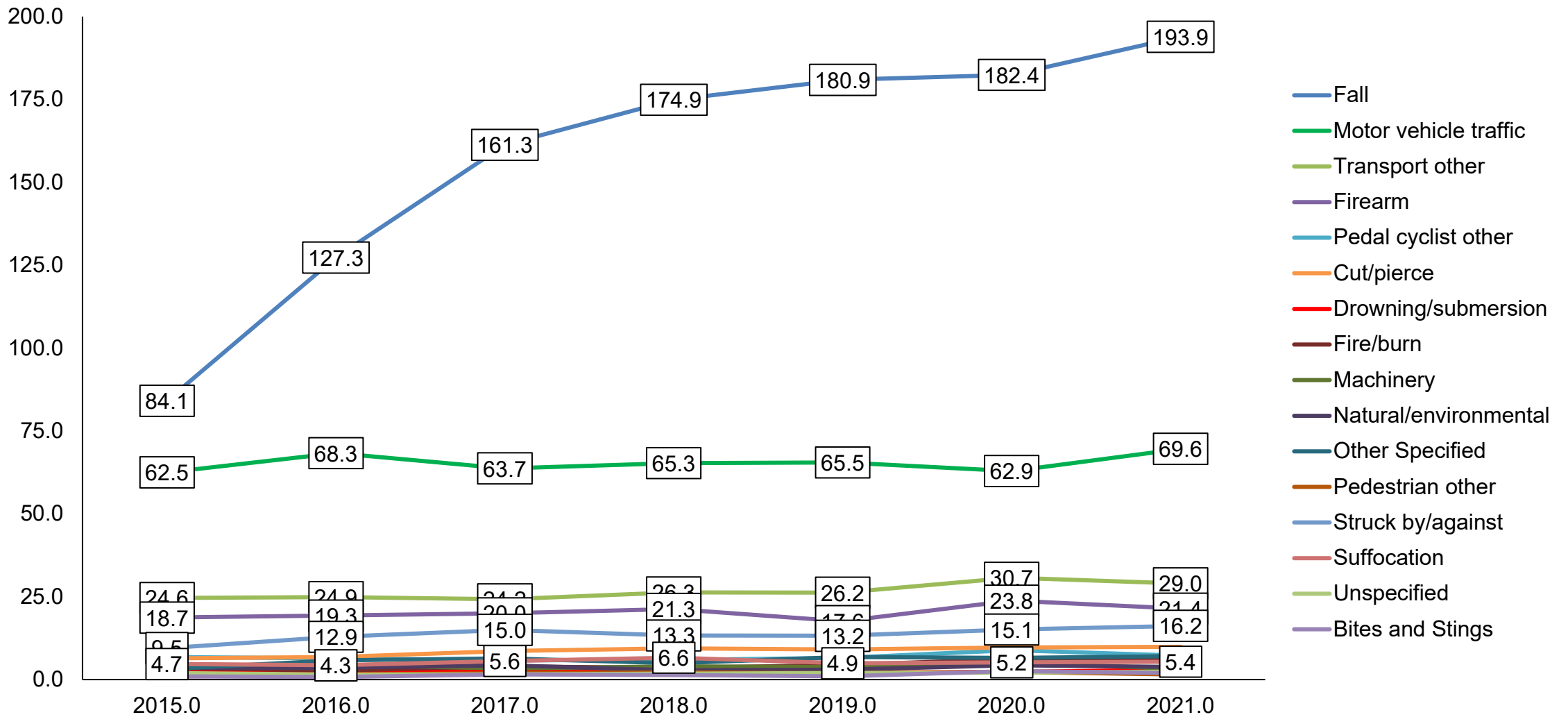
During 2017–2021, 1 in 2 reportable injuries were caused by a fall

** Child/adult abuse only reported during 2019–2021

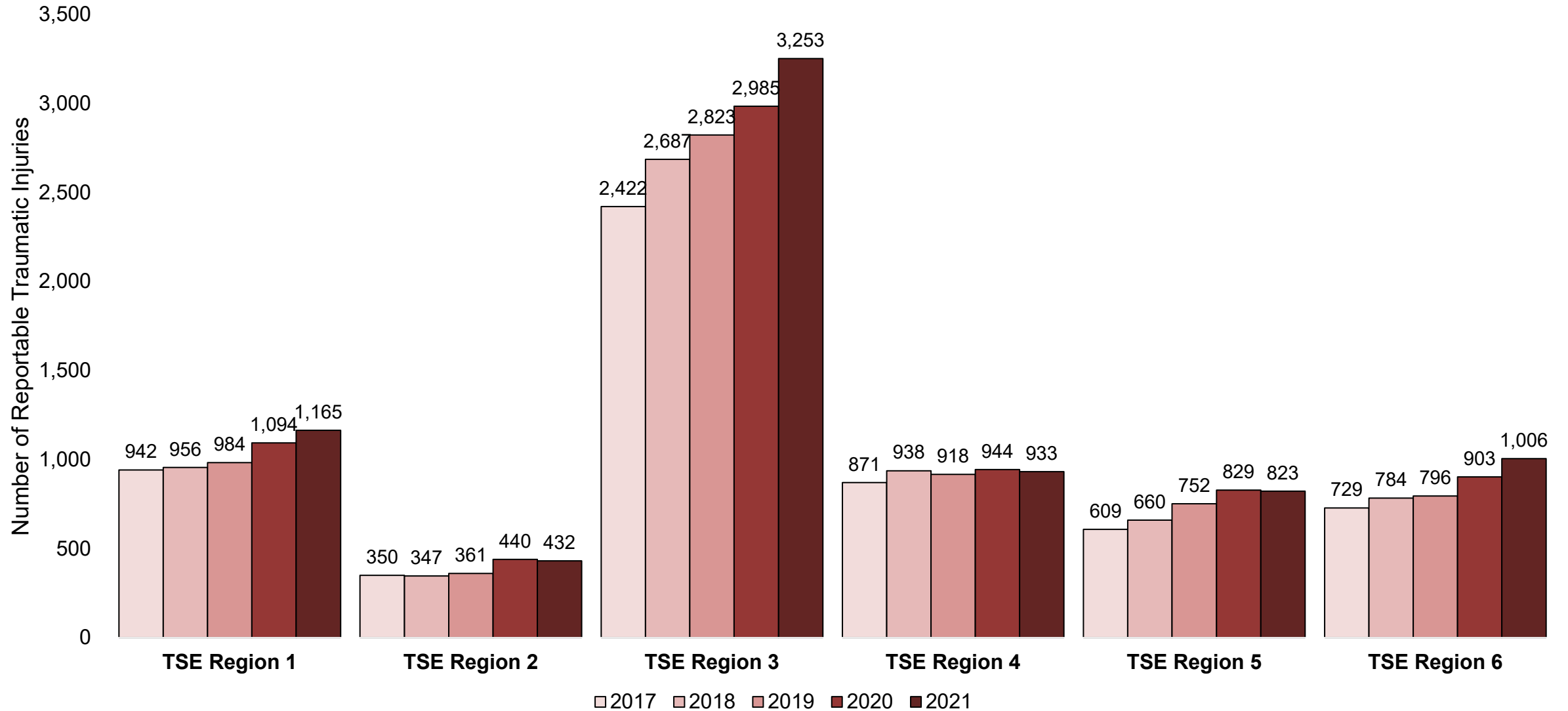
Trends in reportable traumatic injuries occurring during 2015–2021



Trends in age-adjusted rates of reportable traumatic injuries among Idaho residents by injury mechanism, 2015–2021



Number of reportable traumatic injuries among Idahoans by TSE Region of Patient Residency, 2017–2021



DURING 2017–2021, STATEWIDE THERE WERE STATISTICALLY SIGNIFICANT INCREASES IN RATES OF INJURIES DUE TO:

FALLS (HIGHEST BURDEN OF INJURY)

CUTS/PIERCINGS

FIRES/BURNS

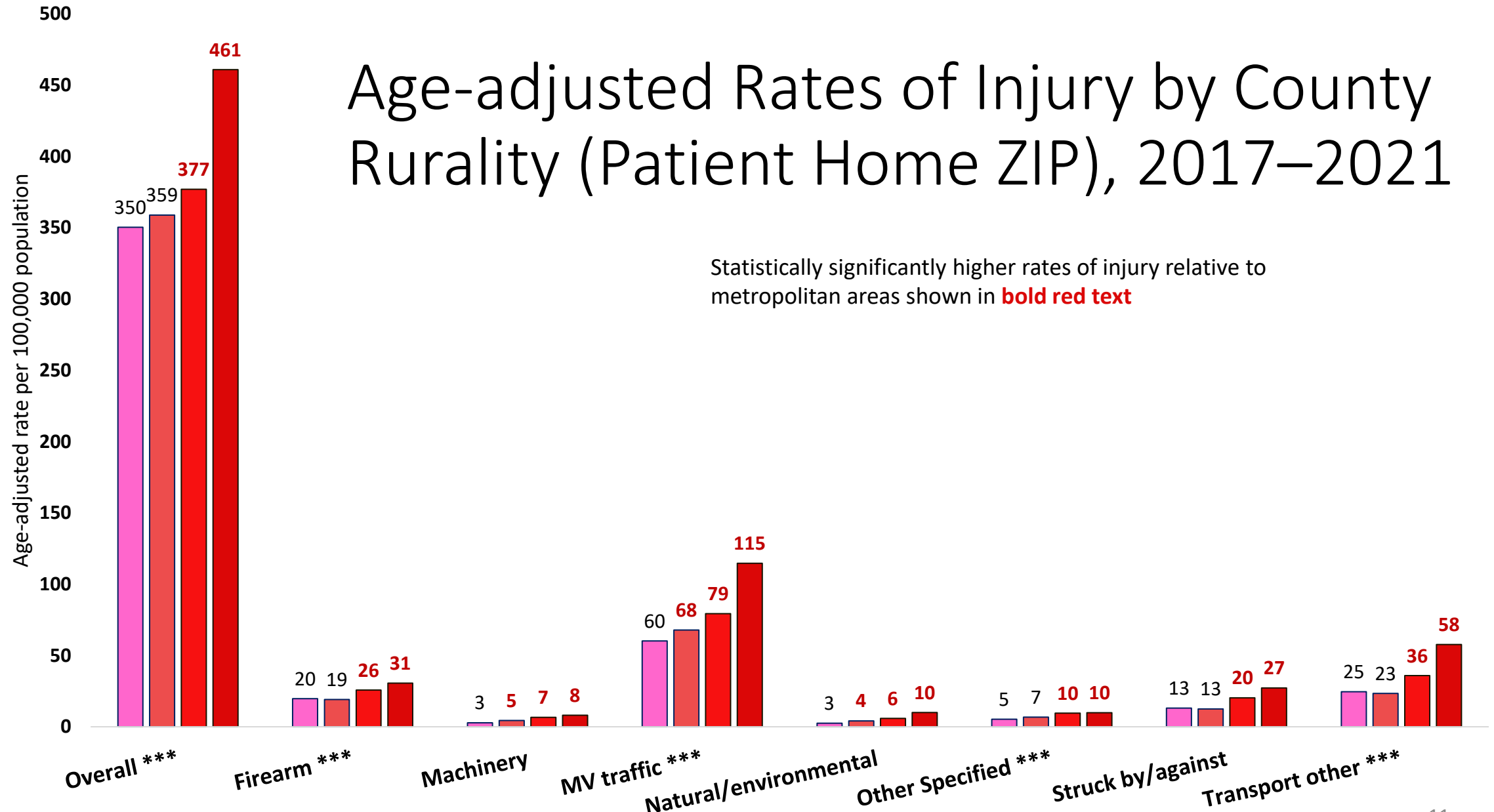
OTHER UNSPECIFIED MECHANISMS

During 2017–2021, rates also increased for specific Idaho counties

- Cut/pierce: Nez Perce County
- Falls: Cassia, Latah, Nez Perce, Oneida, Teton Counties
- Fire/burn: Canyon County
- Firearm: Lemhi County
- Motor Vehicle Traffic: Fremont County
- Other, specified: Kootenai, Shoshone Counties
- Struck by/Against: Bonner County
- Transport (other): Ada, Bear Lake, Canyon, Jefferson Counties

■ Metropolitan
 ■ Large Urban Population
 ■ Small Urban Population
 ■ Rural

Age-adjusted Rates of Injury by County Rurality (Patient Home ZIP), 2017–2021



*** = statistically higher rates of mortality in rural areas compared to metropolitan areas.

Cause-specific mortality by county, race, and ethnicity in the USA, 2000–19: a systematic analysis of health disparities



GBD US Health Disparities Collaborators*

Summary

Background Large disparities in mortality exist across racial–ethnic groups and by location in the USA, but the extent to which racial–ethnic disparities vary by location, or how these patterns vary by cause of death, is not well understood. We aimed to estimate age-standardised mortality by racial–ethnic group, county, and cause of death and describe the intersection between racial–ethnic and place-based disparities in mortality in the USA, comparing patterns across health conditions.

Methods We applied small-area estimation models to death certificate data from the US National Vital Statistics system and population data from the US National Center for Health Statistics to estimate mortality by age, sex, county, and racial–ethnic group annually from 2000 to 2019 for 19 broad causes of death. Race and ethnicity were categorised as non-Latino and non-Hispanic American Indian or Alaska Native (AIAN), non-Latino and non-Hispanic Asian or Pacific Islander (Asian), non-Latino and non-Hispanic Black (Black), Latino or Hispanic (Latino), and non-Latino and non-Hispanic White (White). We adjusted these mortality rates to correct for misreporting of race and ethnicity on death certificates and generated age-standardised results using direct standardisation to the 2010 US census population.

“There were also distinctive spatial patterns for transport injuries, whereby more urbanised [sic] areas had lower mortality rates than more rural areas. A similar pattern, although with less extreme differences, was found for unintentional injuries.”

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See Online/Comment

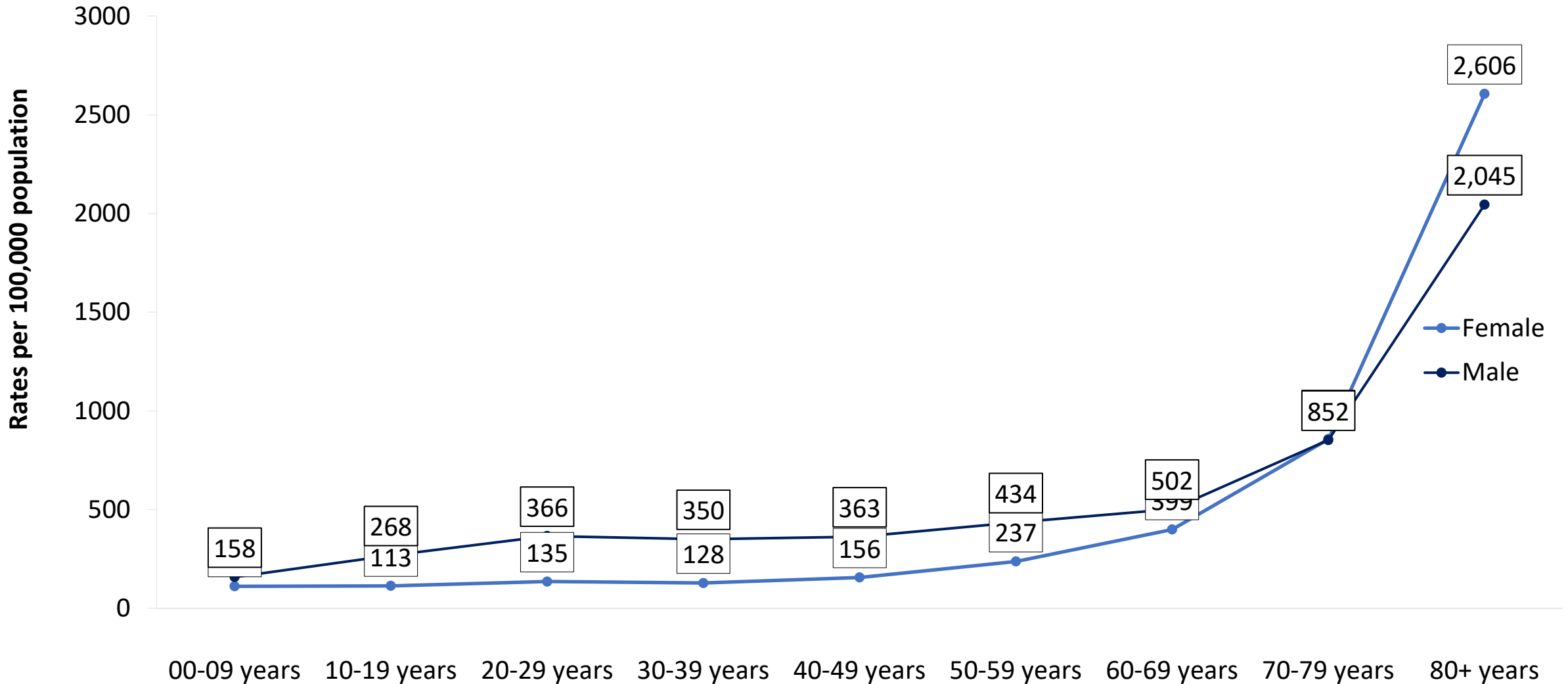
[https://doi.org/10.1016/S0140-6736\(23\)01522-2](https://doi.org/10.1016/S0140-6736(23)01522-2)

*Collaborators listed at the end of the Article

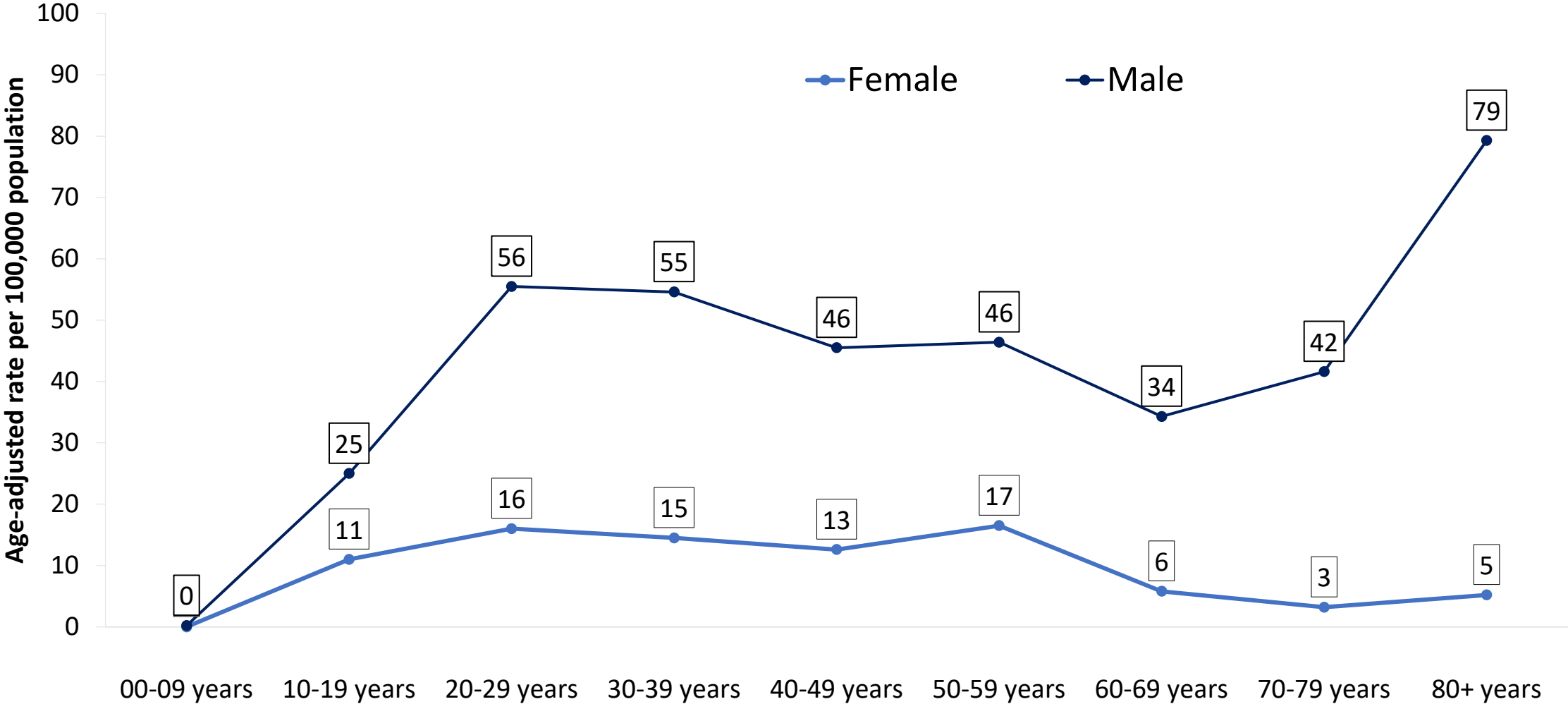
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Institute for Health Metrics and
Evaluation, University of
Washington, Seattle, WA 98195,
USA
ladwyer@uw.edu

5-year age-adjusted rates of injury by age category and sex among Idaho residents, 2017–2021



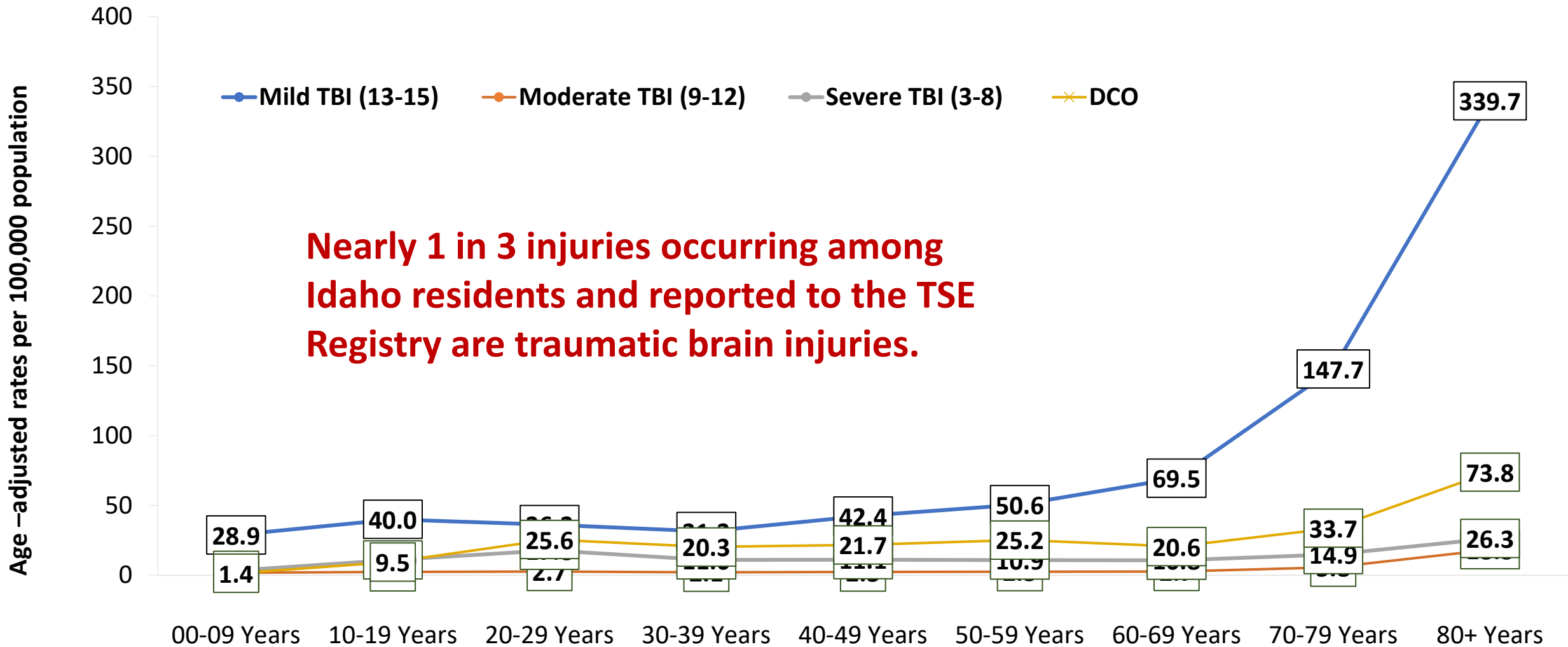
Self-inflicted injury by sex and age among Idaho residents, 2017–2021



Mechanisms of self-inflicted injury among males aged < 80 years and 80+ years, 2017–2021

	00–79 years (N = 1,628)		80+ years (N = 104)	
	N	%	N	%
Drowning/submersion	8	<1%	0	0.0%
Transport other	9	1%	0	0.0%
Fire/burn	12	1%	0	0.0%
Motor vehicle traffic	13	1%	0	0.0%
Fall	31	2%	2	1.9%
Other Specified	78	5%	1	1.0%
Cut/pierce	158	10%	4	3.8%
Suffocation	277	17%	3	2.9%
Firearm	1,042	64%	94	90.4%

5-year age-adjusted rates of **reportable** traumatic brain injuries among Idahoans by GCS score and age, 2017–2021



Data Completeness for 2022 & 2023

Facility Type	Year						
	2019	2020	2021	2022		2023	
	N	N	N	N	% of 2021 records	N	% of 2021 records
Critical Access Hospital	1,219	1,450	1,480	624	42.2%	114	7.7%
Comm. care	652	755	998	811	81.3%	146	14.6%
Tertiary care	6,057	6,506	6,820	6,346	93.0%	957	14.0%
Total	7,928	8,711	9,298	7,781	83.7%	1,217	13.1%

Critical Access Hospitals

BENEWAH COMMUNITY HOSPITAL
BONNER GENERAL HOSPITAL
BOUNDARY COMMUNITY HOSPITAL
SHOSHONE MEDICAL CENTER
CLEARWATER VALLEY HOSPITAL AND CLINICS
GRITMAN MEDICAL CENTER
SAINT MARY'S HOSPITAL AND CLINICS
SYRINGA HOSPITAL & CLINICS
CASCADE MEDICAL CENTER
SAINT LUKE'S ELMORE
SAINT LUKE'S MCCALL
VALOR HEALTH
WEISER MEMORIAL HOSPITAL
CASSIA REGIONAL MEDICAL CENTER
MINIDOKA MEMORIAL HOSPITAL
NORTH CANYON MEDICAL CENTER
SAINT LUKE'S JEROME
SAINT LUKE'S WOOD RIVER MEDICAL CENTER
BEAR LAKE MEMORIAL HOSPITAL
BINGHAM MEMORIAL HOSPITAL
CARIBOU MEMORIAL HOSPITAL AND LIVING CENTER
FRANKLIN COUNTY MEDICAL CENTER
NELL J. REDFIELD MEMORIAL HOSPITAL
POWER COUNTY HOSPITAL DISTRICT
LOST RIVERS MEDICAL CENTER
STEELE MEMORIAL MEDICAL CENTER
TETON VALLEY HEALTH CARE INC.

Trauma and Stroke Metrics Facility Classification

Community Care

SAINT ALPHONSUS MEDICAL CENTER -
NAMPA

SAINT LUKE'S FRUITLAND

SAINT LUKE'S NAMPA MEDICAL CENTER

WEST VALLEY MEDICAL CENTER

IDAHO FALLS COMMUNITY HOSPITAL

MADISON MEMORIAL HOSPITAL

Tertiary Care

KOOTENAI HEALTH

SAINT JOSEPH REGIONAL MEDICAL CENTER

SAINT ALPHONSUS REGIONAL MEDICAL
CENTER

SAINT LUKE'S BOISE CHILDREN'S

SAINT LUKE'S BOISE MEDICAL CENTER

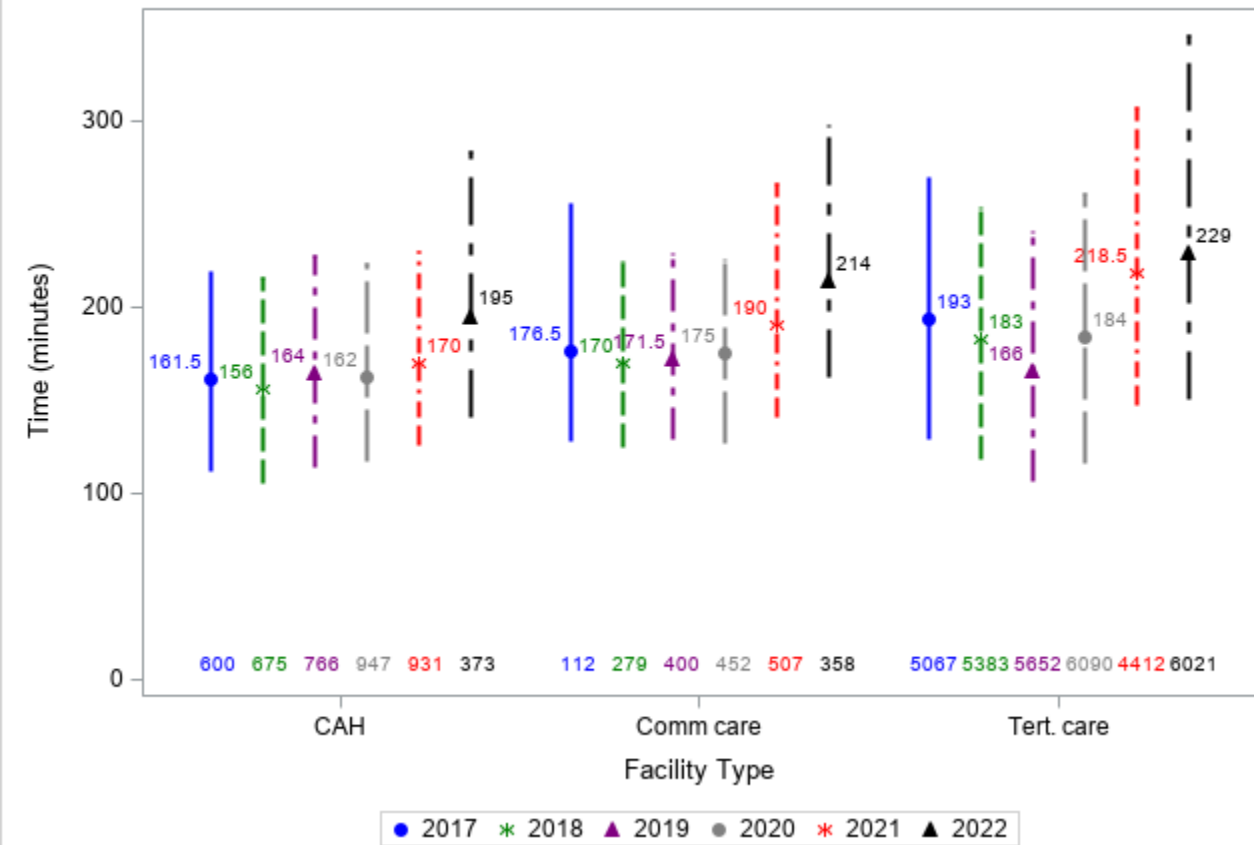
SAINT LUKE'S MERIDIAN MEDICAL CENTER

SAINT LUKE'S MAGIC VALLEY MEDICAL CENTER

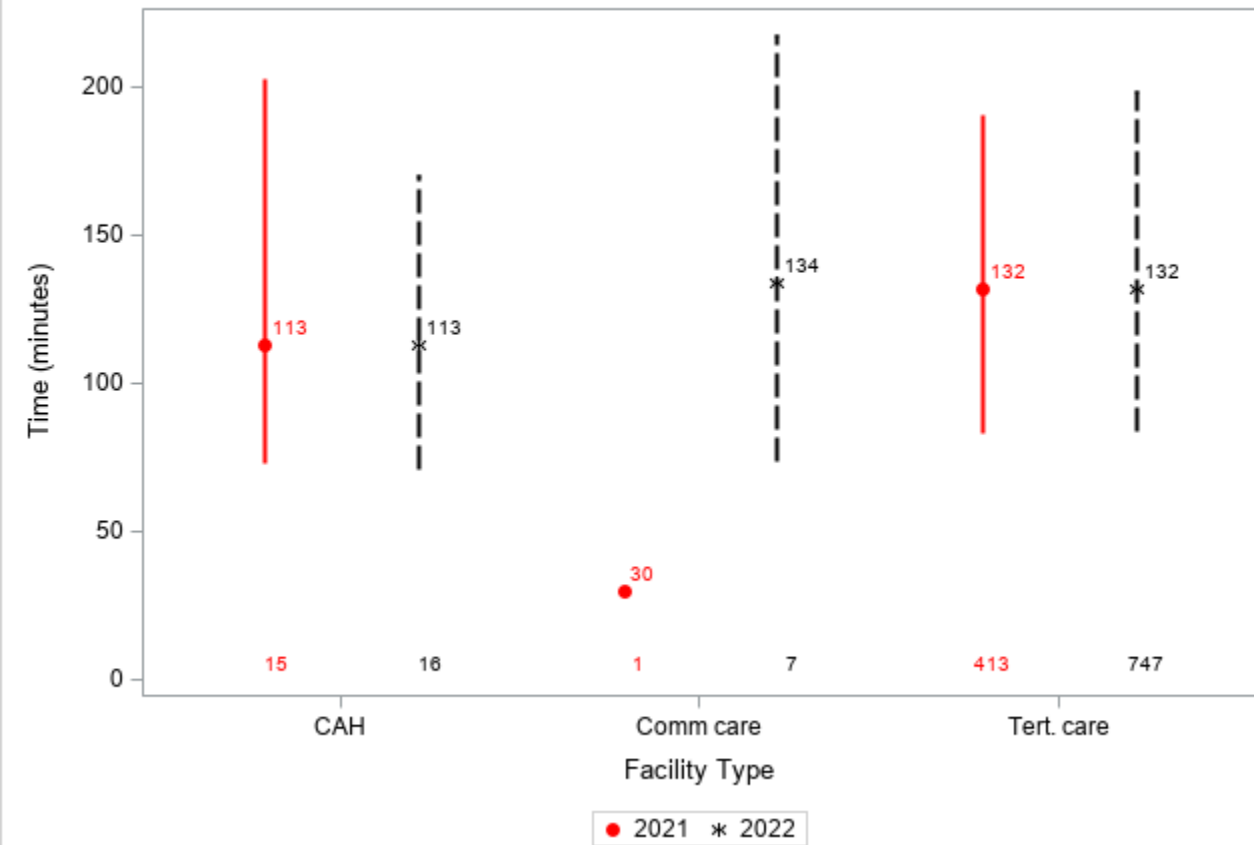
PORTNEUF MEDICAL CENTER

EASTERN IDAHO REGIONAL MEDICAL CENTER

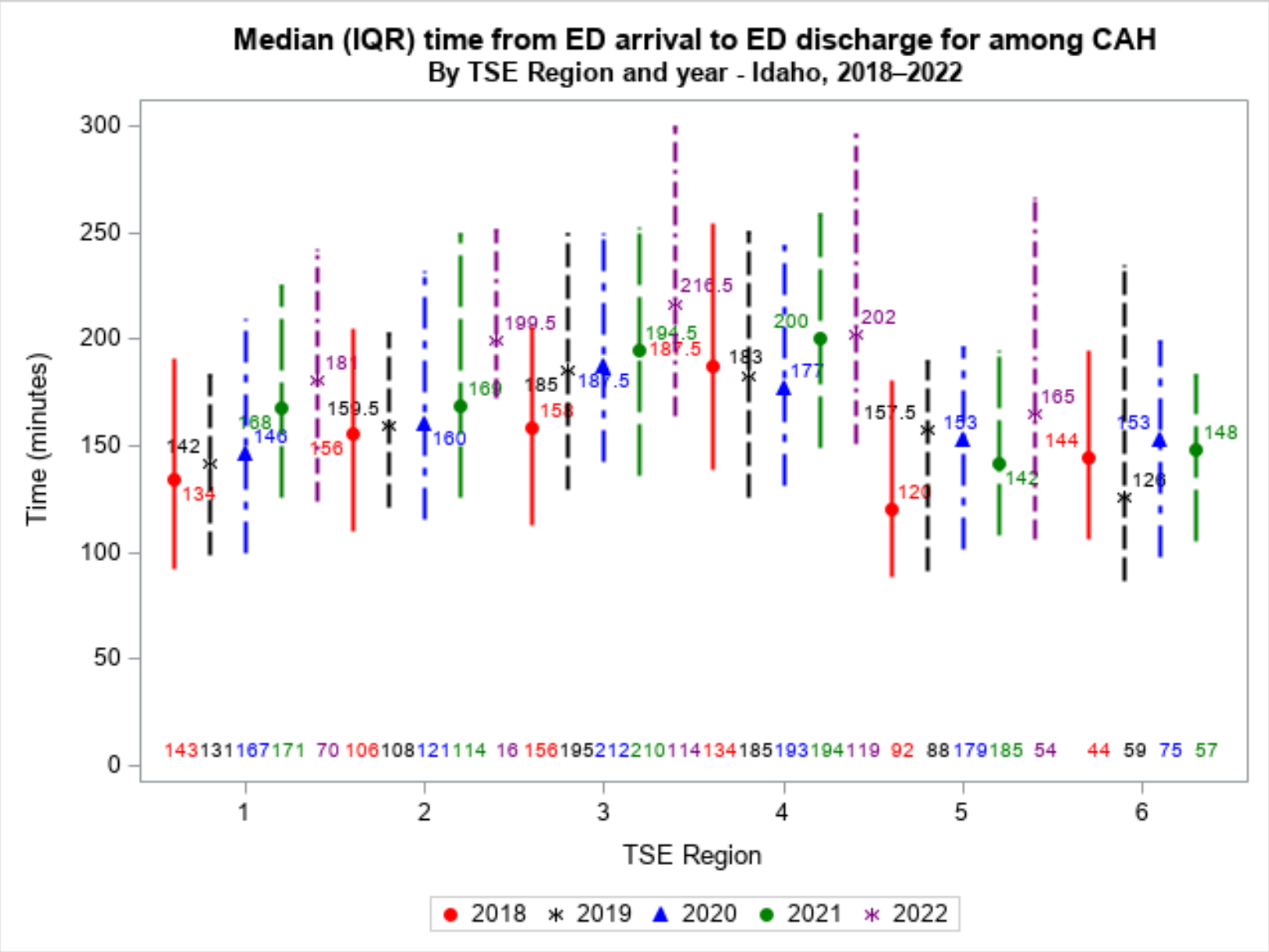
Median (IQR) time from ED arrival to ED discharge
By facility type and year - Idaho, 2017–2022



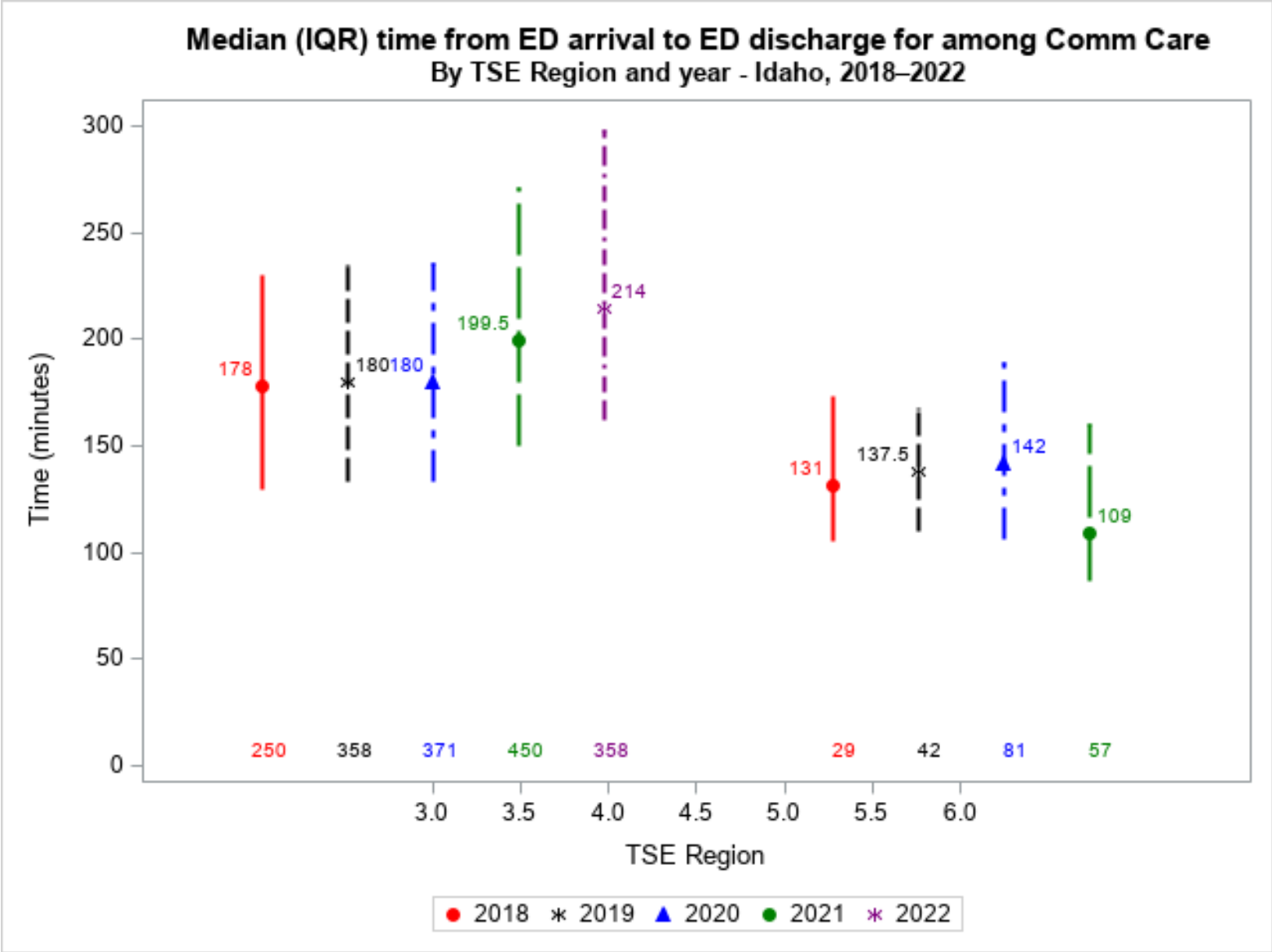
Median (IQR) time from ED arrival to ED discharge for Priority 1 Trauma Activations
By facility type and year - Idaho, 2017–2022



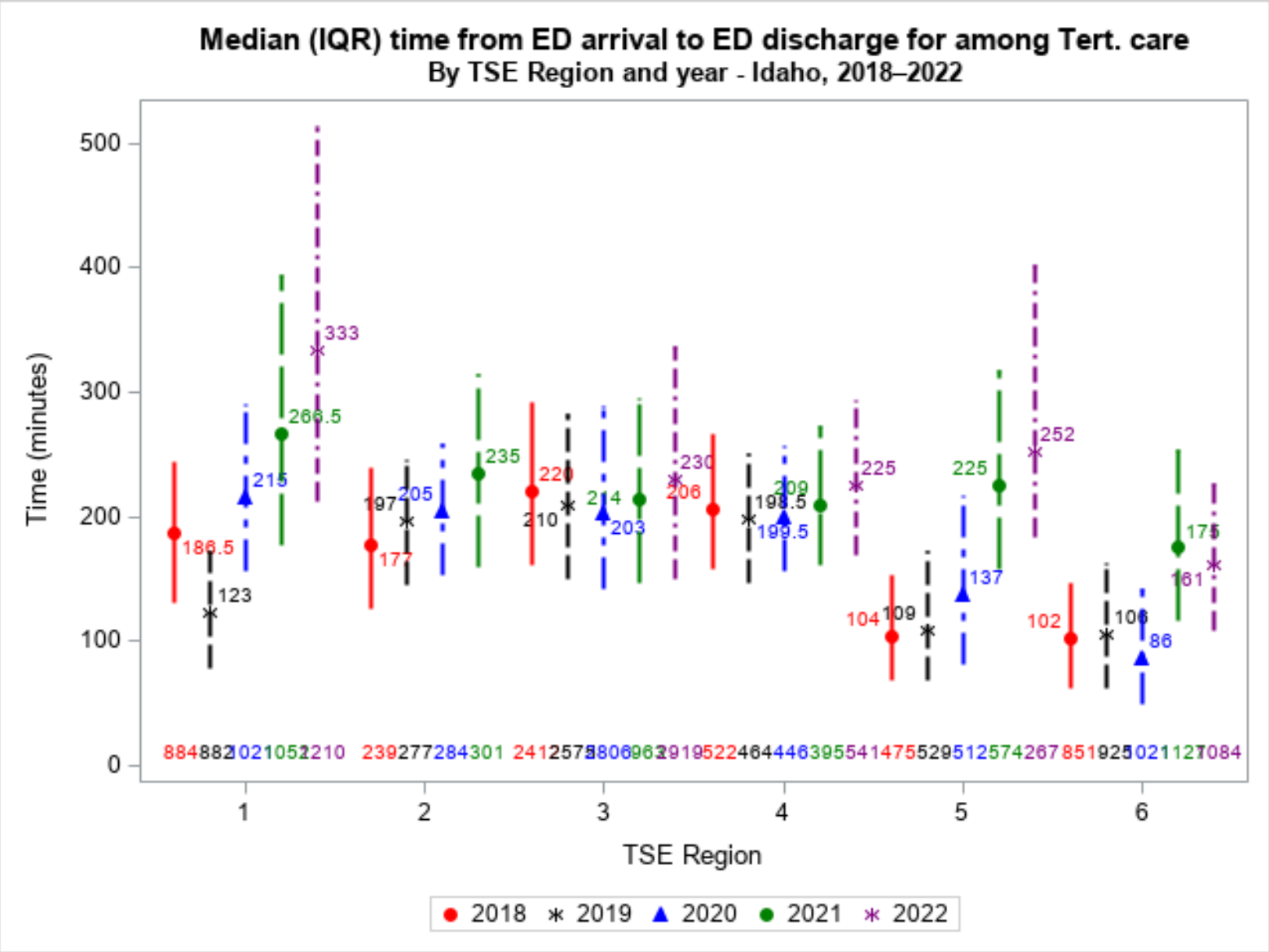
Marker indicates median time in minutes. Bars indicate 25th and 75th percentile of data for that category. Numbers along bottom of figure are N per category.



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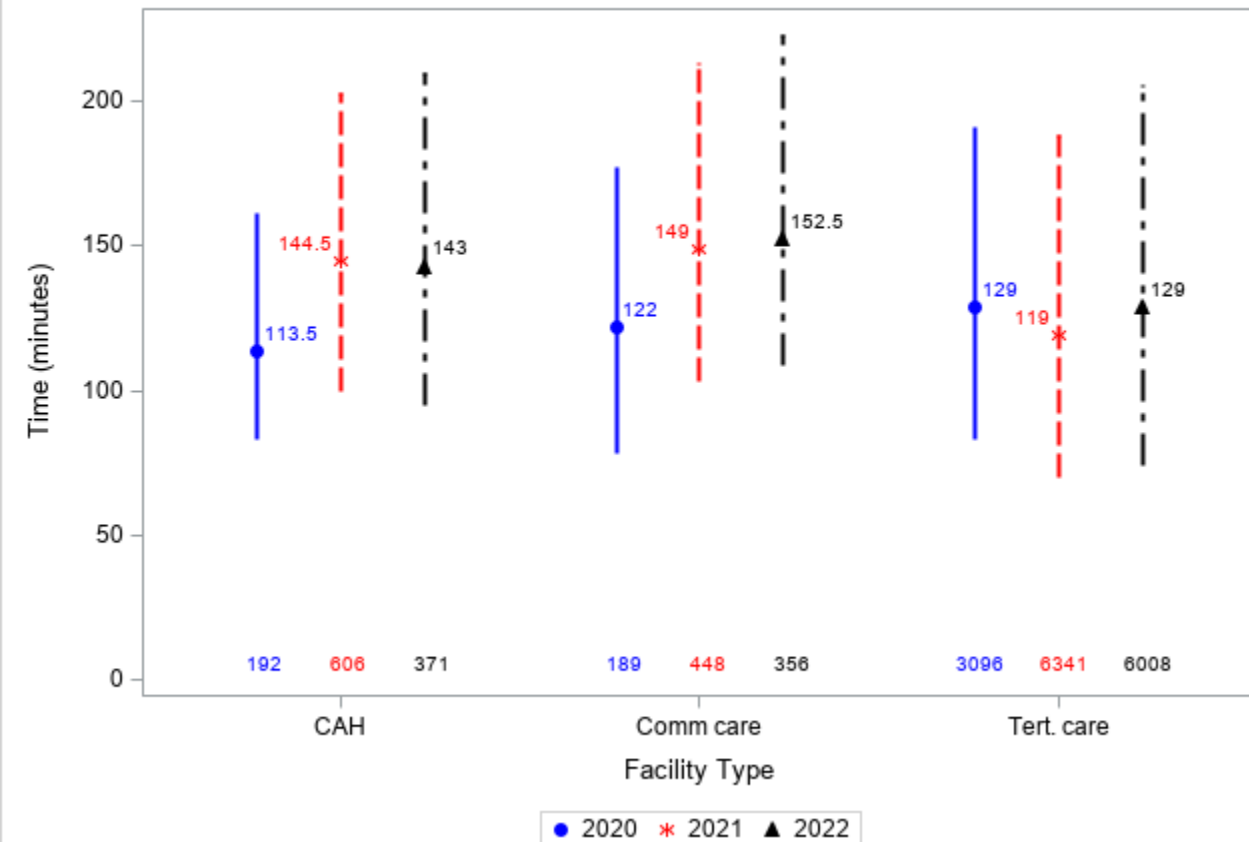


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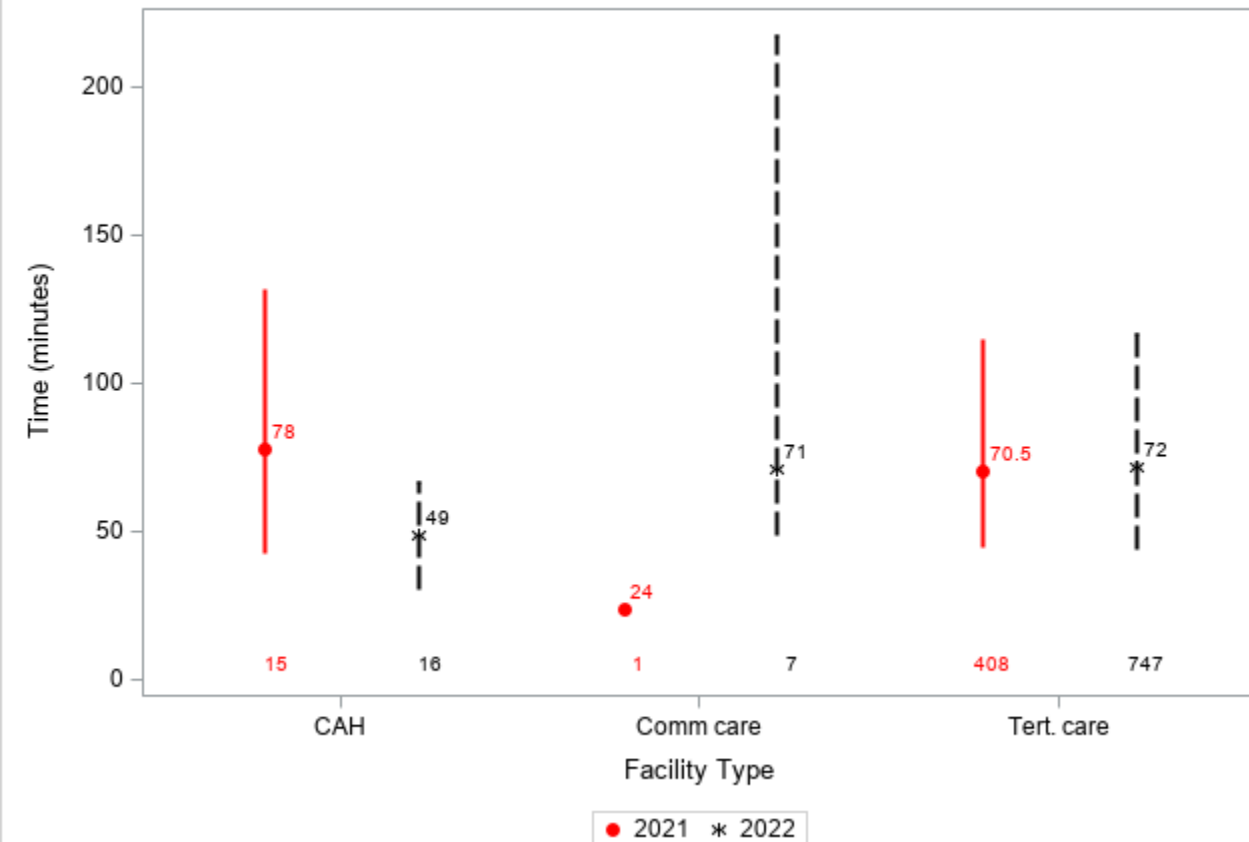


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Median (IQR) time from ED arrival to orders written
By facility type and year - Idaho, 2020–2022

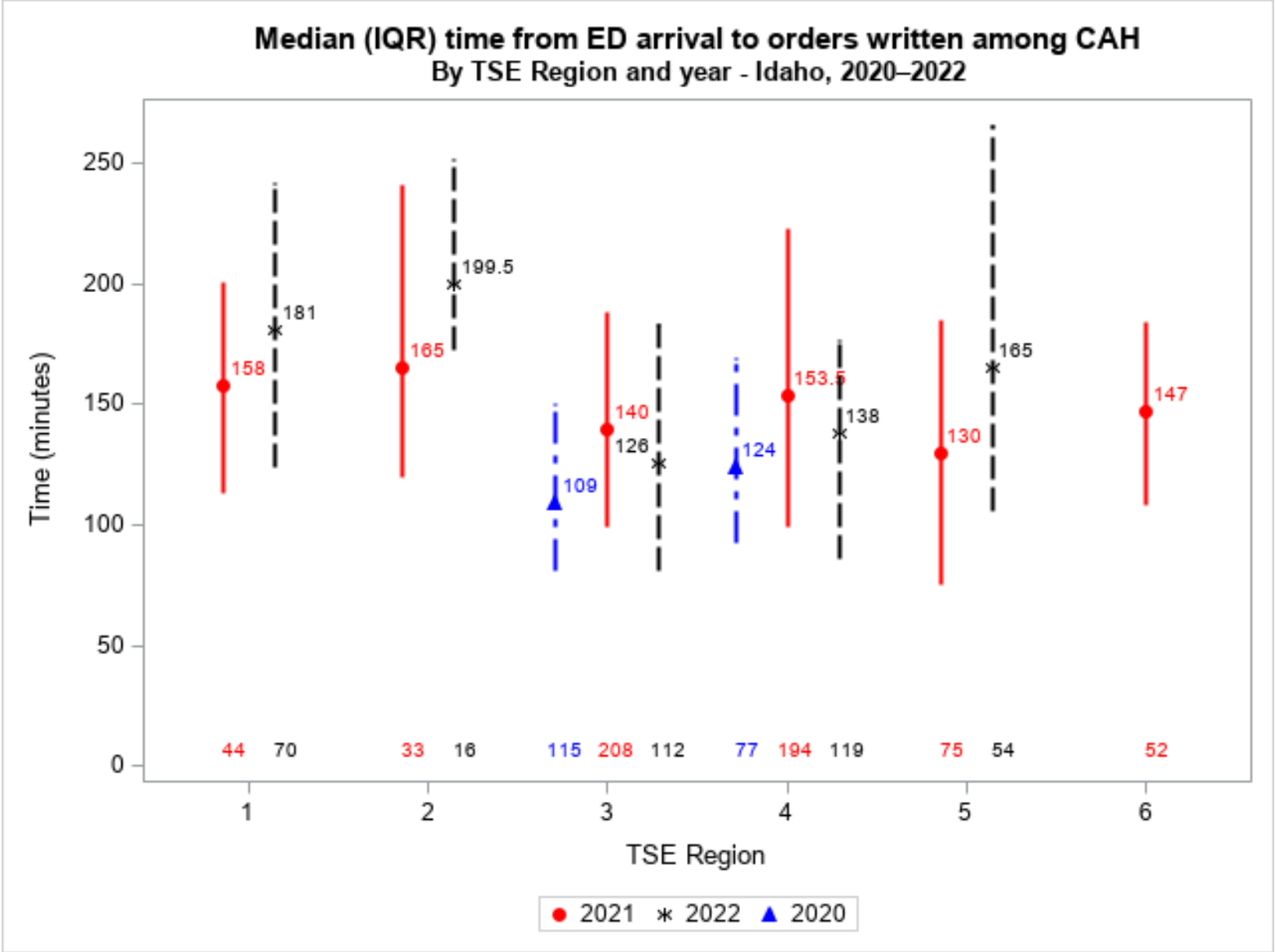


Median (IQR) time from ED arrival to orders written for Priority 1 Trauma Activations
By facility type and year - Idaho, 2020–2022

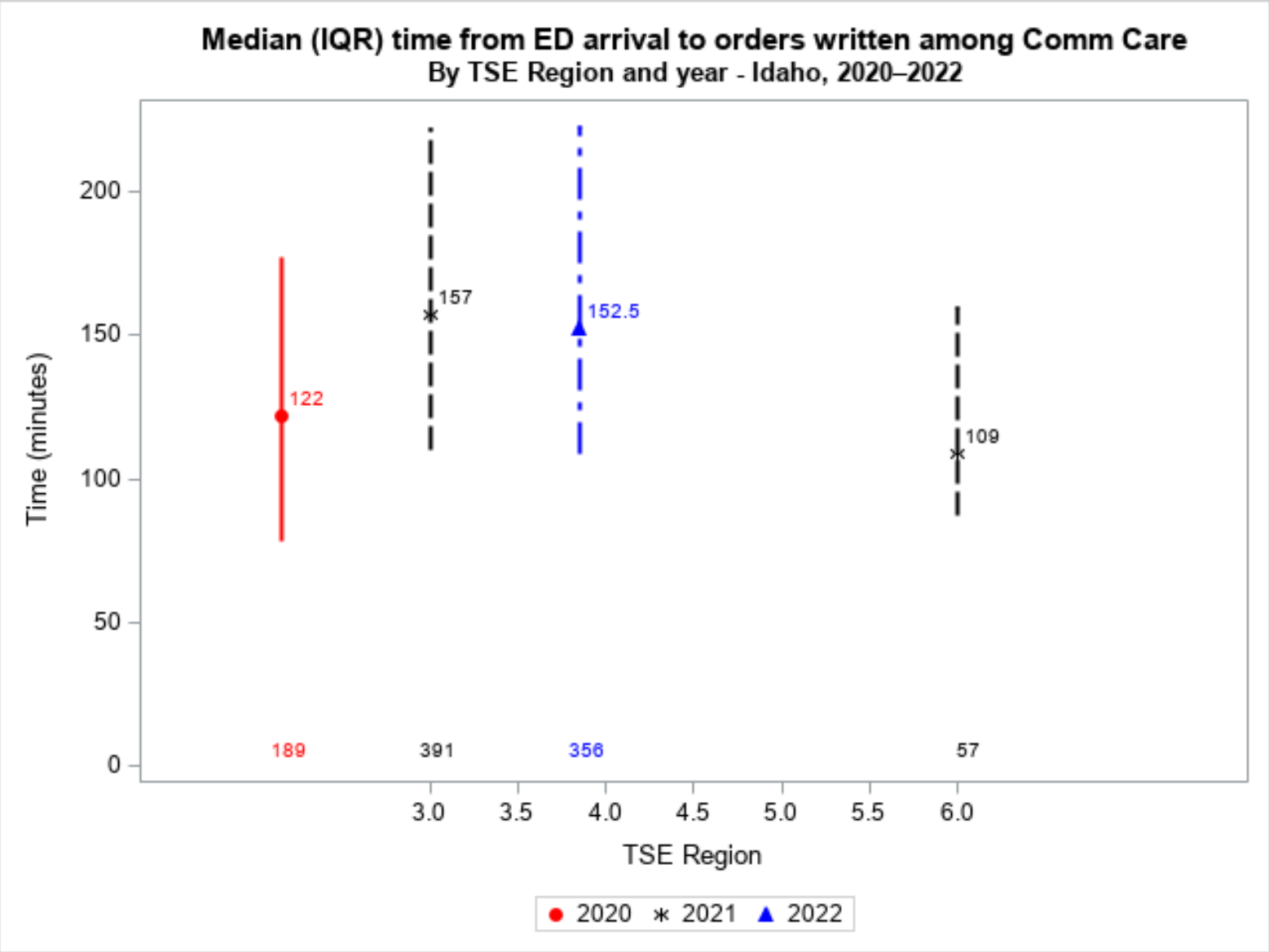


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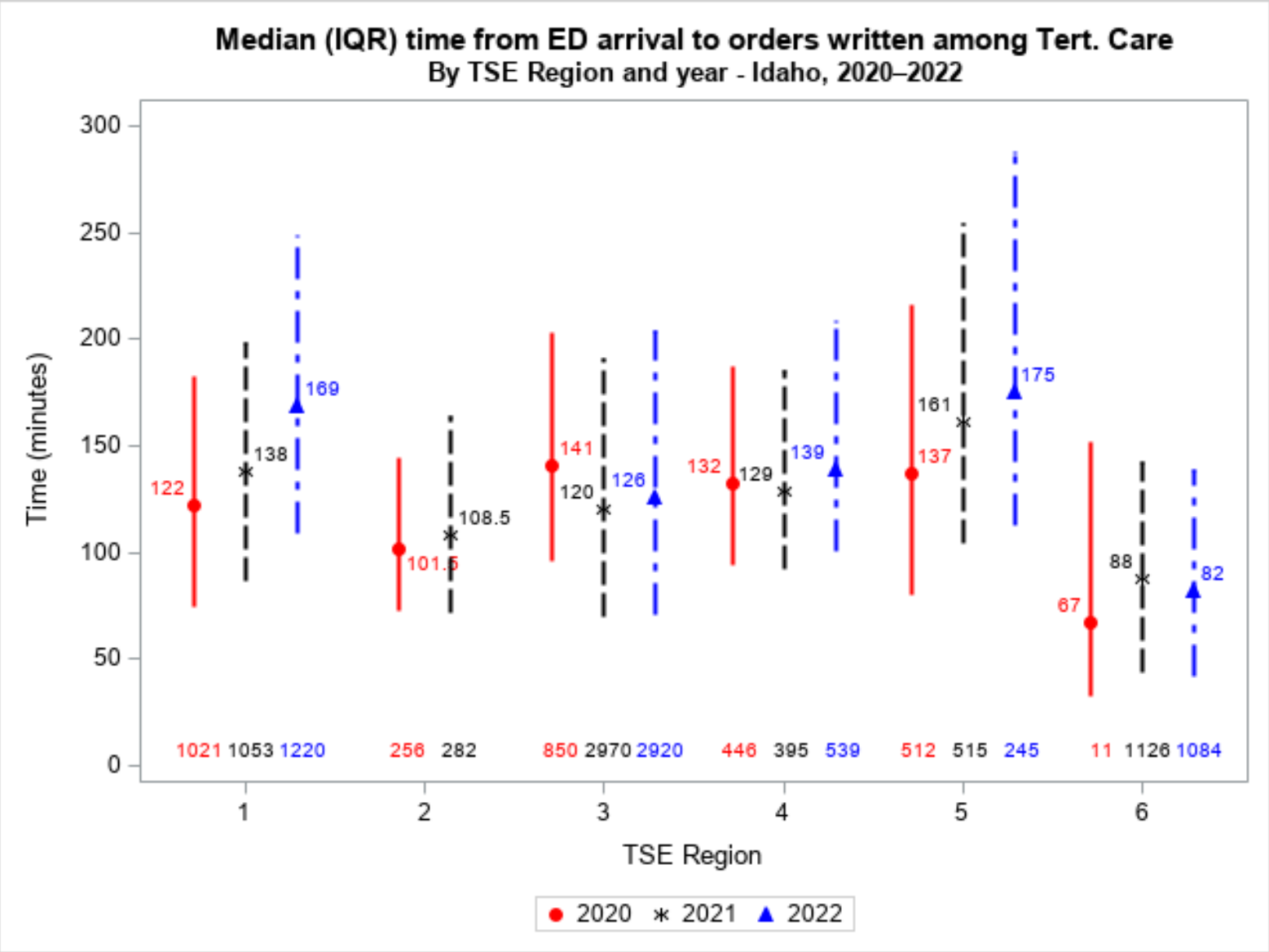
Missing orders written data from one tert. care health system and some other lower volume facilities for 2020



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REPORTABLE STROKES TREATED IN IDAHO ACUTE CARE FACILITIES, 2019–2021

24/7 Thrombectomy-Capable Centers

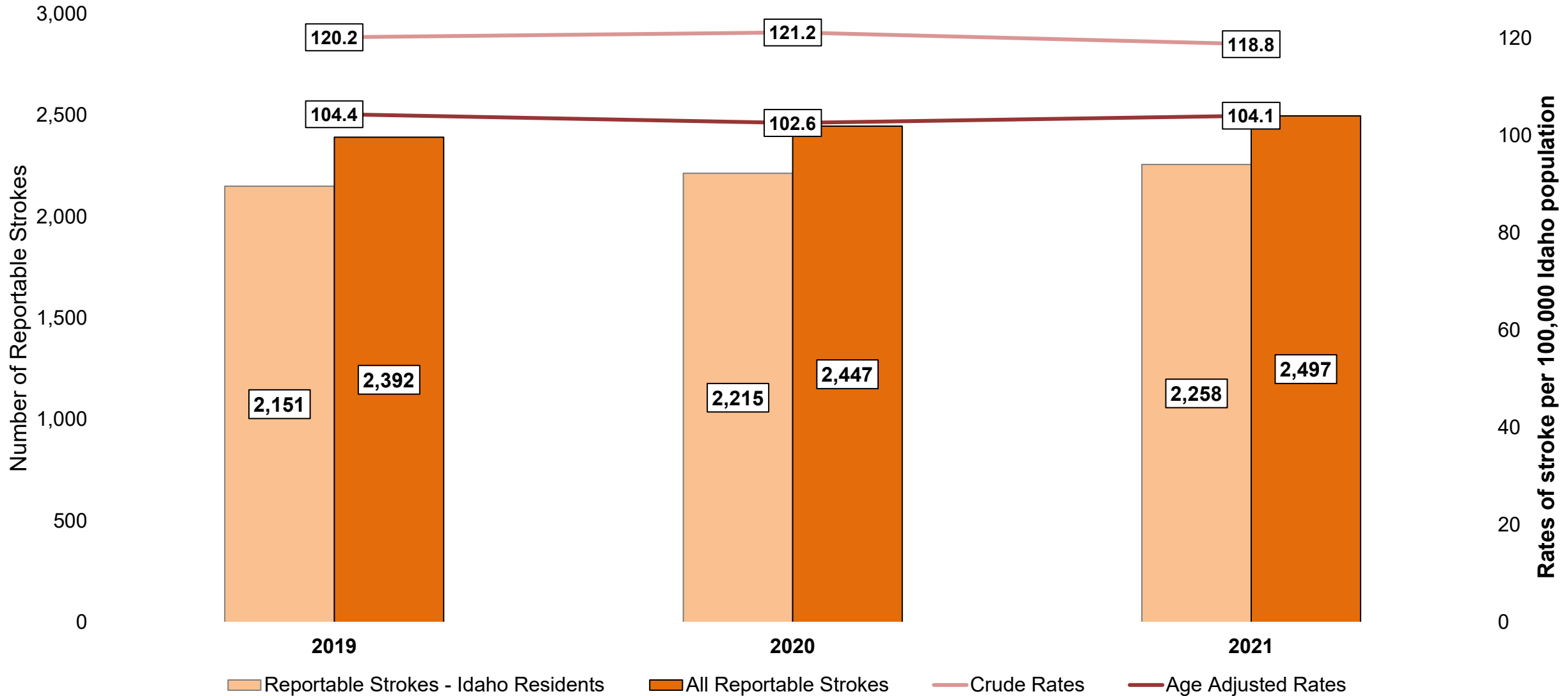
**SAINT
ALPHONSUS
REGIONAL
MEDICAL CENTER**

**SAINT LUKE'S
BOISE MEDICAL
CENTER**

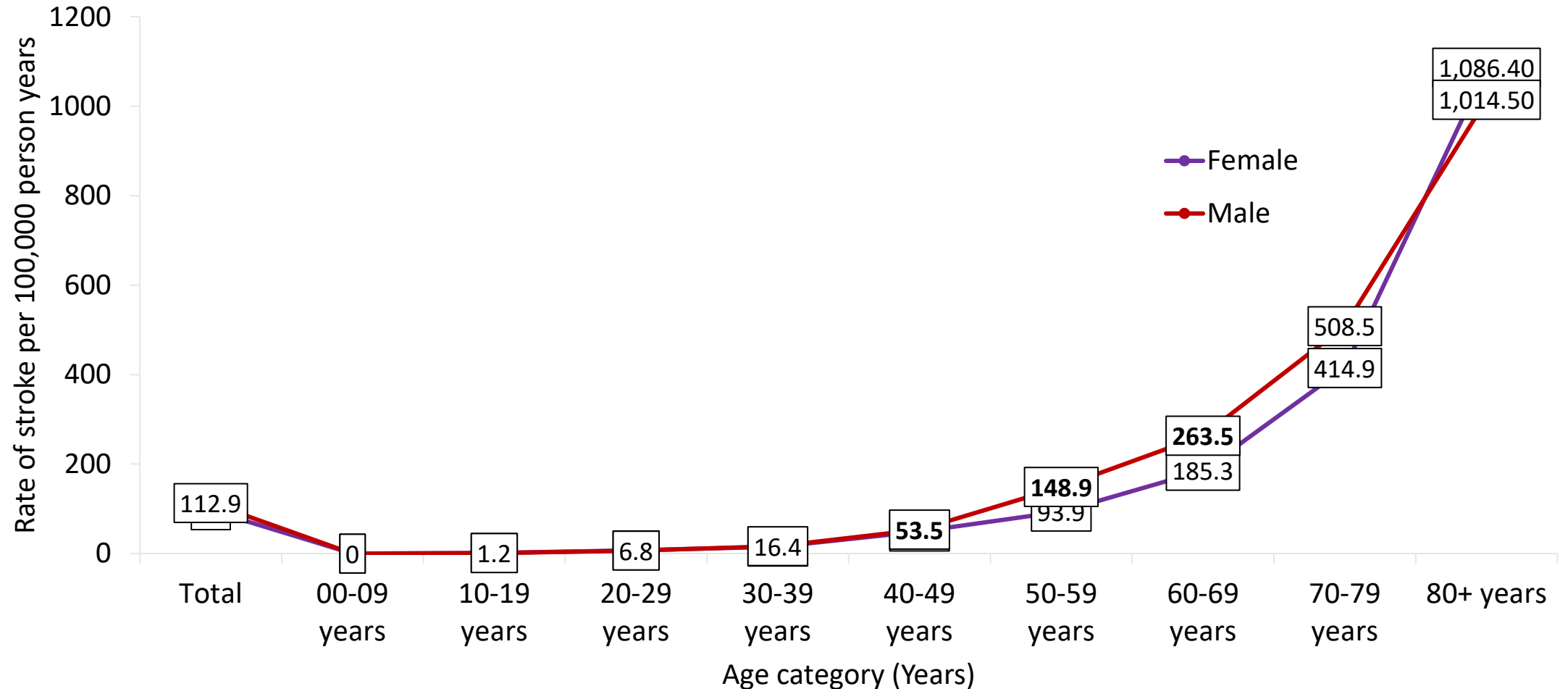
**PORTNEUF
MEDICAL CENTER**

**EASTERN IDAHO
REGIONAL
MEDICAL CENTER**

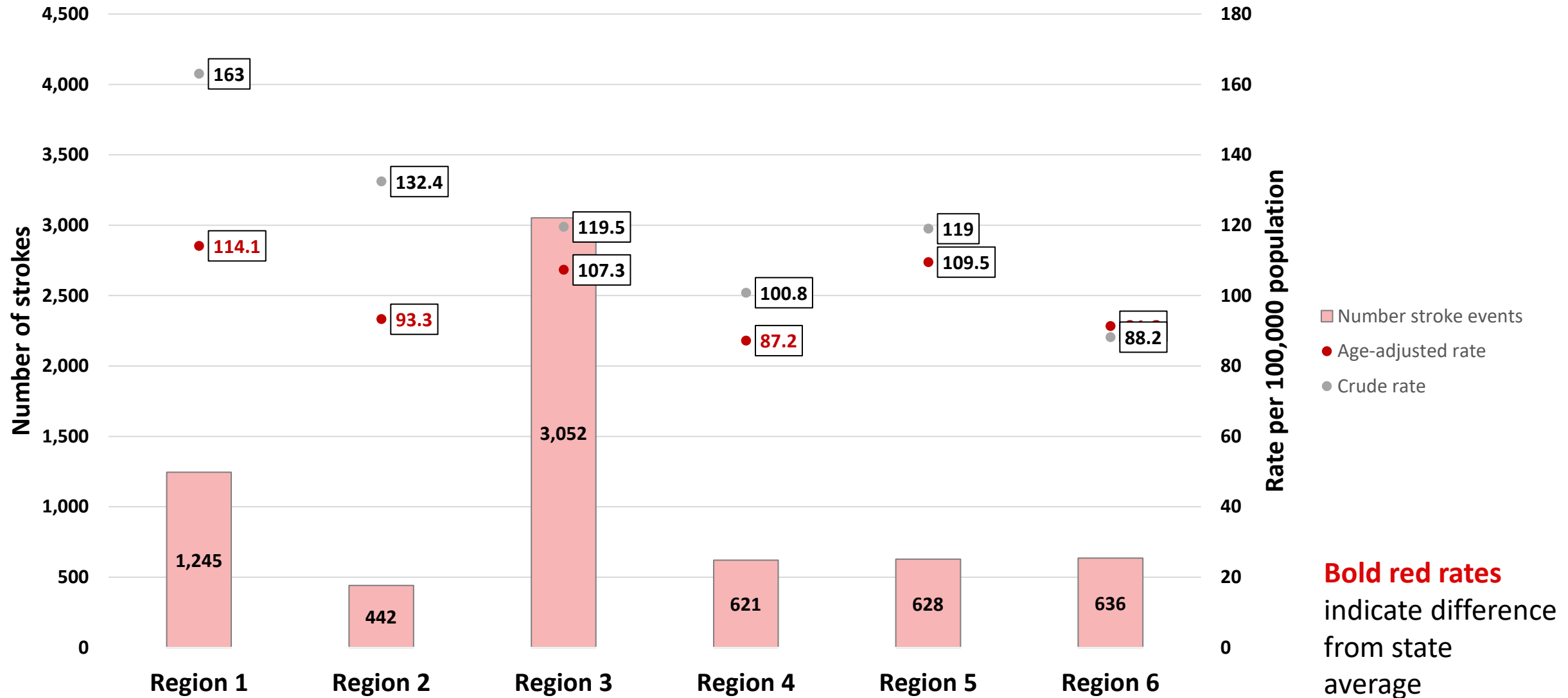
Trends in reportable strokes during 2019–2021



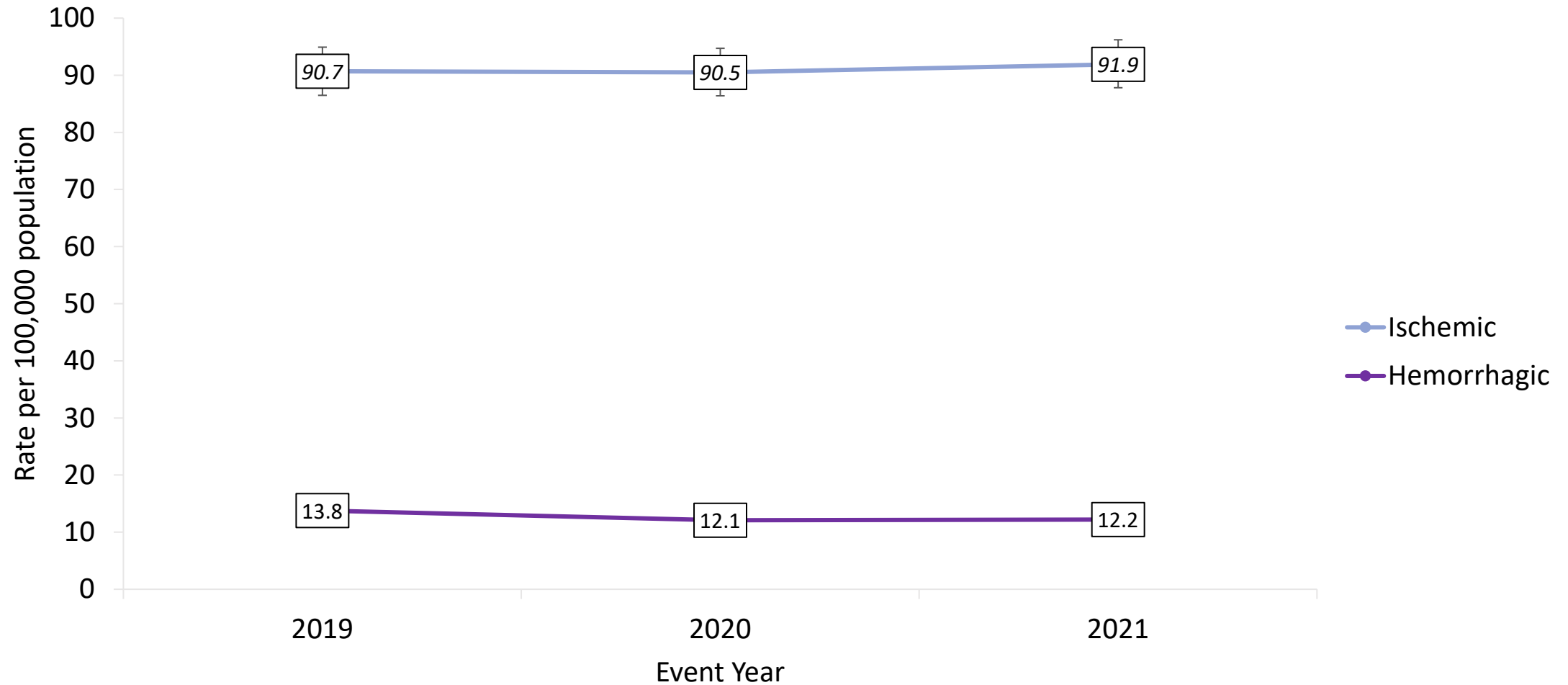
Age-adjusted stroke incidence by age and sex — Idaho residents, 2019–2021



Reported strokes by TSE Region among Idaho residents, 2019–2021

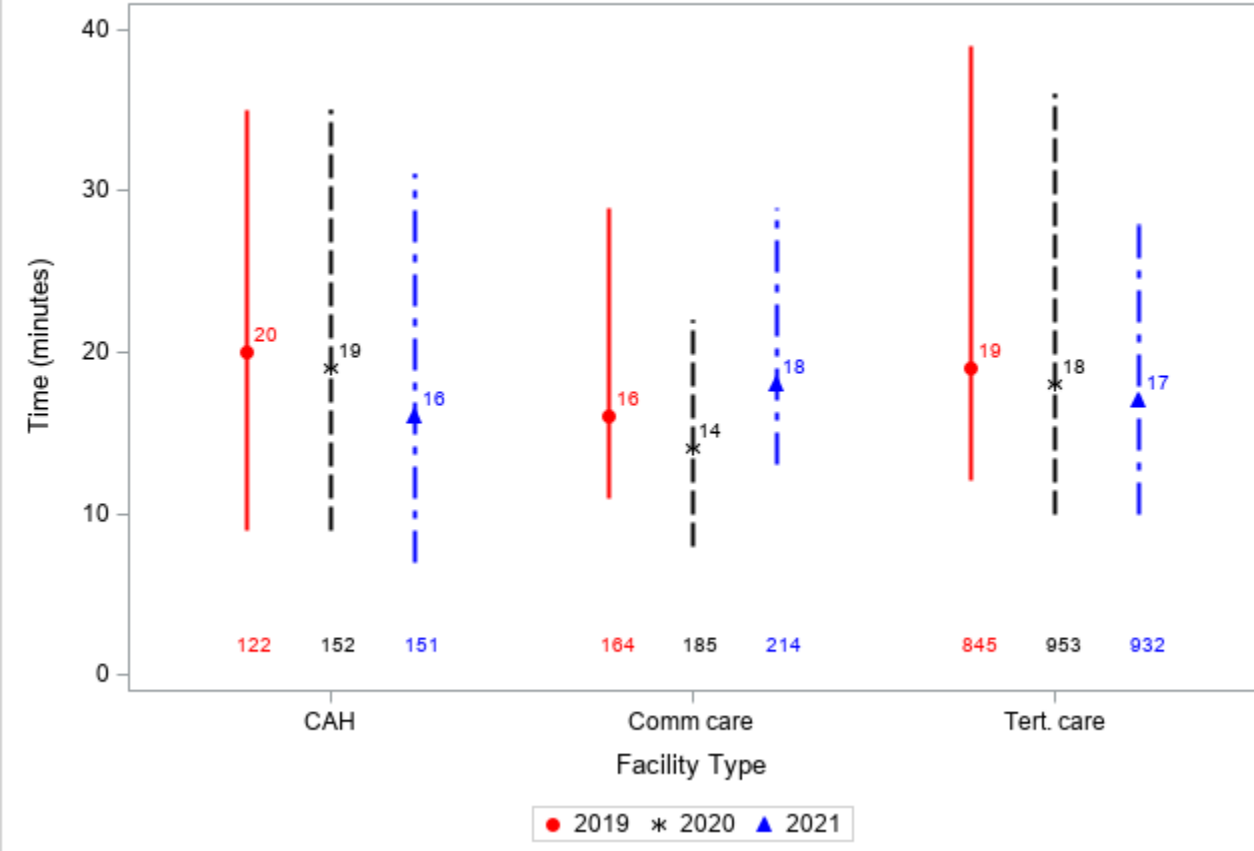


Trends in stroke incidence by stroke type, 2019–2021

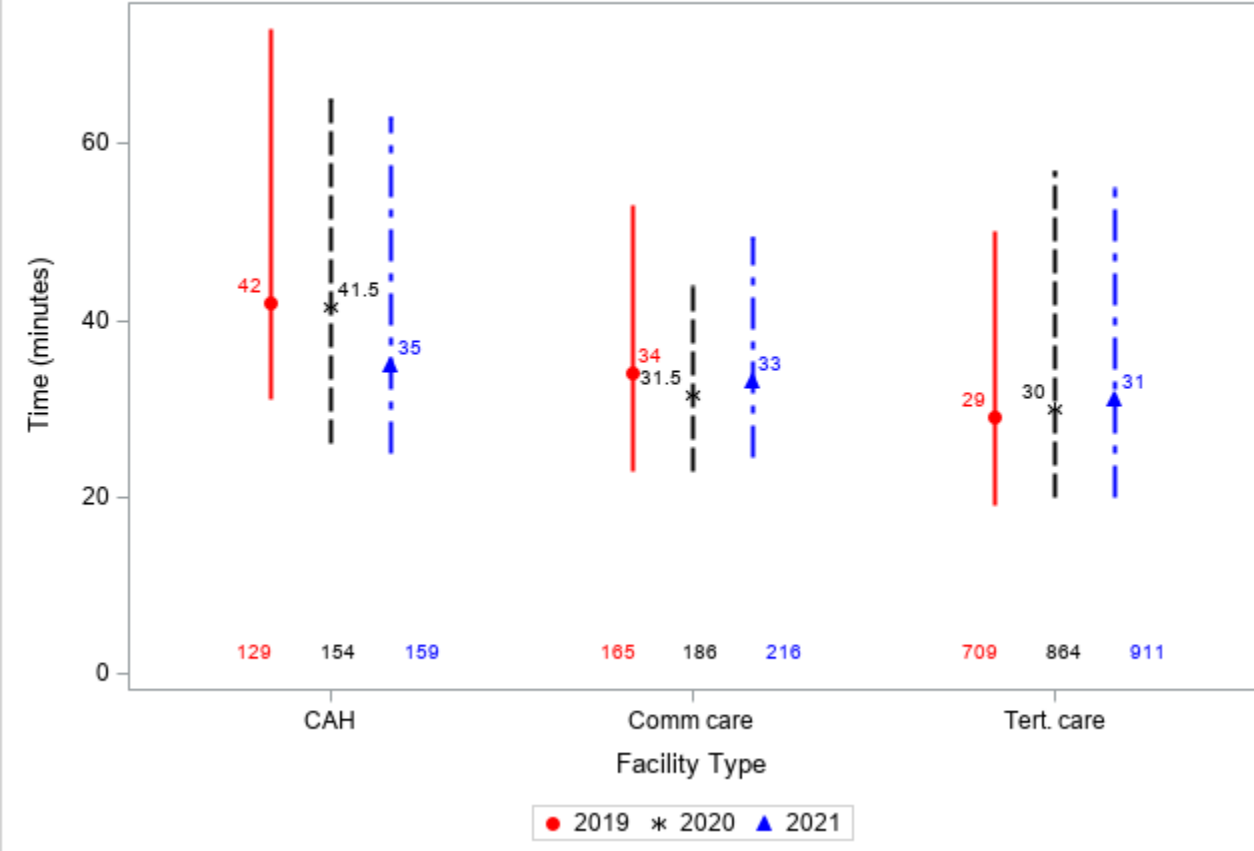


Reported strokes with ICD-10-CM codes for ischemic and hemorrhagic strokes are included in the ischemic category.

Time from ED arrival to brain imaging for reportable strokes
By facility type and year - Idaho, 2019–2021

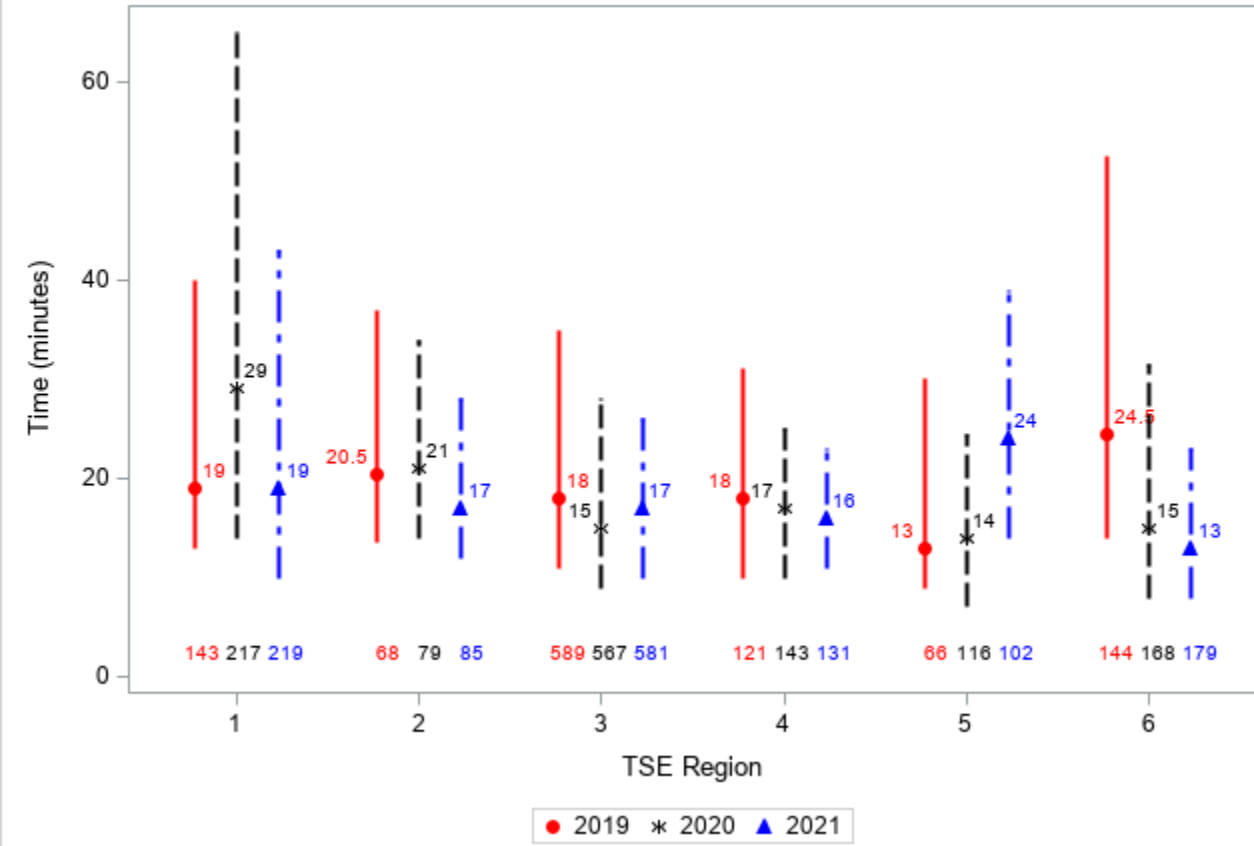


Time from ED arrival to brain imaging read for reportable strokes
By Facility Type and year - Idaho, 2019–2021

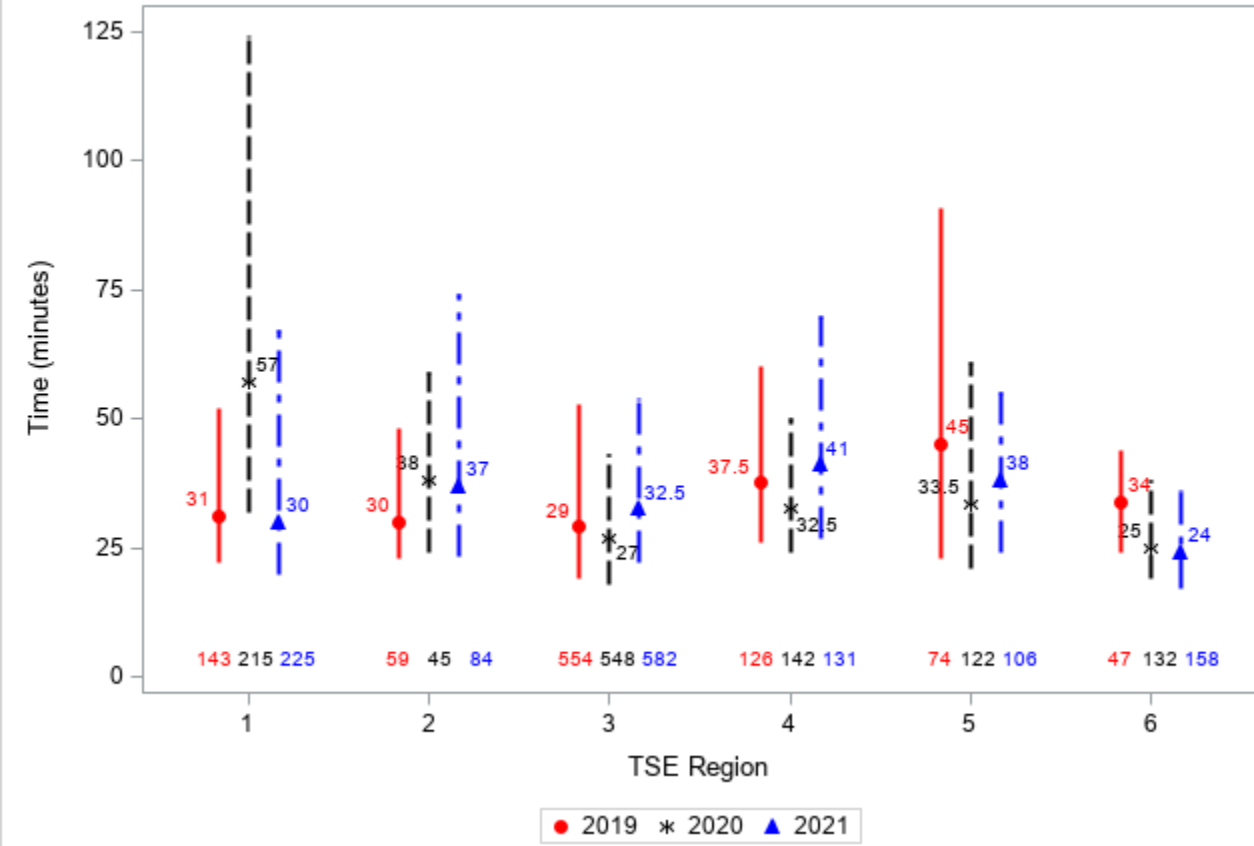


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**Time from ED arrival to brain imaging for reportable strokes
By TSE Region and year - Idaho, 2019–2021**

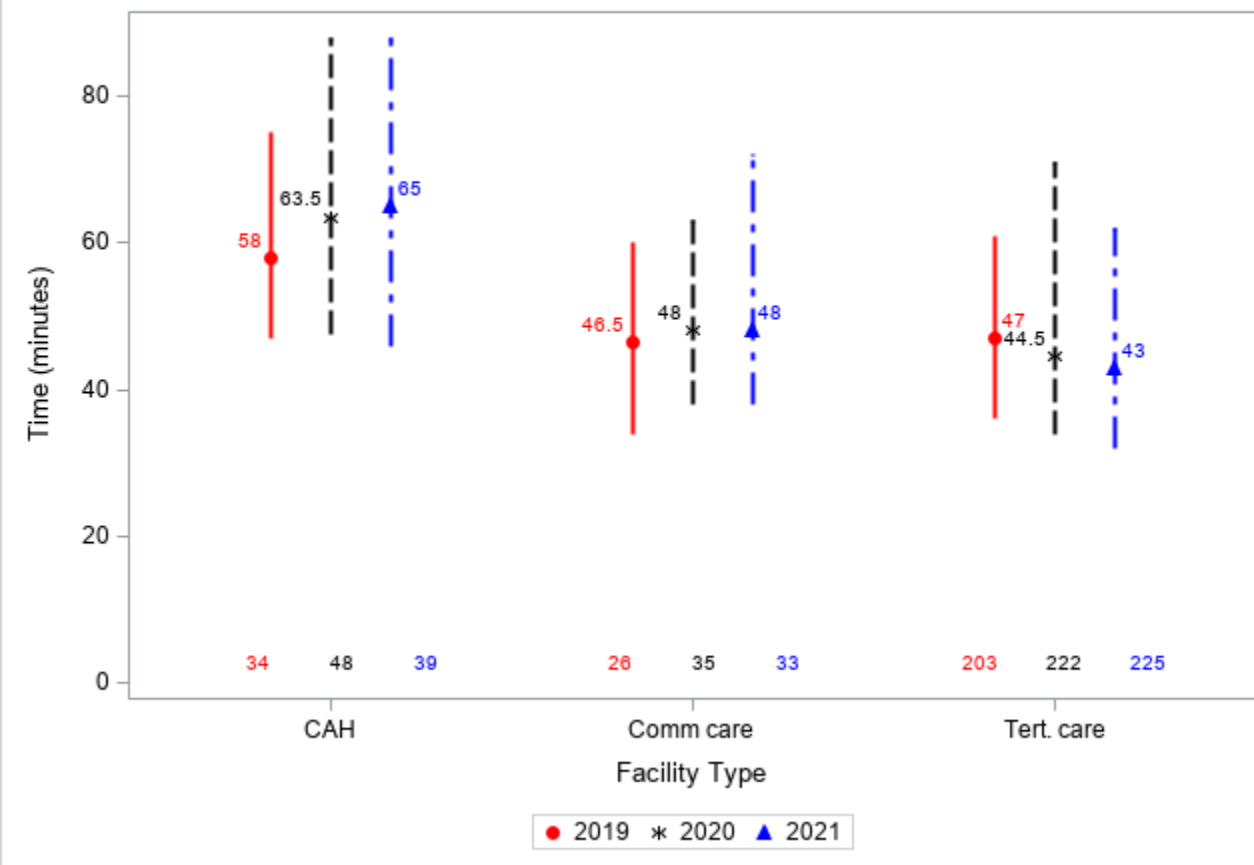


**Time from ED arrival to brain imaging read for reportable strokes
by TSE Region and year - Idaho, 2019–2021**

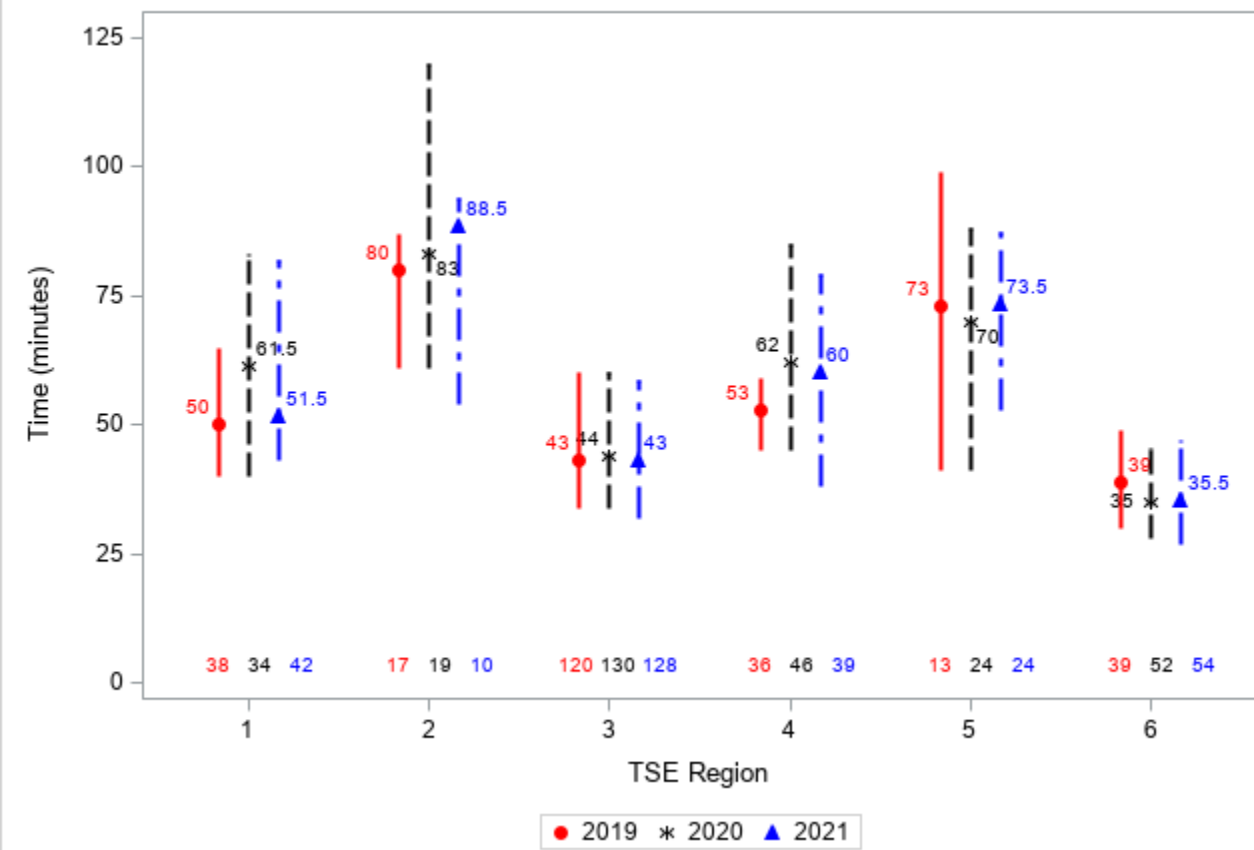


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**Time from ED arrival to thrombolytics for reportable strokes
by facility type and year - Idaho, 2019–2021**

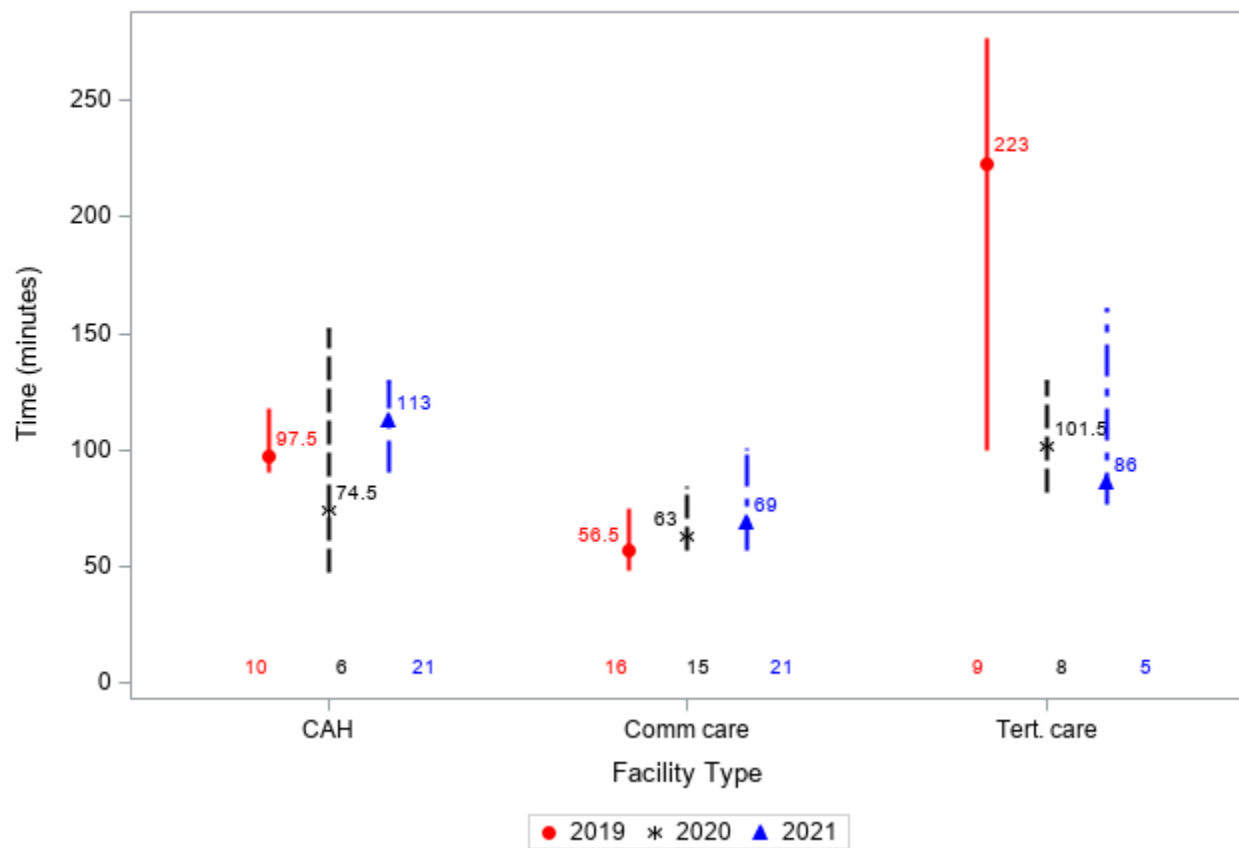


**Time from ED arrival to thrombolytics for reportable strokes
by TSE Region and year - Idaho, 2019–2021**

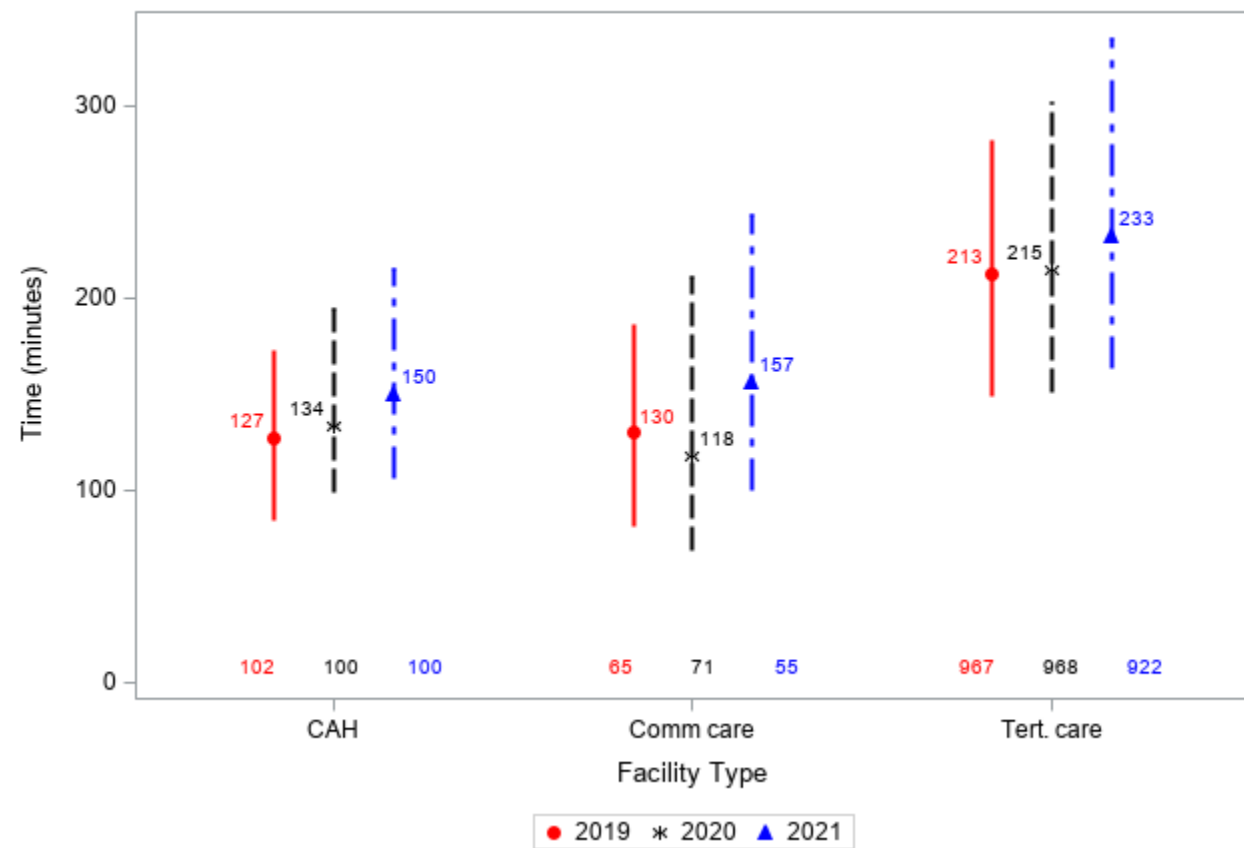


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Time from ED arrival to discharge among stroke patients with documented LVO by Facility Type and year - Idaho, 2019–2021

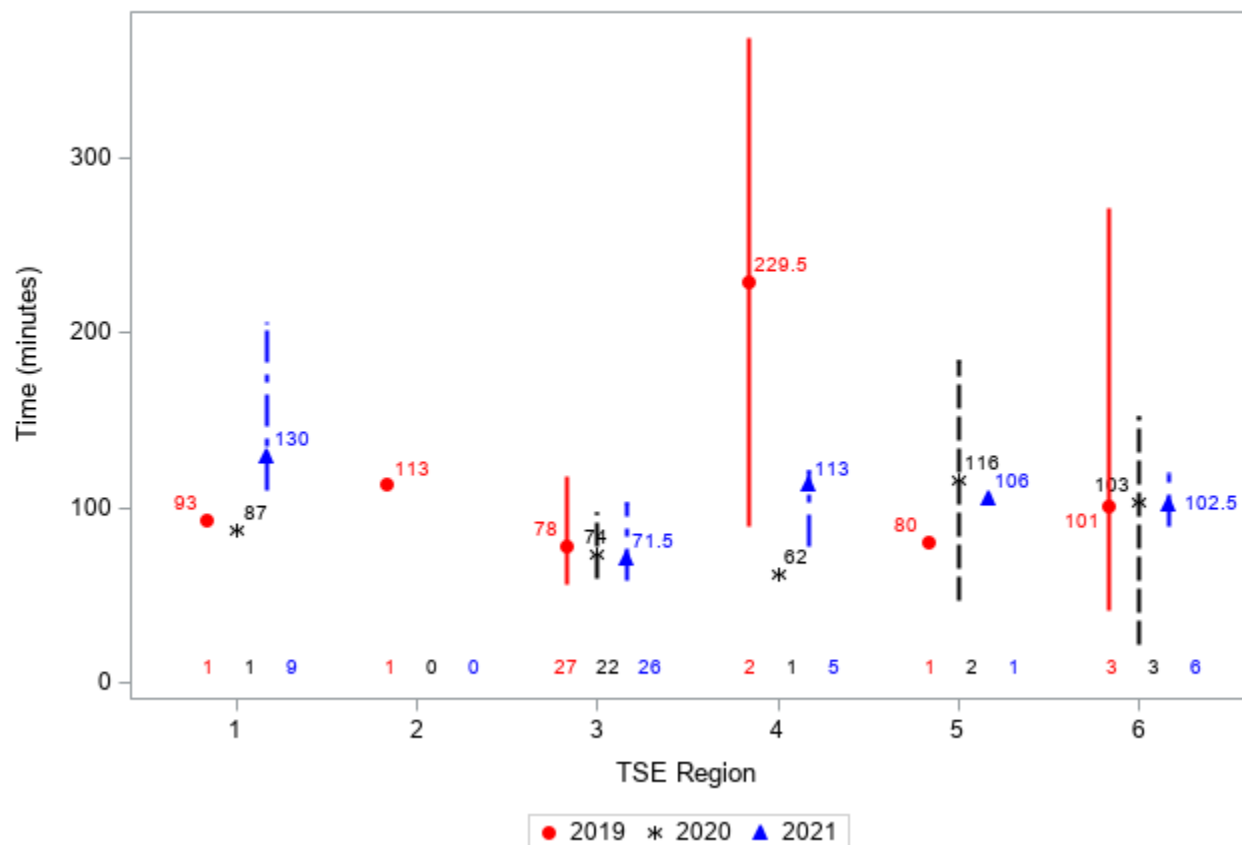


Time from ED arrival to discharge among stroke patients with NO documented LVO by Facility Type and year - Idaho, 2019–2021

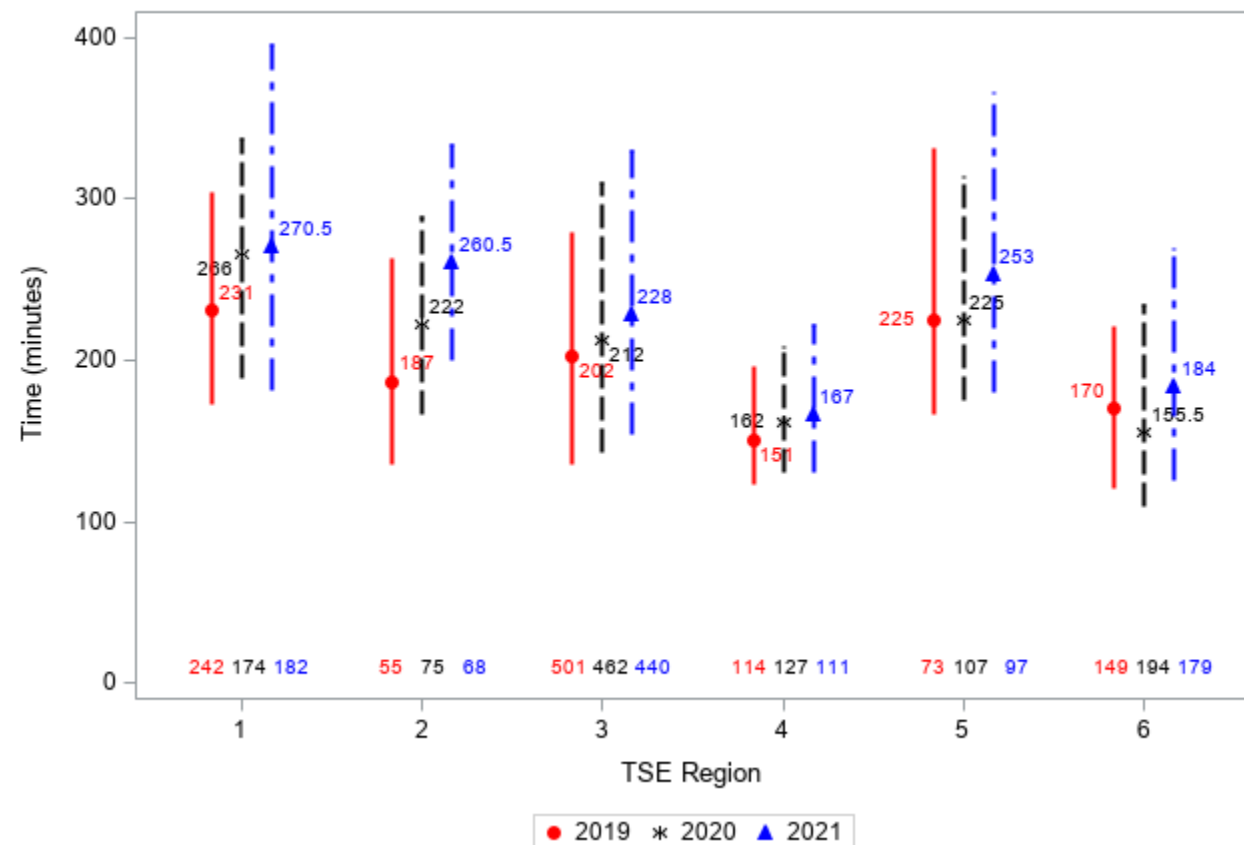


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Time from ED arrival to discharge among stroke patients with documented LVO by TSE Region and year - Idaho, 2019–2021

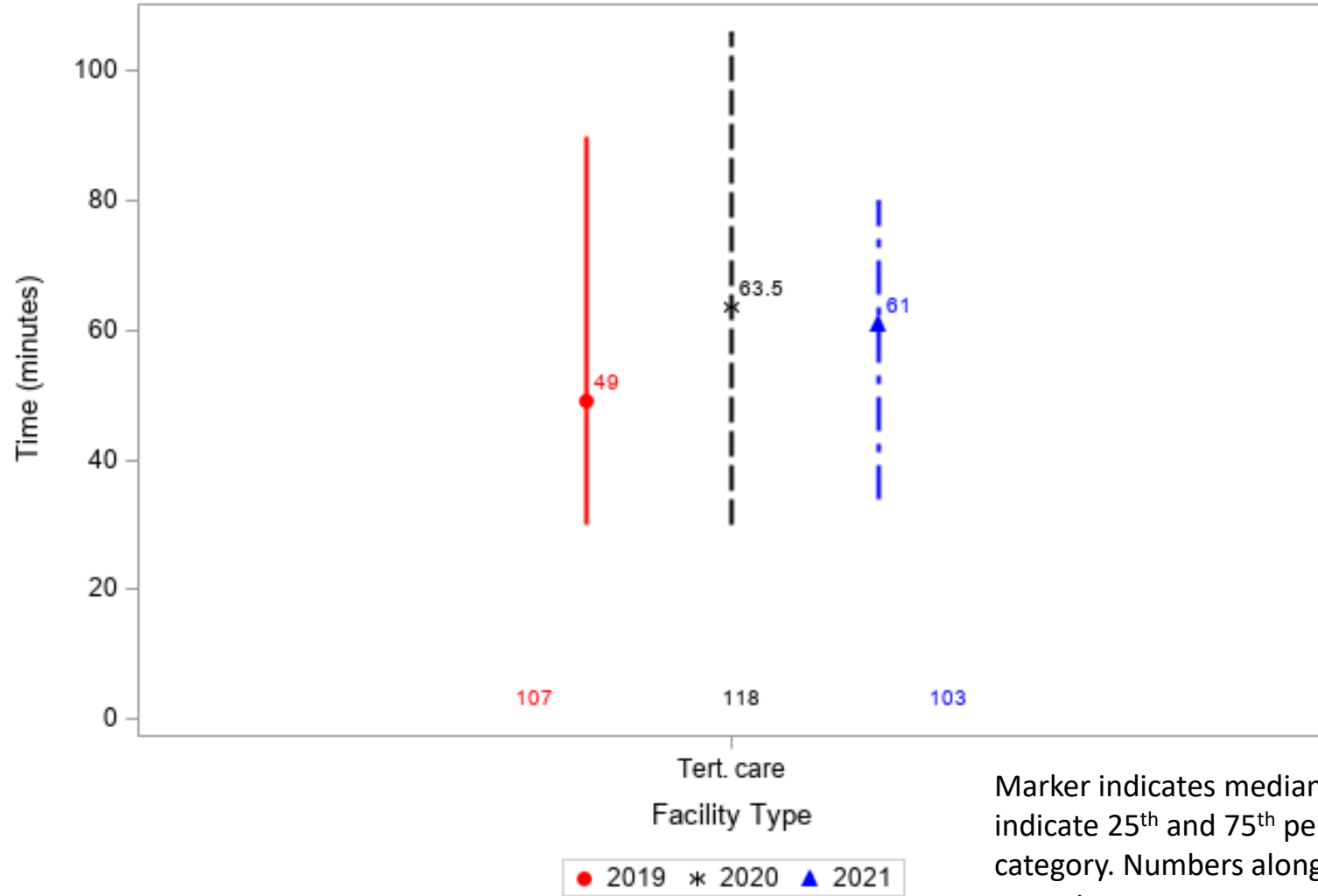


Time from ED arrival to discharge among stroke patients with NO documented LVO by TSE Region and year - Idaho, 2019–2021



Marker indicates median time in minutes. Bars indicate 25th and 75th percentile of data for that category. Numbers along bottom of figure are N per category.

**Time from arrival to IA cathetrization among stroke patients
by Facility type and year - Idaho thrombectomy-ready centers only, 2019–2021**



Marker indicates median time in minutes. Bars indicate 25th and 75th percentile of data for that category. Numbers along bottom of figure are N per category.

Endovascular intervention/IA catheterization for stroke

- Through March 2023, TSE Registry only collected date and time of endovascular intervention/IA catheter date and time. Defined as: “The date on which skin is punctured at this hospital to access arterial site selected for endovascular treatment of a cerebral artery occlusion.”
- Starting April 2023, participating facilities are also required to report on revascularization date and time (“device deployment”)

REPORTABLE ST-ELEVATION MYOCARDIAL INFARCTIONS (STEMI) TREATED IN IDAHO ACUTE CARE FACILITIES, 2019–2021

Referral Hospitals

BENEWAH COMMUNITY HOSPITAL
BONNER GENERAL HOSPITAL
BOUNDARY COMMUNITY HOSPITAL
SHOSHONE MEDICAL CENTER
CLEARWATER VALLEY HOSPITAL AND CLINICS
GRITMAN MEDICAL CENTER
SAINT MARY'S HOSPITAL AND CLINICS
SYRINGA HOSPITAL & CLINICS
CASCADE MEDICAL CENTER
SAINT LUKE'S ELMORE
SAINT LUKE'S MCCALL
VALOR HEALTH
WEISER MEMORIAL HOSPITAL
CASSIA REGIONAL MEDICAL CENTER
MINIDOKA MEMORIAL HOSPITAL
NORTH CANYON MEDICAL CENTER
SAINT LUKE'S JEROME
SAINT LUKE'S WOOD RIVER MEDICAL CENTER
BEAR LAKE MEMORIAL HOSPITAL
BINGHAM MEMORIAL HOSPITAL
CARIBOU MEMORIAL HOSPITAL AND LIVING CENTER
FRANKLIN COUNTY MEDICAL CENTER
NELL J. REDFIELD MEMORIAL HOSPITAL
POWER COUNTY HOSPITAL DISTRICT
LOST RIVERS MEDICAL CENTER
STEELE MEMORIAL MEDICAL CENTER
TETON VALLEY HEALTH CARE INC.
SAINT LUKE'S FRUITLAND
SAINT LUKE'S NAMPA MEDICAL CENTER
WEST VALLEY MEDICAL CENTER
IDAHO FALLS COMMUNITY HOSPITAL
MADISON MEMORIAL HOSPITAL
SAINT LUKE'S BOISE CHILDREN'S

STEMI Metrics Facility Classification

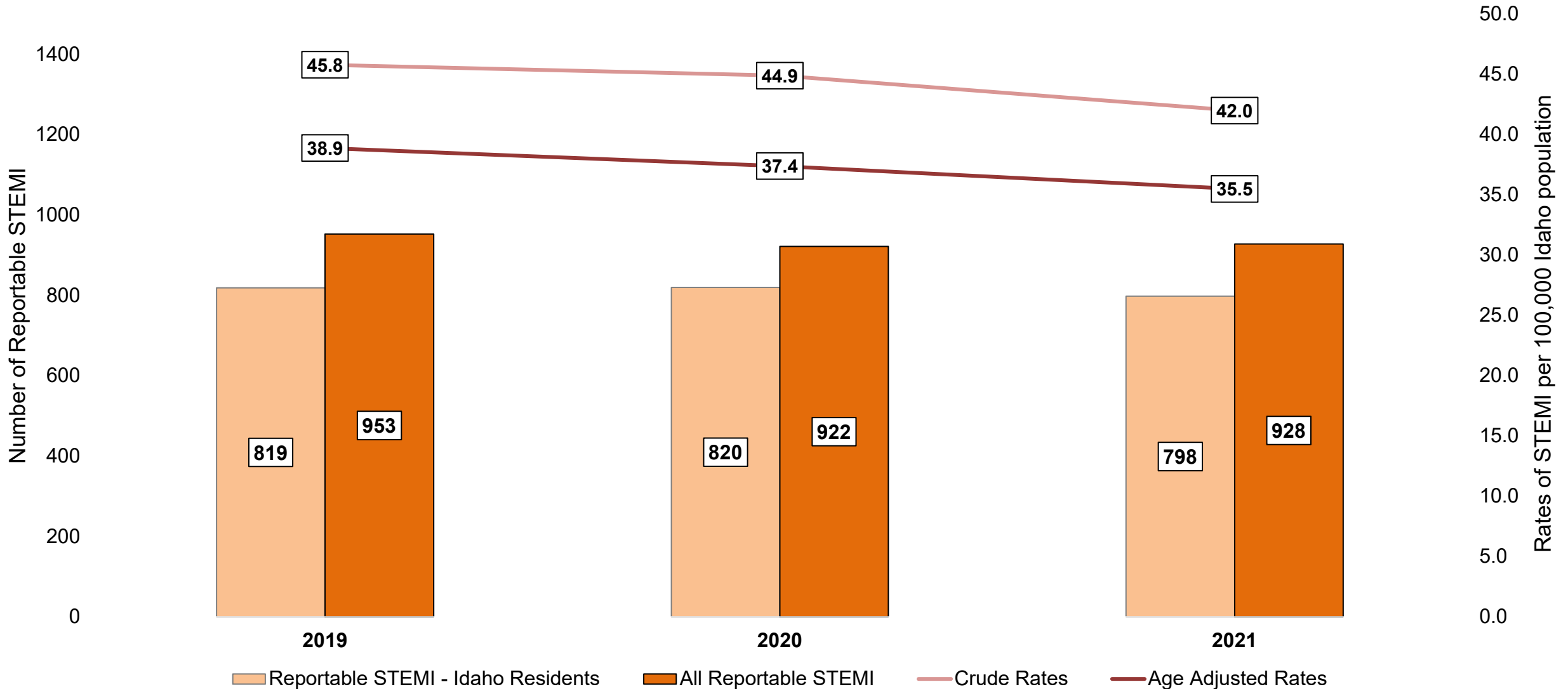
Primary PCI Centers

SAINT ALPHONSUS MEDICAL CENTER -
NAMPA
SAINT JOSEPH REGIONAL MEDICAL
CENTER
SAINT LUKE'S MERIDIAN MEDICAL
CENTER
SAINT LUKE'S MAGIC VALLEY MEDICAL
CENTER

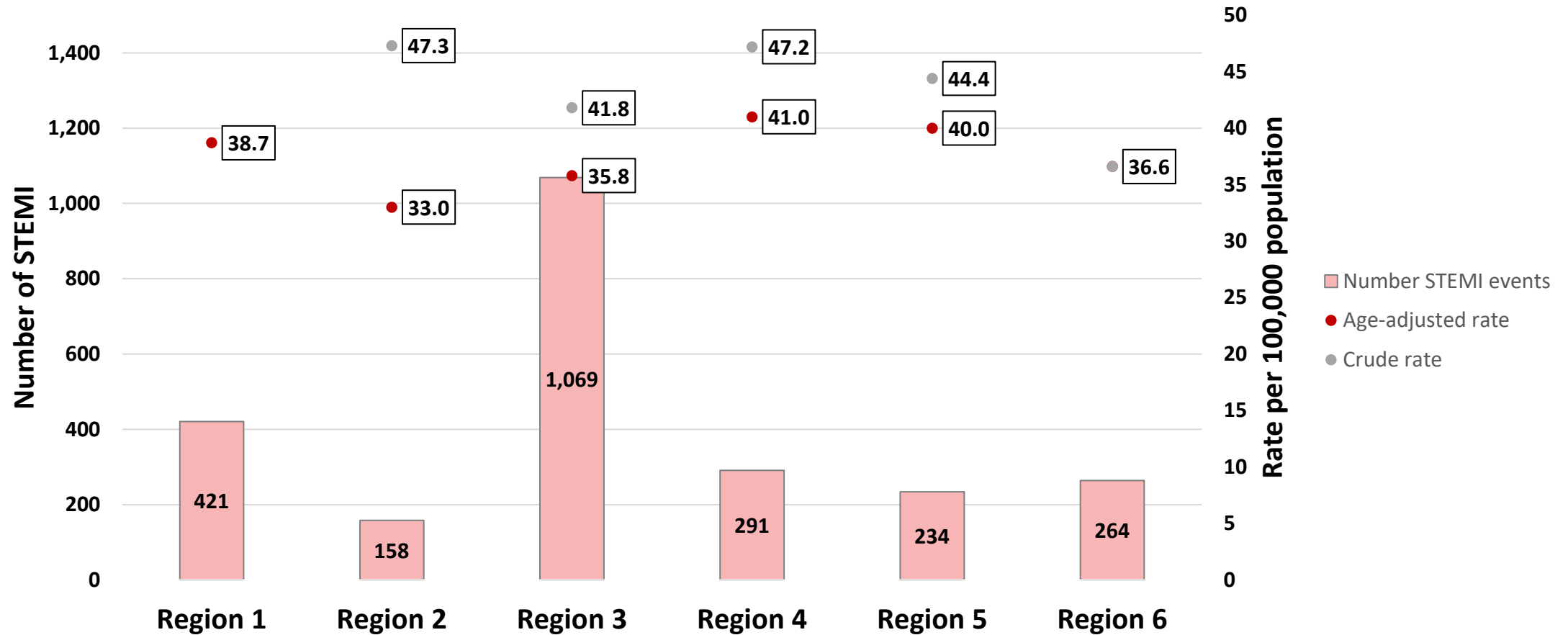
Comprehensive Care Centers

KOOTENAI HEALTH
SAINT ALPHONSUS REGIONAL MEDICAL
CENTER
SAINT LUKE'S BOISE MEDICAL CENTER
PORTNEUF MEDICAL CENTER
EASTERN IDAHO REGIONAL MEDICAL
CENTER

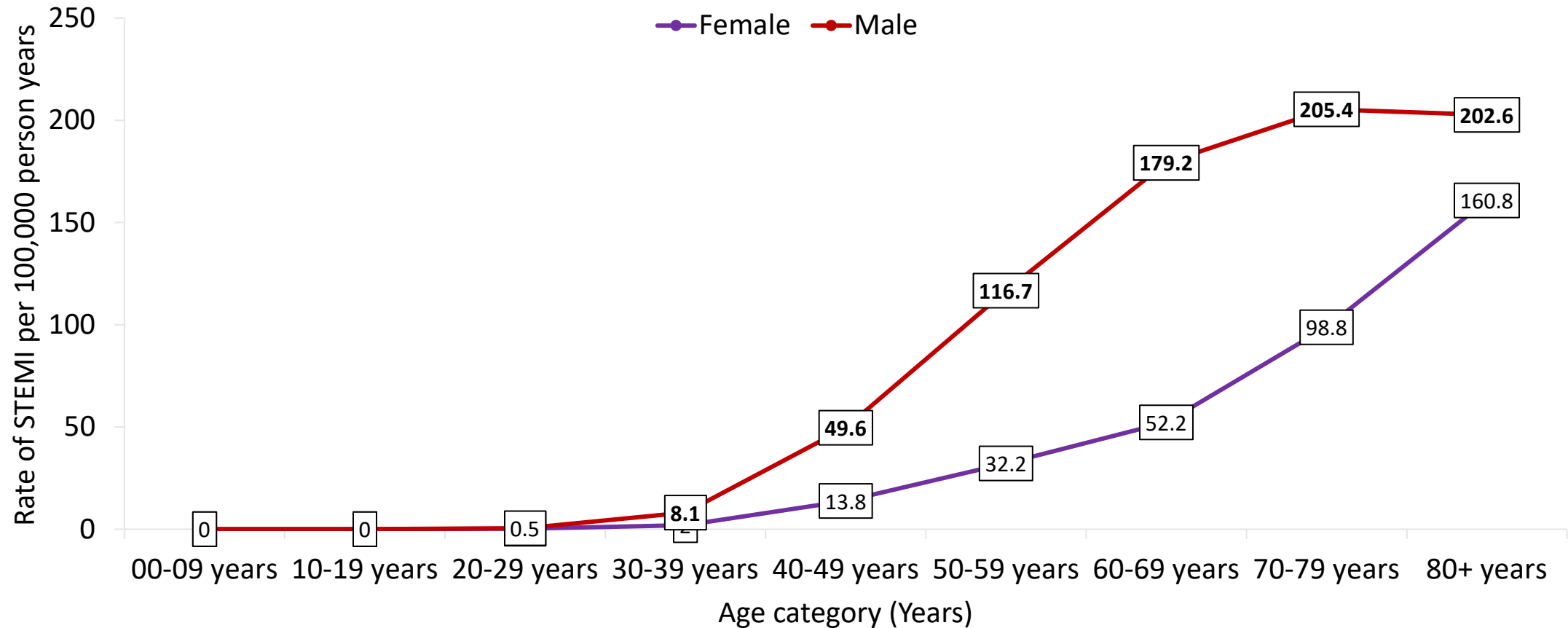
Trends in reportable STEMI during 2019–2021



Reported STEMI by TSE Region among Idaho residents, 2019–2021

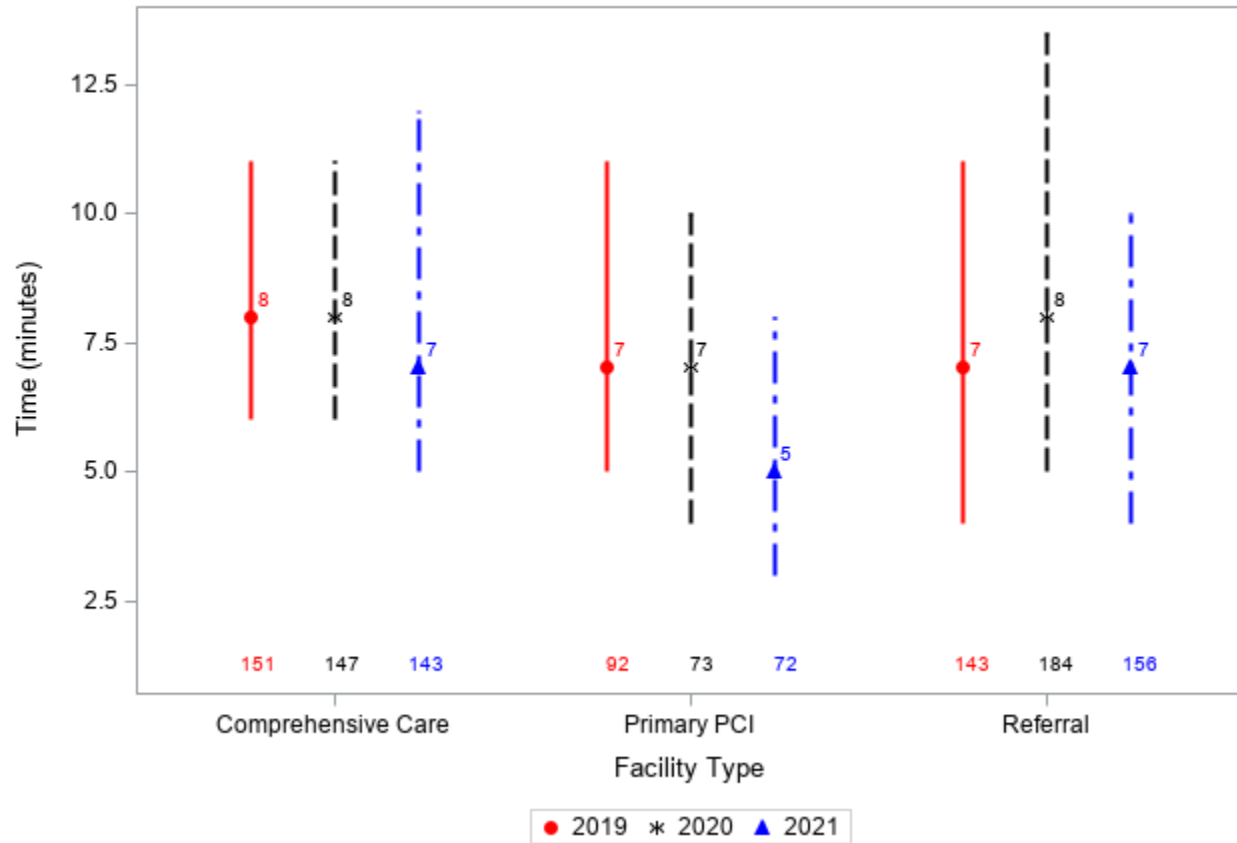


Age-adjusted STEMI incidence by age and sex — Idaho residents, 2019–2021

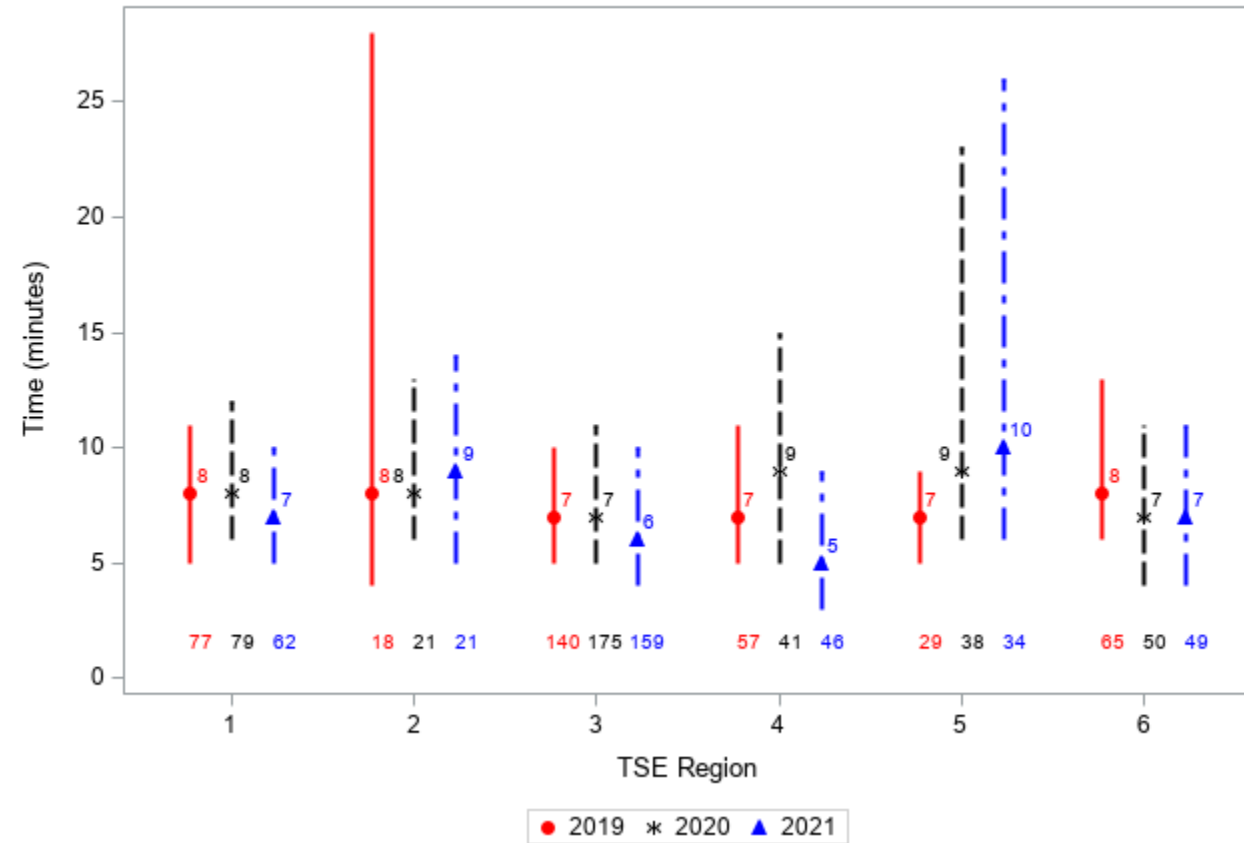


Bold = statistically significantly different rates between sexes

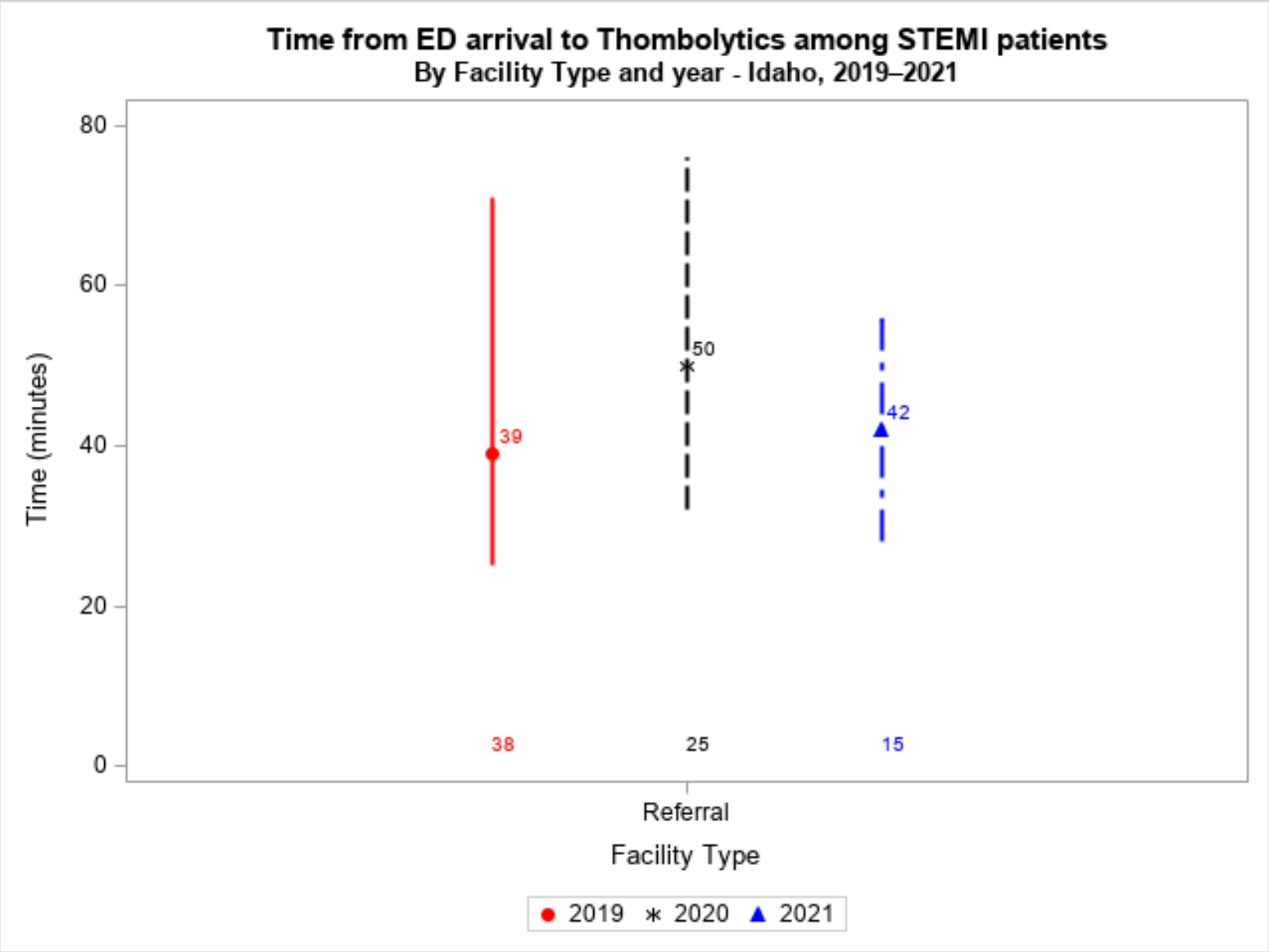
**Time from ED arrival to 1st ECG among STEMI patients
By Facility Type and year - Idaho, 2019–2021**



**Time from ED arrival to 1st ECG among STEMI patients
By TSE Region and year - Idaho, 2019–2021**

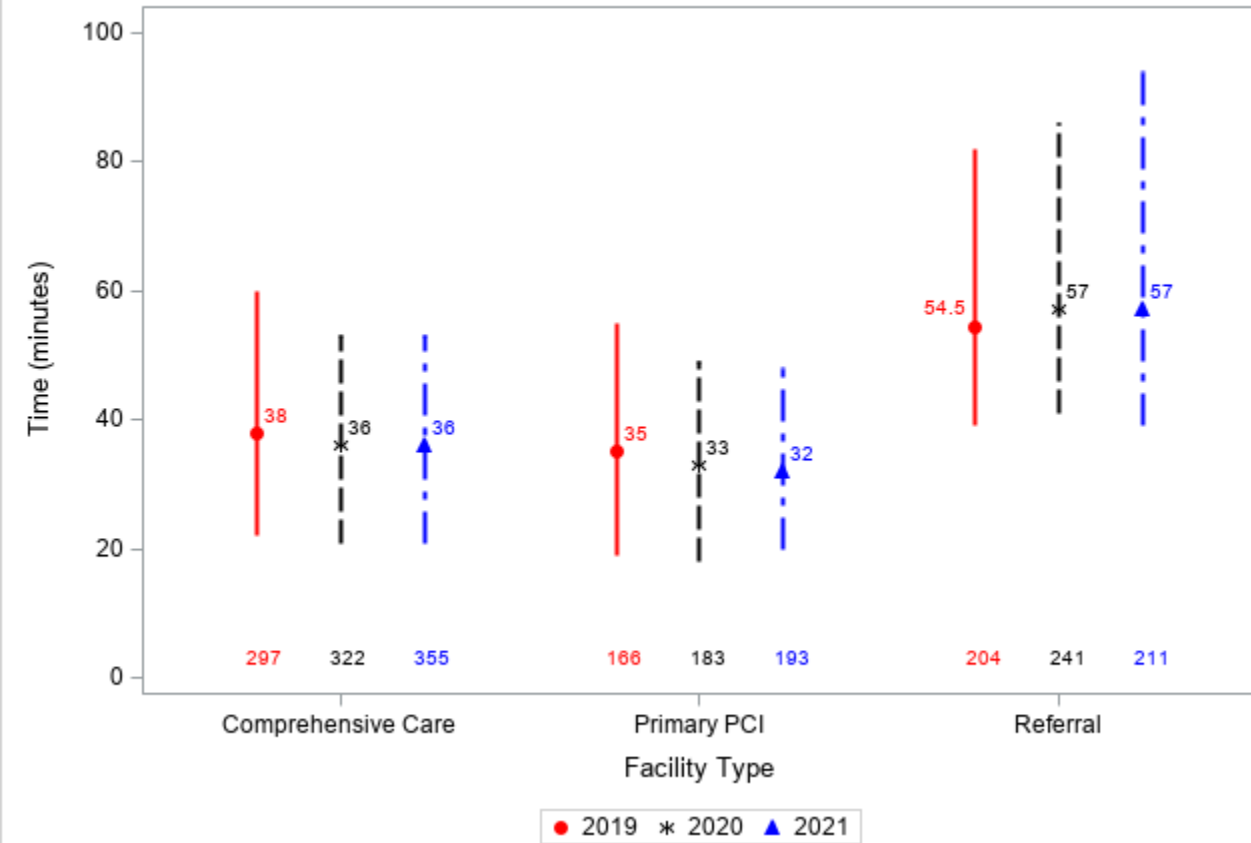


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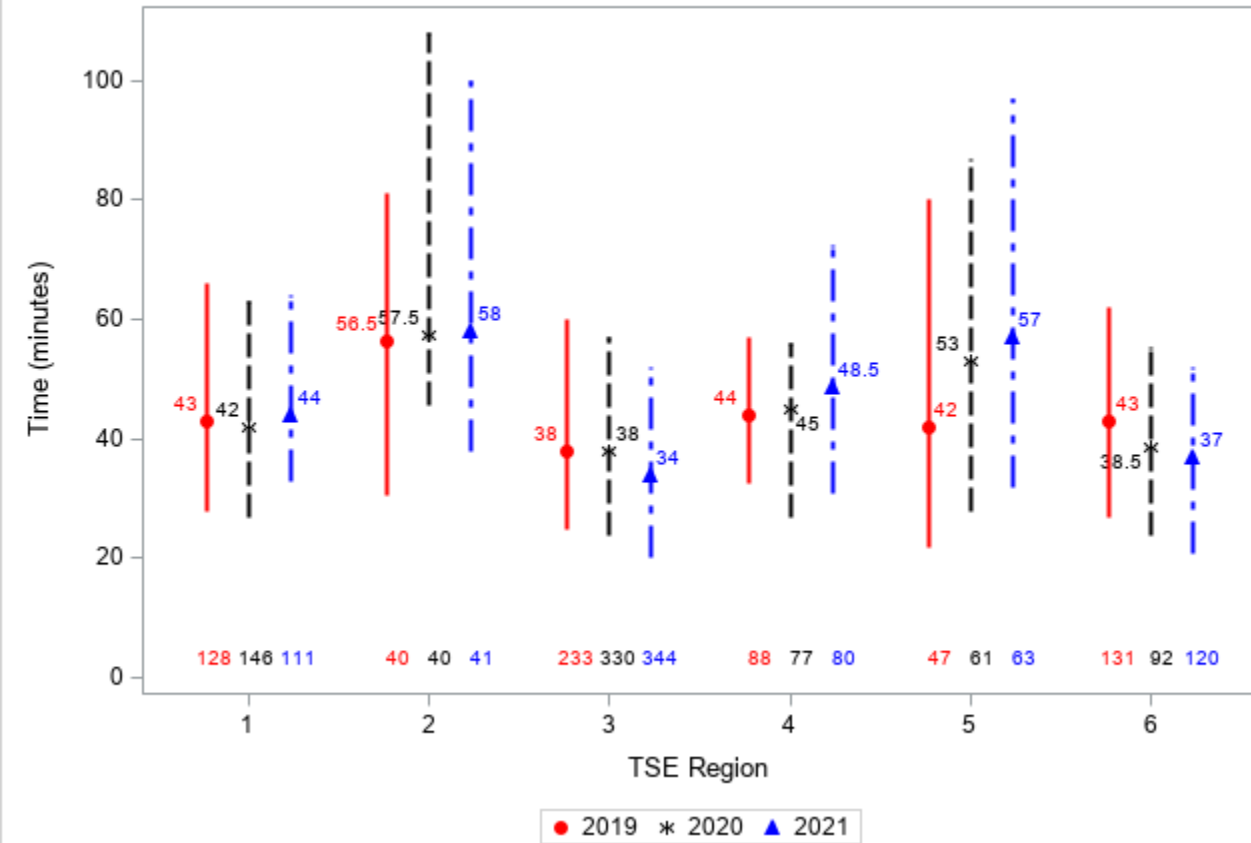


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Time from ED arrival to ED discharge among STEMI patients
By facility type and year - Idaho, 2019–2021

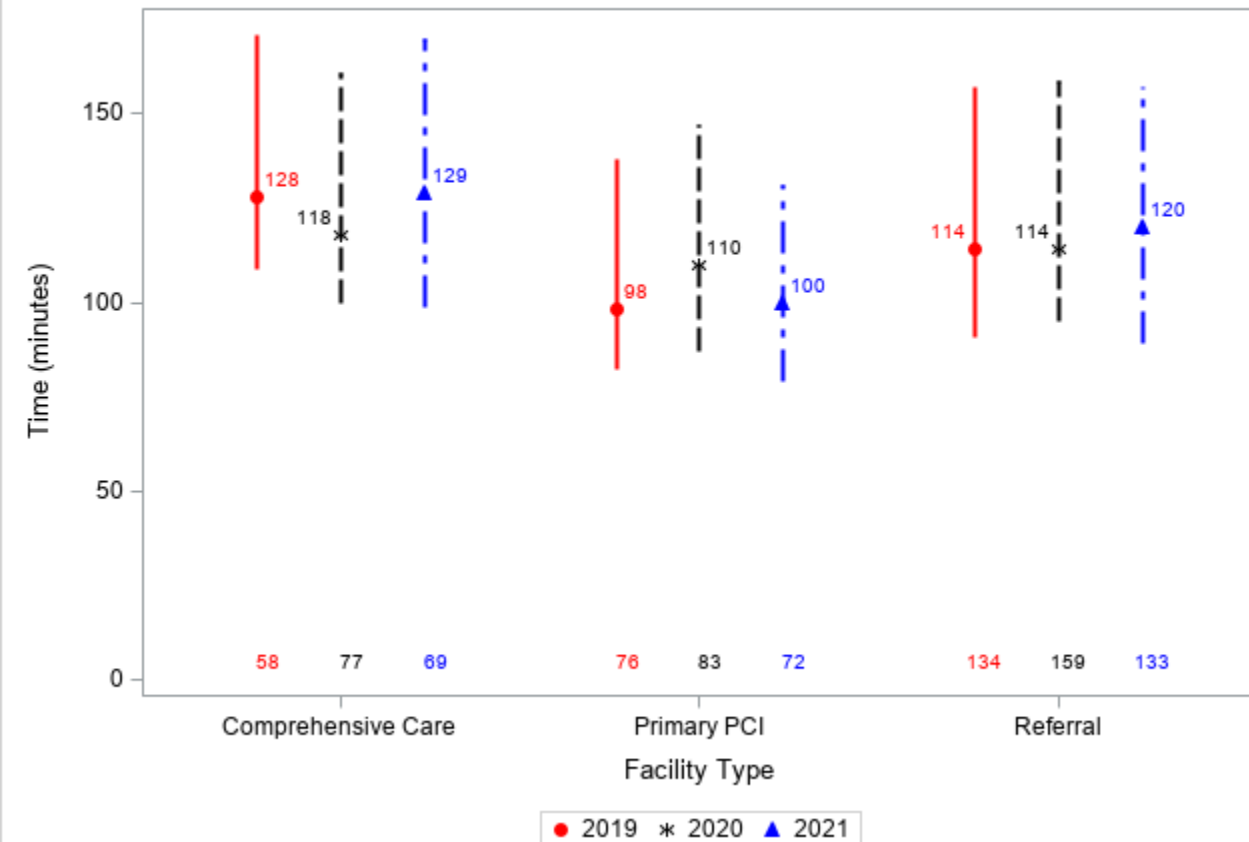


Time from ED arrival to ED discharge among STEMI patients
By TSE Region and year - Idaho, 2019–2021

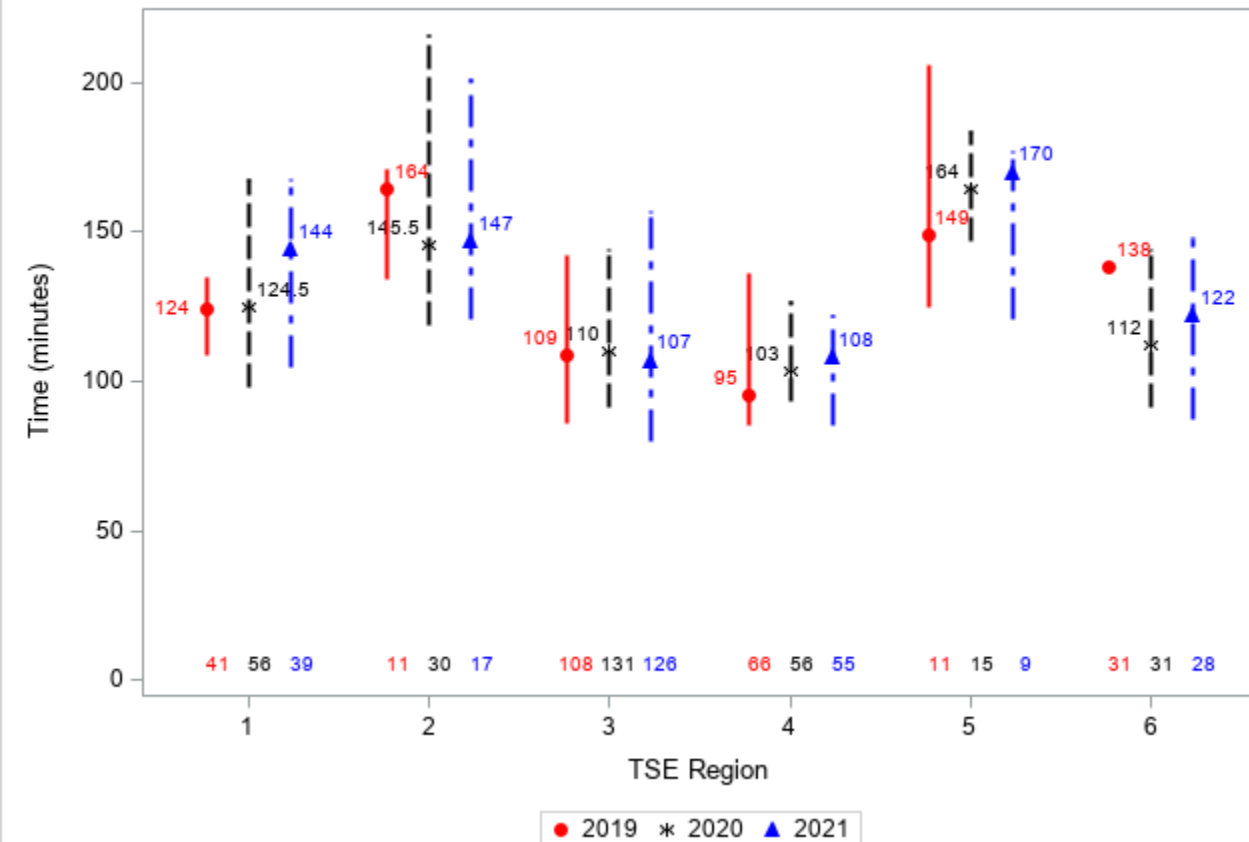


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**Time from door-to-door-to-device among transferred STEMI patients
By Facility Type and year - Idaho, 2019–2021**

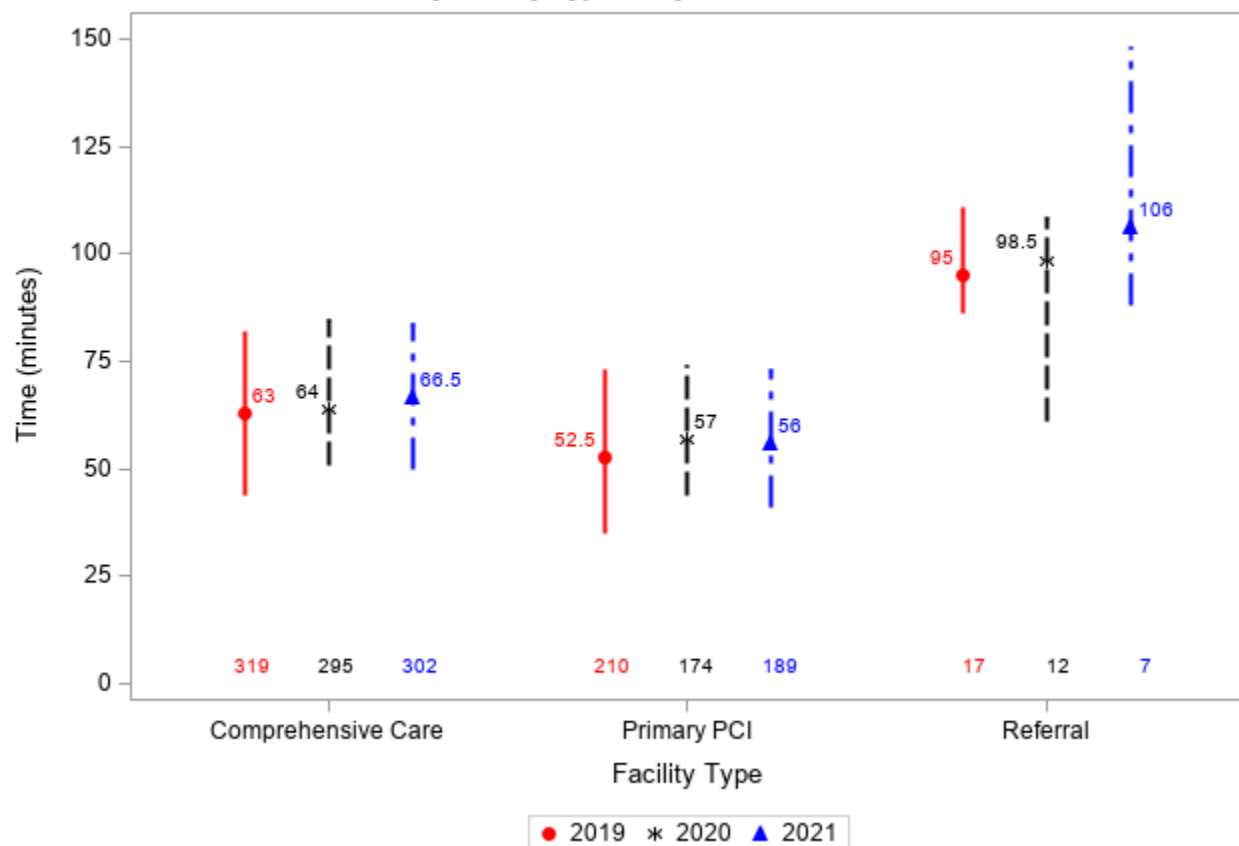


**Time from door-to-door-to-device among transferred STEMI patients
By TSE Region and year - Idaho, 2019–2021**

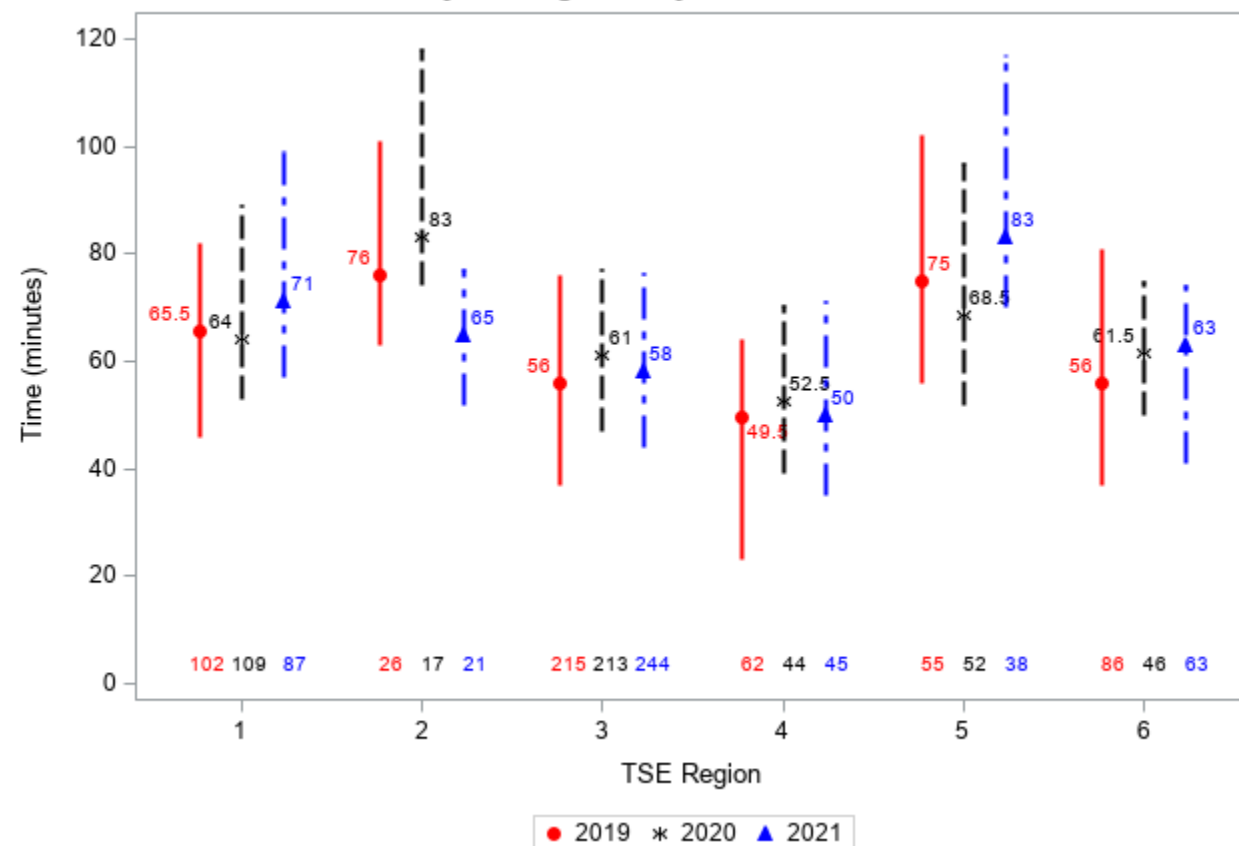


Marker indicates median time in minutes. Bars indicate 25th and 75th percentile of data for that category. Numbers along bottom of figure are N per category.

**Time from door-to-device among PV or EMS arrival STEMI patients
By Facility Type and year - Idaho, 2019–2021**

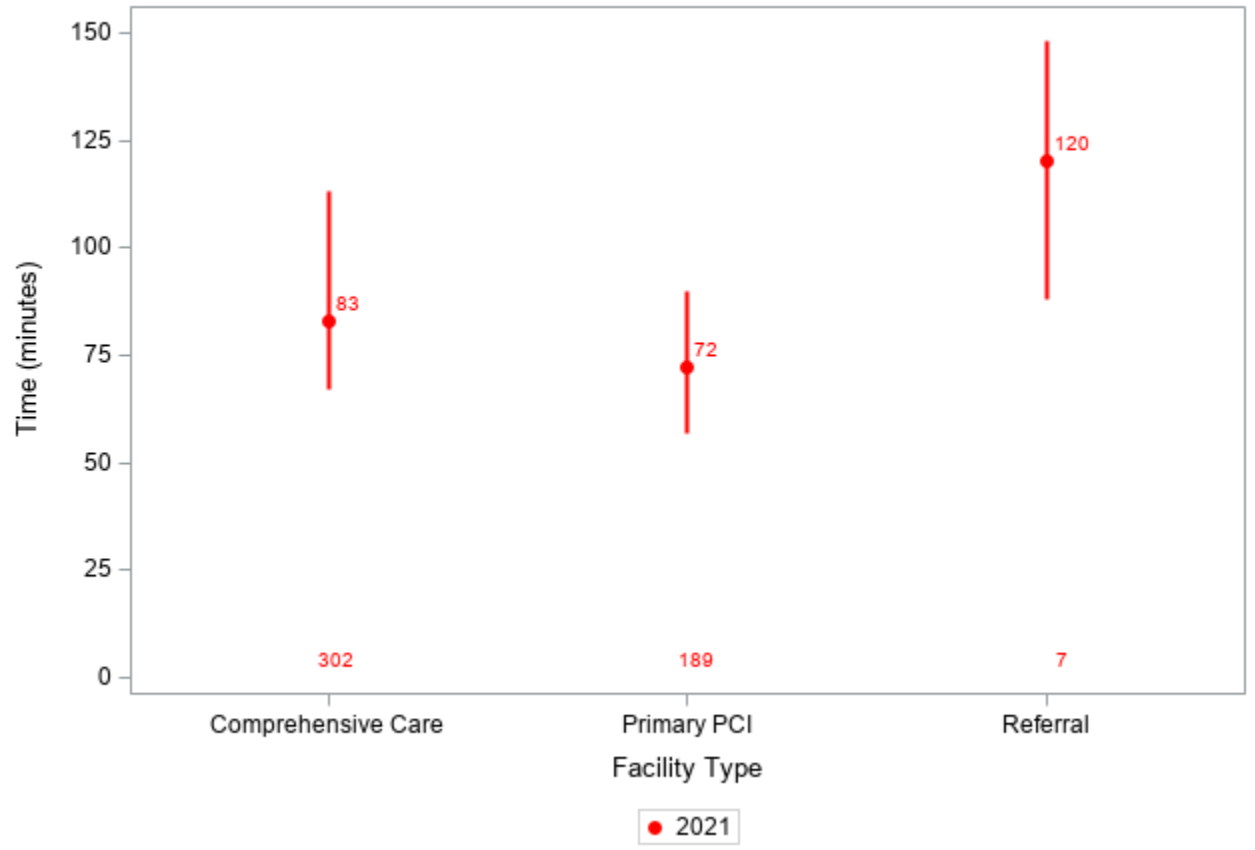


**Time from door-to-device among PV or EMS arrival STEMI patients
By TSE Region and year - Idaho, 2019–2021**

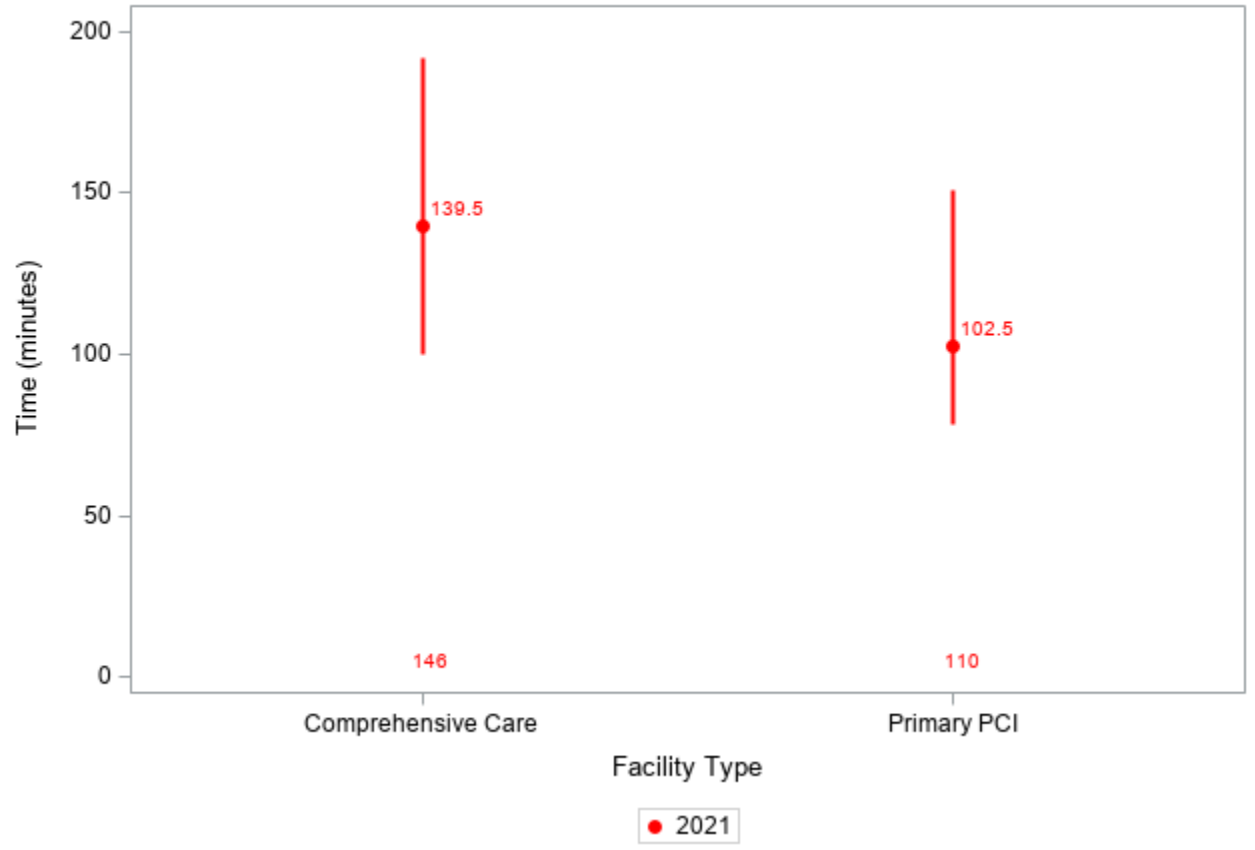


Marker indicates median time in minutes. Bars indicate 25th and 75th percentile of data for that category. Numbers along bottom of figure are N per category.

Time from 1st medical contact to device among PV or EMS arrival STEMI patients
By facility type and year - Idaho, 2021

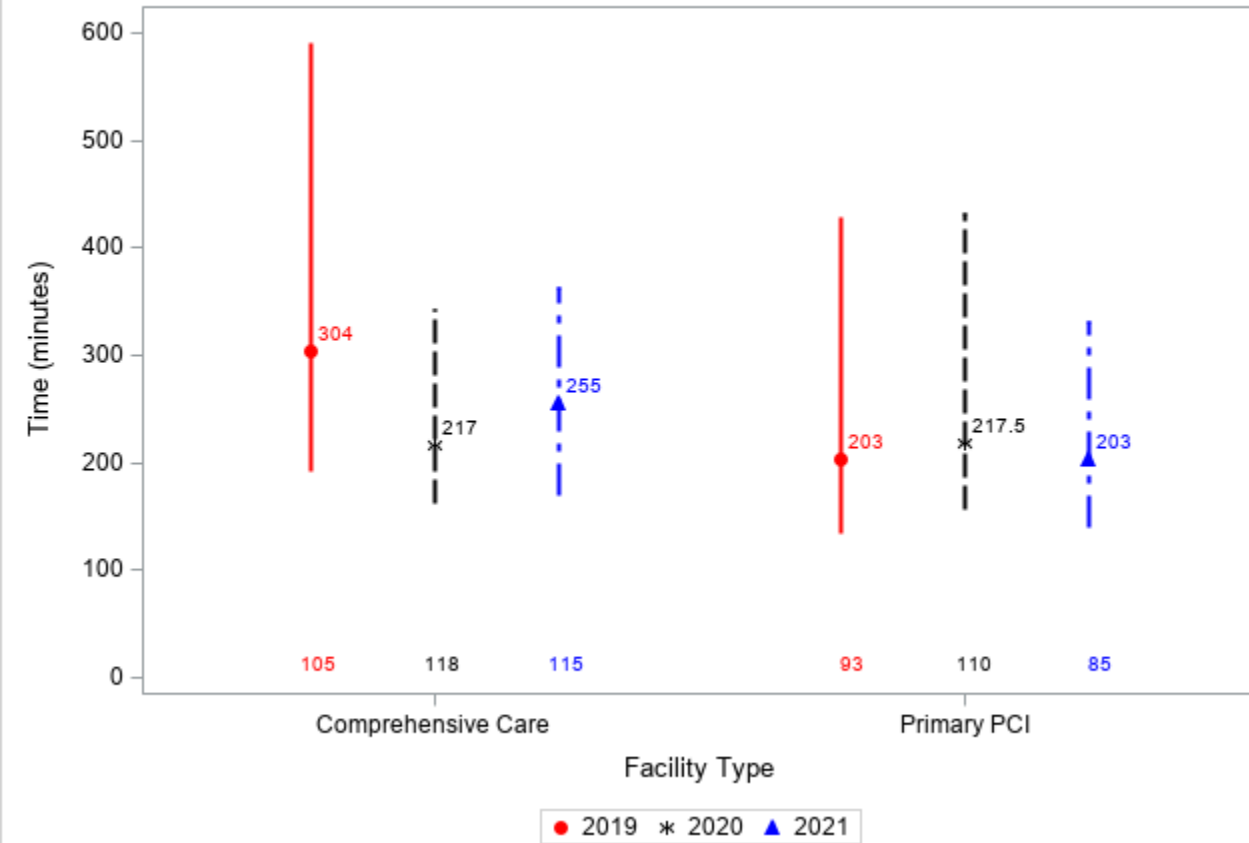


Time from 1st medical contact to device among transferred STEMI patients
By facility type and year - Idaho, 2021

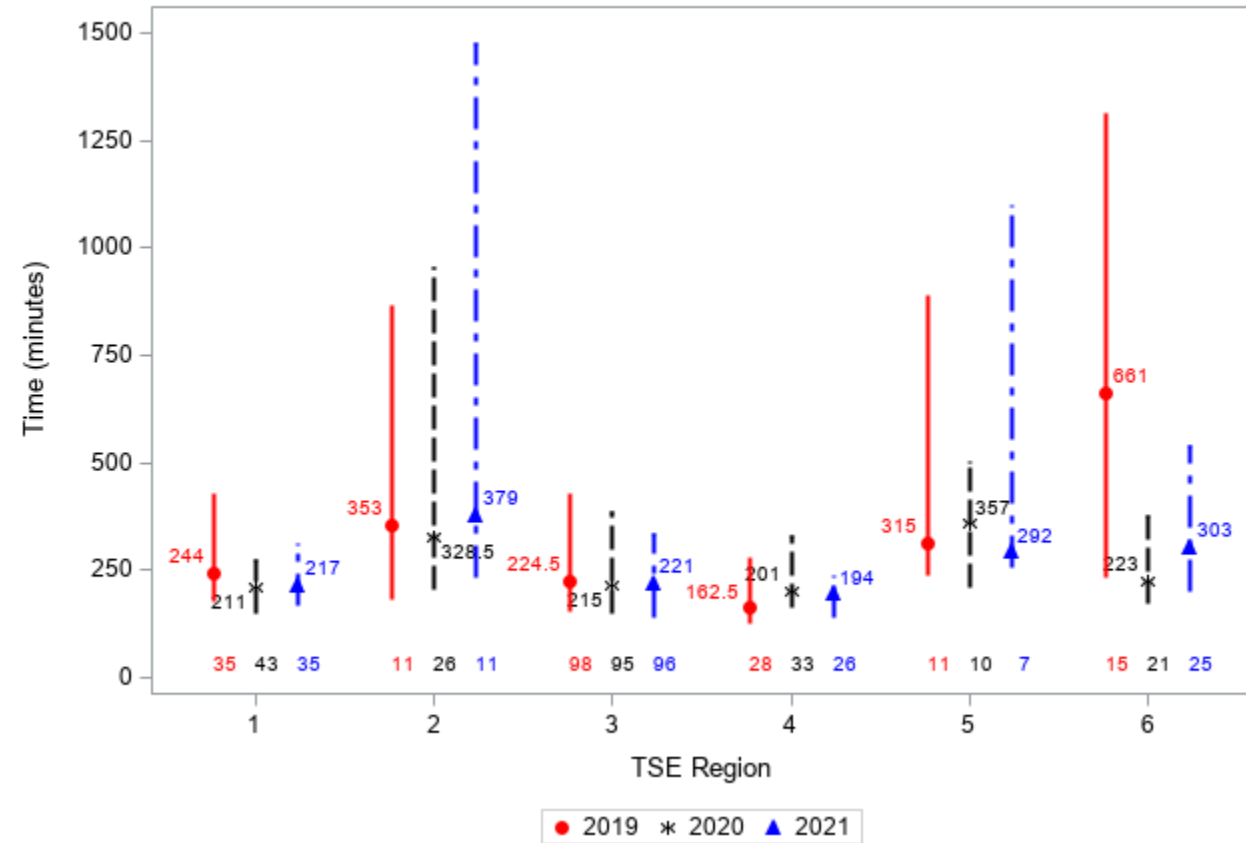


Marker indicates median time in minutes. Bars indicate 25th and 75th percentile of data for that category. Numbers along bottom of figure are N per category.

Time from symptom onset to 1st device activation among transferred STEMI patients
By facility type and year - Idaho, 2019–2021

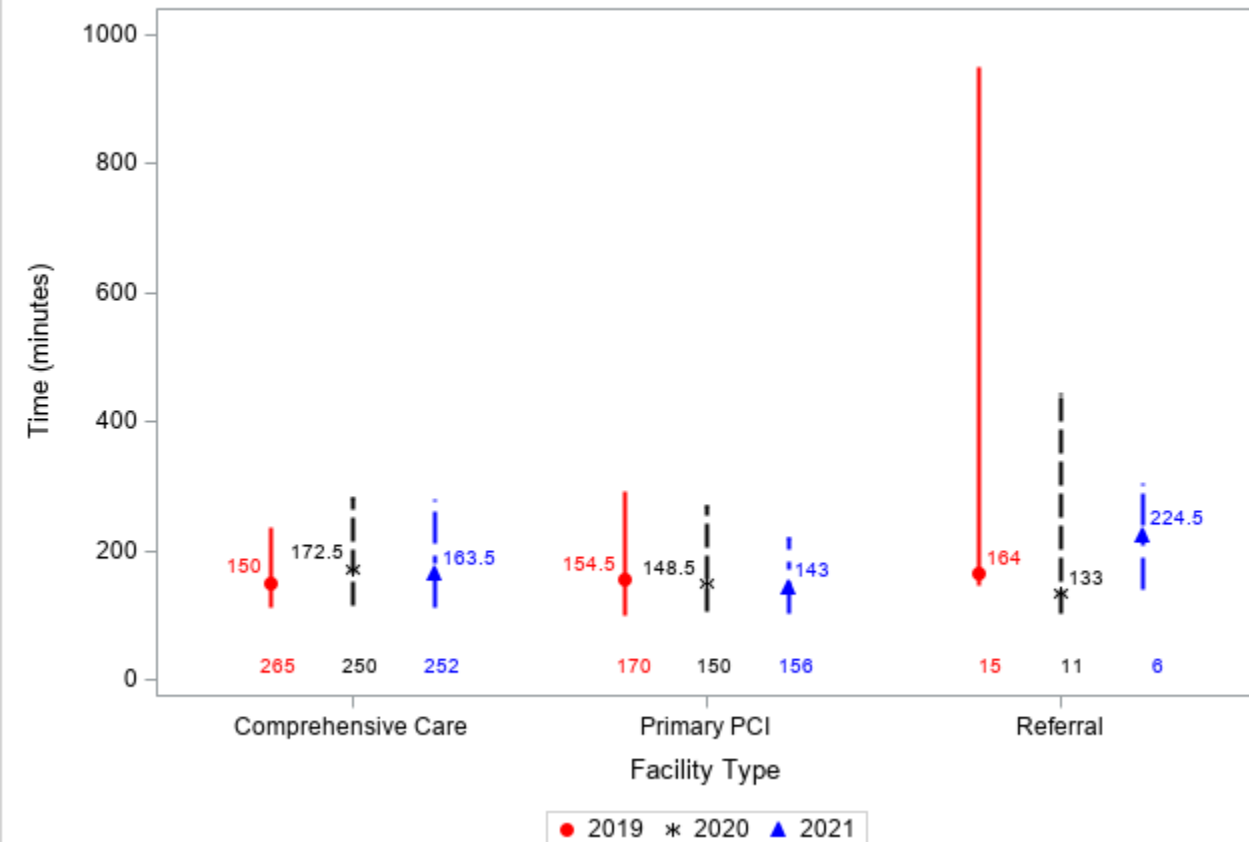


Time from symptom onset to 1st device activation among transferred STEMI patients
By TSE Region and year - Idaho, 2019–2021

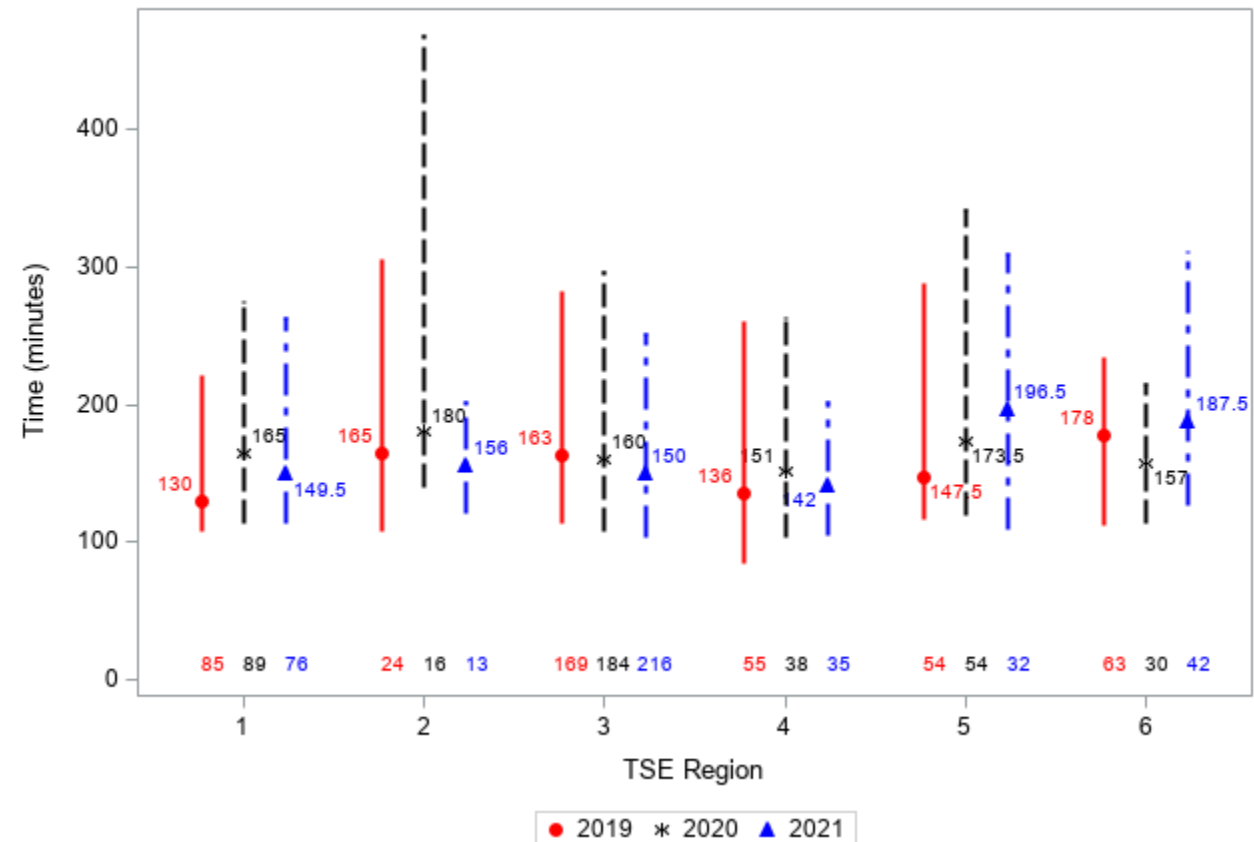


Marker indicates median time in minutes. Bars indicate 25th and 75th percentile of data for that category. Numbers along bottom of figure are N per category.

Time from symptom onset to 1st device activation among PV or EMS STEMI arrivals
By facility type and year - Idaho, 2019–2021

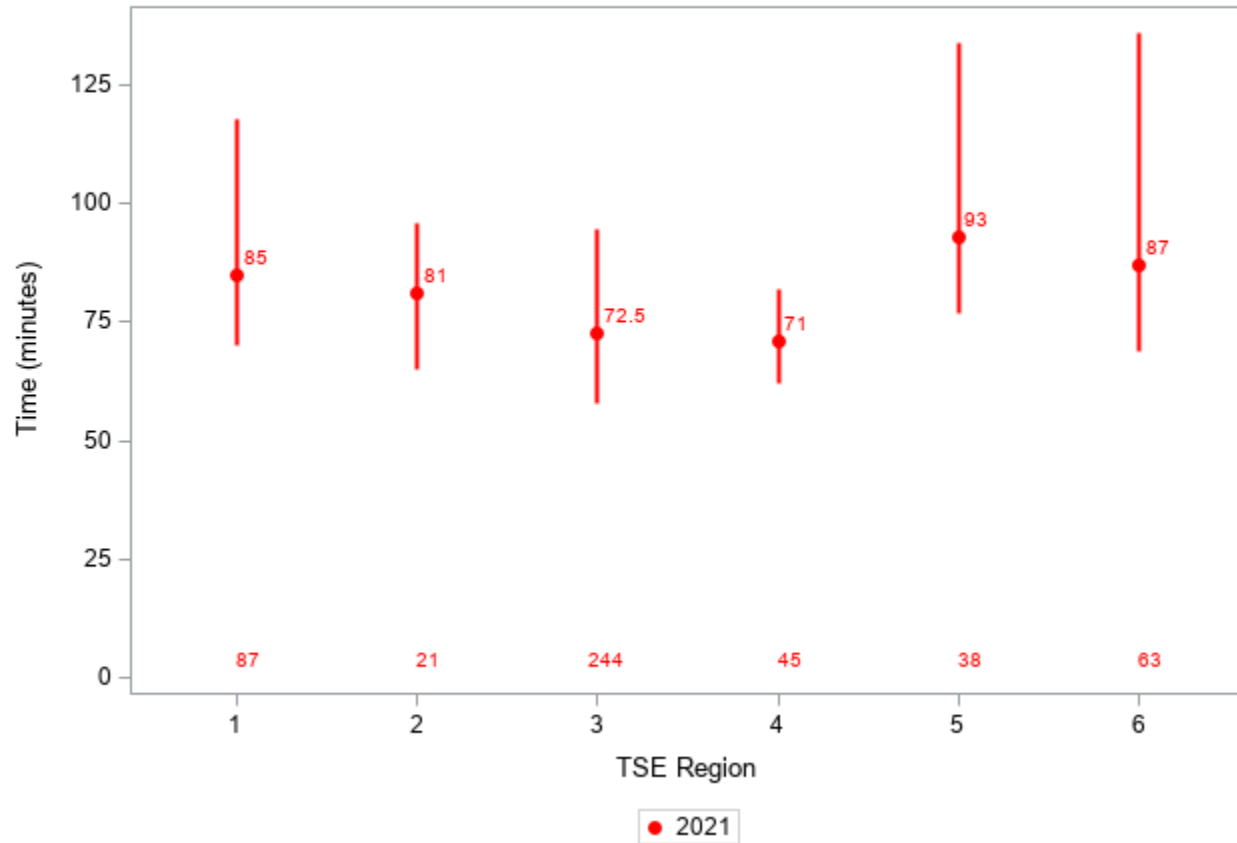


Time from symptom onset to 1st device activation among PV or EMS STEMI arrivals
By TSE Region and year - Idaho, 2019–2021

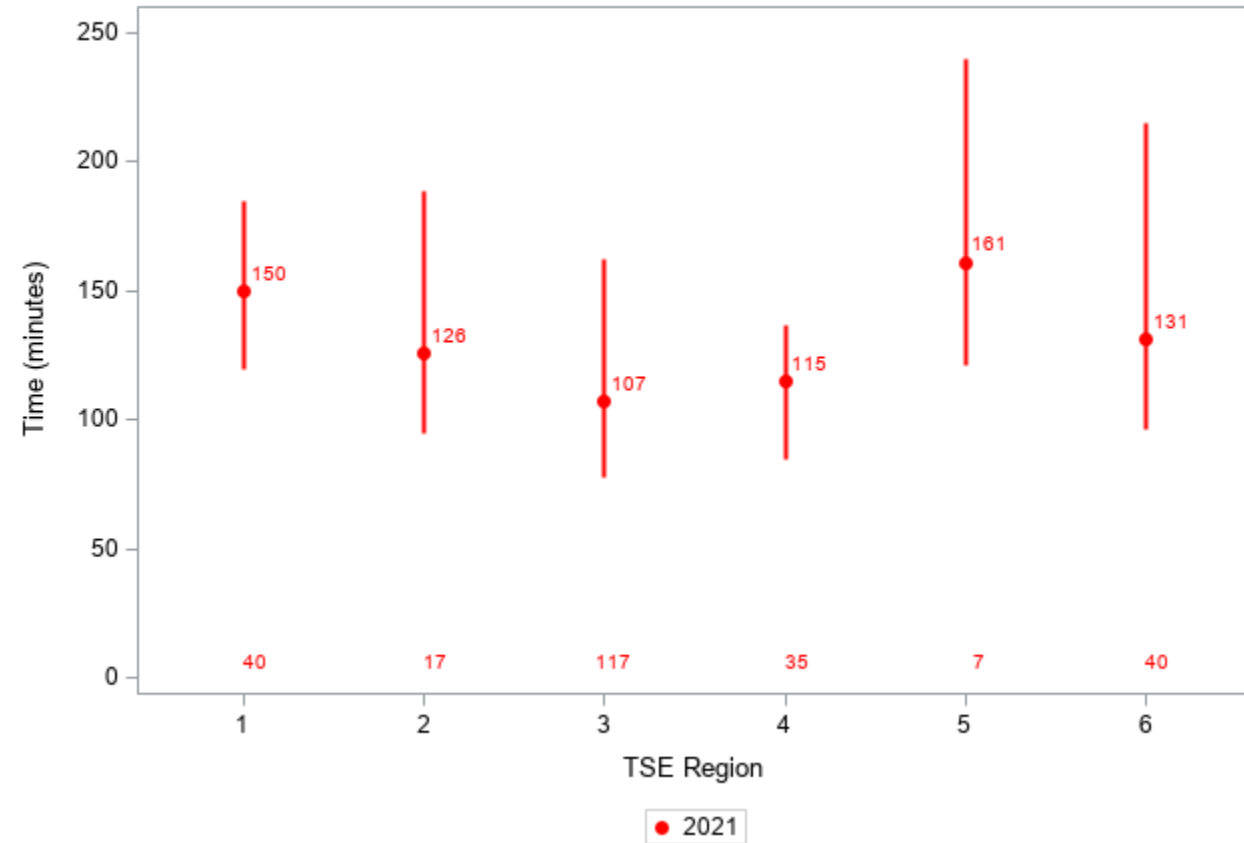


Marker indicates median time in minutes. Bars indicate 25th and 75th percentile of data for that category. Numbers along bottom of figure are N per category.

Time from 1st medical contact to device among PV or EMS arrival STEMI patients
By TSE Region and year - Idaho, 2021

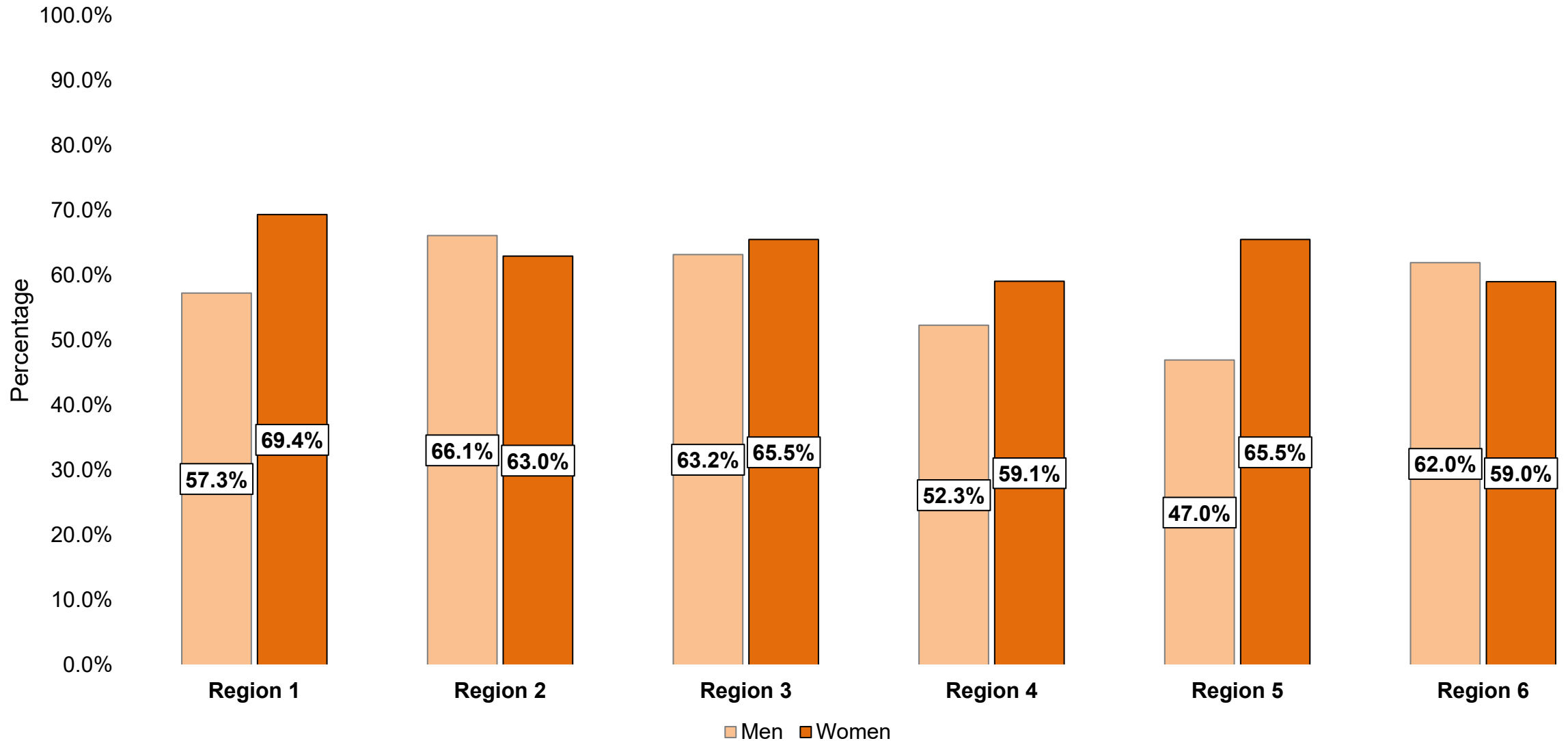


Time from 1st medical contact to device among transferred STEMI patients
By TSE Region and year - Idaho, 2021



Marker indicates median time in minutes. Bars indicate 25th and 75th percentile of data for that category. Numbers along bottom of figure are N per category.

Proportion STEMI with EMS as first transport mode by sex and TSE Region (1st treating facility), 2019–2021



Thank you! Questions?

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