USE OF FORCE ANALYSIS

Initial Report by the Pierce County Criminal Justice Work Group

View the full data sets at www.piercecountywa.gov/useofforce
November 8, 2021

The Honorable Bruce F. Dammeier
The Honorable Mary Robnett
The Honorable Ed Troyer

At your direction and in accordance with Council Resolution 2020-43, the Criminal Justice Work Group is submitting for your consideration a report on the Use of Force by Pierce County Sheriff deputies for the years 2016-2020.

The report is contained in the following pages. A more detailed version of the report is available at www.piercecountywa.gov/useofforce.

Information provided by the Sheriff indicates the use of force by Sheriff deputies is disproportionate to the racial and ethnic composition of the general population. Insufficient information is available to indicate the use of force is inappropriate to the circumstances confronting deputies when force is used.

In addition to this report, the Work Group recommends independent reviews of the use of force, beginning with all uses of force involving juveniles.

The Work Group will continue to collect and analyze information and submit reports on each stage of the criminal justice system, including but not limited to charges filed; diversions to mental health and substance treatment programs; negotiated pleadings; trials; and sentencing.

Respectfully submitted,

Criminal Justice Work Group
Background & Definitions

Data Sources

Non-Deadly Use of Force

- Stored in IAPRO BlueTeam, provided as an Excel export
- Reports used from 2016-2020, all complete years available at the time of this analysis.

Deadly Use of Force

- Stored separately from BlueTeam, provided as Excel files
- Reports used from 2016-2020, to match Blue Team data

Demographic Data

- American Community Survey (ACS) 2015-2019
- Provides an estimated average population for each race/ethnicity group over the course of the survey span.

Race & Ethnicity: Definitions and Limitations

Categorization, Language and Legacy Databases

Language is an important tool that can impact equity and accountability. Data analysis requires categorization and abstraction to develop insights, but these decisions can be made thoughtfully.

- Analysis of records from existing databases is limited to the constraints of those systems.
- Language can be updated, but recategorization is not possible with the data available.
- Systems vary widely in treatment of categories like “Two or More Races,” “Some Other Race,” and “Unknown Race.”
- Categories like “Asian or Pacific Islander” are outdated and overly broad.
- While ACS categories are self-reported, race data in use of force reporting is recorded by the law enforcement officer.

Race & Ethnicity In This Report

For use of force analysis, the following racial categories are used:

- Asian or Pacific Islander
- Black or African American
- Hispanic or Latinx
- Native American or Alaska Native
- White

These choices were made with the following constraints:

- Data sources vary on whether Hispanic or Latinx is treated as a race or an ethnicity. This report considers anyone choosing this ethnicity in the ACS as in this category, regardless of reported race.
- Categories of Two or More Races, Some Other Race Alone, and Unknown Race do not clearly map between ACS and internal data sources, and are excluded from calculation of risk metrics.
- Due to the categories available over the life of the dataset, Asian and Pacific Islander populations are combined, despite known concerns with this method.

Impacts of Exclusion

Excluding several categories due to ambiguity and inconsistency of use reduces the number of total force reports accounted for in the risk analysis.

- Some Other Race Alone makes up 0.70% of physical force incidents.
- Two or More Races makes up 0.74% of physical force incidents.
- Unknown Race—including both those marked unknown and those left empty—make up 8% of physical force incidents.

The metrics in this analysis are not directly impacted by the absence of certain categories, but these exclusions do represent a gap in the data.
Pierce County Sheriff’s Department (PCSD) reports on acts of physical force, defined as “The application of physical techniques or tactics, chemical agents, or weapons to another person.” This can range from guiding the subject by the arm, to discharge of the firearm.

Also tracked are several non-physical, or “officer presence” actions, which use an officer’s authority or show of force to direct behavior and attempt de-escalation.

Unless otherwise specified, this report’s analysis is focused on Physical Force Applications. However, findings can be viewed through the lens of any combination of force levels on an online dashboard.

PCSD training classifies vascular neck restraints with no pressure applied (VNR 1) as Non-Deadly Force. However, available data does not distinguish these applications from VNR 2 (pressure applied), which is considered Intermediate Force. This report classifies both VNR 1 and 2 as Intermediate Force. A new state law became effective July 25, 2021, prohibiting the use of Vascular Neck Restraints. The data in this report was collected prior to the legislative change.

Deadly Force records also contain a small number of incidents in which the subject died during application of intermediate force. In each of these cases, use of force was not ruled the cause of death.
Use of Force

Is Force Use Changing Over Time?

Different force categories show different patterns, but overall force use rose 2016-2018, and fell 2018-2020. At this point the time range is too short to analytically establish confidence in any trends.

Distribution of force across the racial and ethnic groups covered in this report are also relatively consistent over the five year analysis period.
The force dataset in this report contains all force reports by PCSD deputies from 2016-2020. 2016 is the first complete year of data from the current reporting software, and 2020 was the last complete year at the time of the analysis. Uses of force can be counted in terms of incidents or applications.

**Applications** represent each individual’s use of force in a single incident. If a single arrest involves a combination of OC spray and two officers using control tactics, three applications of force are recorded.

**Incidents** represent a single arrest or other complete force event. A single incident may contain any number of force applications.

### 1,753 Average Annual Force Applications

<table>
<thead>
<tr>
<th>Force Type</th>
<th>Count</th>
</tr>
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<tbody>
<tr>
<td>Control Tactics (Soft Empty Hands)</td>
<td>487</td>
</tr>
<tr>
<td>Verbal Commands</td>
<td>382</td>
</tr>
<tr>
<td>Firearm Point and Direct</td>
<td>208</td>
</tr>
<tr>
<td>Compliant Handcuffing</td>
<td>145</td>
</tr>
<tr>
<td>Strikes Hard Empty Hands</td>
<td>122</td>
</tr>
<tr>
<td>Conducted Energy Weapon (Taser)</td>
<td>115</td>
</tr>
<tr>
<td>Vascular Neck Restraint (VNR)</td>
<td>96</td>
</tr>
<tr>
<td>Leg Restraint (Hobble)</td>
<td>66</td>
</tr>
<tr>
<td>K9 Contact</td>
<td>43</td>
</tr>
<tr>
<td>K9 No Contact</td>
<td>33</td>
</tr>
<tr>
<td>Impact Weapon</td>
<td>25</td>
</tr>
<tr>
<td>OC (Pepper Spray)</td>
<td>15</td>
</tr>
<tr>
<td>Deadly Force</td>
<td>15</td>
</tr>
<tr>
<td>Vehicle (Non-Deadly)</td>
<td>10</td>
</tr>
<tr>
<td>Less Lethal Tools</td>
<td>6</td>
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</table>

### 671 Average Annual Force Incidents

<table>
<thead>
<tr>
<th>Force Type</th>
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</tr>
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<tbody>
<tr>
<td>Control Tactics (Soft Empty Hands)</td>
<td>335</td>
</tr>
<tr>
<td>Verbal Commands</td>
<td>286.2</td>
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<tr>
<td>Firearm Point and Direct</td>
<td>148</td>
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<tr>
<td>Compliant Handcuffing</td>
<td>126.6</td>
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<tr>
<td>Conducted Energy Weapon (Taser)</td>
<td>94</td>
</tr>
<tr>
<td>Strikes Hard Empty Hands</td>
<td>83</td>
</tr>
<tr>
<td>Vascular Neck Restraint (VNR)</td>
<td>78.4</td>
</tr>
<tr>
<td>Leg Restraint (Hobble)</td>
<td>44.2</td>
</tr>
<tr>
<td>K9 Contact</td>
<td>39.6</td>
</tr>
<tr>
<td>K9 No Contact</td>
<td>28</td>
</tr>
<tr>
<td>Impact Weapon</td>
<td>25</td>
</tr>
<tr>
<td>OC (Pepper Spray)</td>
<td>15</td>
</tr>
<tr>
<td>Deadly Force</td>
<td>15</td>
</tr>
<tr>
<td>Less Lethal Tools</td>
<td>10</td>
</tr>
<tr>
<td>Vehicle (Non-Deadly)</td>
<td>6</td>
</tr>
</tbody>
</table>

### Force Types by Race/Ethnicity

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>Non-Physical Force</th>
<th>Non-Deadly Force</th>
<th>Intermediate Force</th>
<th>Deadly Force</th>
</tr>
</thead>
<tbody>
<tr>
<td>Verbal Commands</td>
<td>4%</td>
<td>24%</td>
<td>7%</td>
<td>64%</td>
</tr>
<tr>
<td>Firearm Point and Direct</td>
<td>4%</td>
<td>21%</td>
<td>7%</td>
<td>66%</td>
</tr>
<tr>
<td>Compliant Handcuffing</td>
<td>4%</td>
<td>21%</td>
<td>5%</td>
<td>69%</td>
</tr>
<tr>
<td>K9 No Contact</td>
<td>1%</td>
<td>32%</td>
<td>5%</td>
<td>61%</td>
</tr>
<tr>
<td>CT Soft Empty Hands</td>
<td>5%</td>
<td>24%</td>
<td>5%</td>
<td>66%</td>
</tr>
<tr>
<td>Leg Restraint (Hobble)</td>
<td>5%</td>
<td>28%</td>
<td>4%</td>
<td>61%</td>
</tr>
<tr>
<td>CEW Taser</td>
<td>5%</td>
<td>27%</td>
<td>7%</td>
<td>59%</td>
</tr>
<tr>
<td>Strikes Hard Empty Hands</td>
<td>5%</td>
<td>22%</td>
<td>8%</td>
<td>64%</td>
</tr>
<tr>
<td>VNR 1 or 2</td>
<td>7%</td>
<td>27%</td>
<td>8%</td>
<td>60%</td>
</tr>
<tr>
<td>K9 Contact</td>
<td>7%</td>
<td>23%</td>
<td>8%</td>
<td>76%</td>
</tr>
<tr>
<td>Impact Weapon</td>
<td>8%</td>
<td>9%</td>
<td>5%</td>
<td>64%</td>
</tr>
<tr>
<td>OC</td>
<td>8%</td>
<td>30%</td>
<td>4%</td>
<td>64%</td>
</tr>
<tr>
<td>Less Lethal Tools</td>
<td>13%</td>
<td>44%</td>
<td>4%</td>
<td>56%</td>
</tr>
<tr>
<td>Vehicle (Non-Deadly)</td>
<td>13%</td>
<td>25%</td>
<td>4%</td>
<td>63%</td>
</tr>
<tr>
<td>Deadly Force</td>
<td>15%</td>
<td>6%</td>
<td>4%</td>
<td>79%</td>
</tr>
</tbody>
</table>

**Race / Ethnicity**

- Asian or Pacific Islander
- Black or African American
- Hispanic or Latinx
- Native American or Alaska Native
- White
Proportionality in Force

This report focuses on proportionality in use of force. Do members of one group—here, a racial or ethnic group—experience force in proportion to the size of their base population? If a group makes up 25% of the population, but 50% of the force, the group is disproportionately represented.

Measuring proportionality requires two data points: a measure of force experienced by each group, and a baseline population to compare to.

Measure of Force

A standard measure of force establishes the amount of force experienced by each group in the population.

Incidents encompass all force used in a single contact. The incident count does not contain information on overall severity and may underestimate complex incidents.

Applications represent each individual force action taken within an incident. Counting every individual application may overestimate complex incidents.

This report uses incidents as its measure of force, with the following effects:

- Incidents display a lower estimate of total force numbers.
- Rate comparisons do not vary significantly between measures.
- Report conclusions are not substantially impacted by this distinction.

Baseline Population

A baseline population establishes the size of a group within the population that may experience force.

Population (Pierce County) includes several cities with their own police departments. There can be significant demographic difference between urban and rural areas.

Population (PCSD Jurisdiction) only includes PCSD’s direct service area - unincorporated Pierce County, University Place, and Edgewood - where the majority of deputy activity occurs.

This report uses Population (PCSD Jurisdiction) as its population baseline.

- This population better represents those most likely to encounter PCSD.
- This population has a higher White population share, which leads to a higher estimate of disproportionality.

Measuring Proportionality: Risk Metrics

Using the force measure and population baseline, several metrics can be calculated that show different characteristics of overall proportionality.

Comparative metrics require a single baseline group against which to compare other groups. As the largest racial group in Pierce County, the White population is used as a baseline, and all Risk Ratio and Raw Differentiated Risk scores (defined below) are calculated in relation to that group’s experience of force.

Risk Index

The rate at which a population experiences force as compared to their representation in a base population. This is scaled as the number of incidents of force per 10,000 residents.

- **Example:** If Group A has a force risk of 0.09 then force was used on member of Group A 9 times for every hundred member of the population, or 900 per 10,000 residents.
- **Proportionality:** If there is no racial disparity between two groups, then they should have a roughly equal risk index.
- **Formula:** Number of a group experience force divided by the number of a group in the base population.

Risk Ratio

Compares the risk between the analysis group and a baseline group, indicating how much more or less the analysis group experiences force.

- **Example:** If Group B has a risk ratio of 2.0 compared to Group A, then members of B are twice as likely to experience force as A. If the Risk Ratio is 0.5, then they are half as likely to experience force.
- **Proportionality:** If there is no disparity between Group A and Group B, the Risk Ratio between them should be near 1.0.
- **Formula:** Risk Index of analysis group divided by the Risk Index of comparison group.

Raw Differentiated Risk (RDR)

Applies real-world scale of any difference indicated by Risk Ratio, estimating difference in total force if the group had a Risk Ratio of 1.0, experiencing force at the same rate as the baseline comparison group.

- **Example:** If Group A has a RDR of 50 compared to Group B, then if A experienced force at the same rate as B, there would be approximately 50 fewer total uses of force.
- **Proportionality:** If there is no disparity between Group A and Group B, Group A should have a near zero RDR.
- **Formula:** Number of analysis group experiencing force minus the number of analysis group experiencing force divided by the Risk Ratio of analysis group vs. comparison group.
Analysis Findings

Use of Force by Race

While the White population experiences the most overall force, due to their majority in the population, this may not indicate that they are at the highest risk to experience force. The risk index divides the amount of force used on a group by the baseline population of that group’s members.

Example:
- 2015-2019 5-Year ACS data estimates a Black or African American population in the PCSD Jurisdiction of 19,899.
- PCSD recorded 105 force incidents per year involving a Black or African American subject between 2016 and 2020.
- The risk index for Black or African American subjects is $\frac{105}{19899} = 0.0053$, or 53 incidents per 10,000 residents.

Average Annual Force Risk

Comparing Risk

Risk Ratio compares two risk index scores together to establish a relative difference. As the largest segment of the area population, the White population is used as a consistent baseline for comparing each racial group. Each risk ratio value represents the amount of force experienced by that group as compared to their White peers. Raw Differentiated Risk then estimates the annual total reduction in force toward a group if their risk matched the White population.

A risk ratio of 5.62 indicates that Black or African American residents experience 5.62 times as much force as White residents, resulting in an estimated 87 additional incidents.

A risk ratio of 2.31 indicates that Native American or Alaskan Native residents experience 2.31 times as much force as White residents, resulting in an estimated 5 additional incidents.

Risk Ratio Relative to White Population

Raw Differentiated Risk

Estimated annual reduction in force toward a group if their risk matched the White population.

87 Toward Black or African American

5 Toward Native American or Alaskan Native
Total Deadly Force per Year

Deadly Force is the least common force level, containing **6.6 incidents per year***, including:
- Use of a firearm (5 per year)
- Vehicle ramming (0.8 per year)
- A small number of other force types

*Total includes incidents categorized as Two or More Races, Some Other Race Alone, and Unknown Race, which are not shown in the risk metrics.

Deadly Force per 10,000 Residents

No residents identified as Native American or Alaska Native experienced Deadly Force in the 5-year window.

Risk Ratio

The small number of incidents makes statistical conclusions from Deadly Force unreliable, but the pattern is consistent with use of force as a whole.
Analysis Findings

**Force Severity: Intermediate Force**

**Total Intermediate Force per Year**

Intermediate Force contains **252 incidents per year**, including:

- Non-lethal weapons or tools (166.4 per year)
- Strikes (Hard Empty Hands) (83 per year)
- Vascular Neck Restraints (VNR) (78.4 per year)

**Intermediate Force per 10,000 Residents**

Asian or Pacific Islander and Hispanic or Latinx populations show very similar rates of Intermediate Force to the White population.

**Risk Ratio**

Intermediate Force shows the largest disproportionality in force toward Black or African American residents of any force level.
**Total Non-Deadly Force per Year**

Non-Deadly Force contains **346 incidents per year**, including:

- Control Tactics (Soft Empty Hands) (335 per year)
- Leg Restraints (Hobble) (44.2 per year)

**Non-Deadly Force per 10,000 Residents**

Control Tactics (Soft Empty Hands) is the most common Non-Deadly force type, and covers a wide range of different techniques.

**Risk Ratio**

As the largest category, Non-Deadly Force most closely resembles the risk ratio of force as a whole.
**Total Non-Physical Force per Year**

Non-Physical Force contains 452 incidents per year, including:

- No-contact, officer presence actions (314 per year)
- Show of force, display of weapon (148 per year)
- Compliant handcuffing (127 per year)

**Non-Physical Force per 10,000 Residents**

Non-Physical techniques are used to attempt de-escalation in the majority of incidents, including those that eventually become physical.

**Risk Ratio**

Black or African Americans experienced Non-Physical Force at a rate of 5.47 times the White population.
Analysis Findings

Force Reasons

Why was force used?

Force Reason is the officer's justification for initiating a use of force incident.

- The most frequent reason cited is Resisting Arrest, followed by Non-Compliance and Combative Subject.
- Different force reasons may be selected for each application associated with a single incident.
- Selection of a force reason is at the discretion of the officer.
- The least-used categories are difficult to analyze in isolation, due to the high variation in small groups.

Annual Uses of Force by Force Reason

Risk Ratio to Relative to White Population: Force Reason

The six largest force reason groups each contain at least 100 reports and at least 8% of all force applications.

Risk ratio patterns remain consistent across all services.

Because the Native American or Alaska Native population is already the smallest, further subdividing it introduces a substantial variation.

The largest disproportionality for both Black or African American (8.86) and Native American or Alaska Native (4.13) populations occurs in incidents categories as High Risk Arrest.
**Analysis Findings**

### Use of Force by Age

Demographically disproportionate force is experienced consistently across all age brackets by the Black or African American population. The disparity tends to be the most prominent for the younger Black or African American population. Juveniles experience the greatest disproportionality, and younger adults (18-25) the second most.

Approximately 3.5% of force reports, or 141 incidents over five years, lack information on the subject’s date of birth or age. These reports have been excluded in this section.

#### Race / Ethnicity

<table>
<thead>
<tr>
<th>Age Bracket</th>
<th>Asian or Pacific Islander</th>
<th>Black or African American</th>
<th>Hispanic or Latinx</th>
<th>Native American or Alaska Native</th>
<th>White</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-17</td>
<td>39.6%</td>
<td>7.5%</td>
<td></td>
<td>49.2%</td>
<td></td>
</tr>
<tr>
<td>18-25</td>
<td>30.1%</td>
<td>7.9%</td>
<td></td>
<td>57.6%</td>
<td></td>
</tr>
<tr>
<td>26-30</td>
<td>6.2%</td>
<td>22.7%</td>
<td>6.4%</td>
<td>62.1%</td>
<td></td>
</tr>
<tr>
<td>31-40</td>
<td>4.2%</td>
<td>20.2%</td>
<td>4.5%</td>
<td>69.0%</td>
<td></td>
</tr>
<tr>
<td>41-50</td>
<td>4.1%</td>
<td>15.2%</td>
<td>6.1%</td>
<td>71.6%</td>
<td></td>
</tr>
<tr>
<td>51+</td>
<td>19.2%</td>
<td></td>
<td></td>
<td>73.8%</td>
<td></td>
</tr>
</tbody>
</table>

#### Force Involving Juveniles

Most force incidents with juvenile subjects involve those in their late teens (15-17). The number of use of force incidents is lowest among juvenile subjects compared to other age groups, and includes 32.8 Non-Deadly, 14.2 Intermediate, and no Deadly Force incidents per year.*

Differential force experienced by Black or African Americans is substantially higher for juveniles than the adult population.

Black or African American youth under 18 years of age experience force at 7-13 times the rate of their white peers, depending on the selection of force measure and population baseline.

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*Totals include racial groups not analyzed in this report. Because some incidents include multiple force levels, as well as multiple subjects of different races and ages, totals will not match exactly in all charts.
Data Collection Recommendations

Increase context surrounding individual incidents
- Accurate context can help normalize the data to account for the reasons why force was deemed necessary.
- 24.1% of force incidents have a case number that does not match with an incident in LINX.
- Data received includes limited information on force justification per application.

Improve consistent use of existing fields
- 3.5% of the data lacks a birthday or age.
- 8.1% of the data has either a missing or unknown race or ethnicity.
- 12% of the data lacks a location.

Research Opportunities

Legislation Impact Analysis
Several new pieces of legislation were passed in the 2021 session, with a broad potential impact on stops and interventions, tactics available, and reporting methods. Continuing analysis may help evaluate the impact these new legal standards have had on force disproportionality, and policing in general.

Jurisdiction Benchmarking
Updated statewide standards and data collection will enable more consistent and valid comparison between jurisdictions. By comparing to statewide standards, as well as identifying peer agencies of similar size and makeup, analysis can help evaluate Pierce County’s efforts to improve equity in policing.

Incident Outcome Analysis
Approximately 75% of force records match up to an incident in Pierce County’s criminal justice database. Focus on complete and consistent data collection may increase the number of matches found. This connection provides the opportunity to analyze the relationships force use has on the rest of the criminal justice system, including arrest, charging, and eventual plea and sentencing outcomes.

Body Camera Context
The biggest gap in analyzing use of force is the missing context of subject interactions that led to the use and choice of force. A significant research effort may be able to encode more of this context from body and dash cameras into the data for eventual analysis.

Research Challenges

Data Consistency
All force data is self-reported by officers. The analysis relies on the validity of those reports.
- Reporting standards have evolved and changed over the five-year analysis period.
- Racial/Ethnic categorization is determined by the reporting officers, and subject to their perception.
- Different reports include different levels of detail, with some missing key demographic details.

Lack of Incident Context
Force application occurs as a response to the actions of others.
- Officer reports of exact force justification are provided after the fact.
- Actual force incidents are not made up of discrete steps, and establishing a precise force application timeline from data is not possible.
- Force reports include only a single perspective on causation.

True Crime Rates
Comparison to the base area population excludes the possibility that crime or violence risk varies by population group.
- No significant evidence exists that crime rates vary between populations.
- All estimates of crime rate by racial group are subject to systemic biases that may feed into them.