# Slide 1

## UC Davis Health

### Violence Prevention Research Program

California Firearm Violence Research Center

Experiences of Violence in Californians’ Daily Life

Results from the 2020 California Safety and Wellbeing Survey (CSaWS) and How Interventions Add Up to Prevent Violence

Vicka Chaplin, M.P.H., M.A.

Director of Education and Outreach

Image of UC Davis Medical Center in Sacramento, California.

Slide deck design incorporates UC Davis colors, blue and gold.

# Slide 2

## Who we are

### UC Davis Violence Prevention Research Program (VPRP)

* Multidisciplinary research and policy development program
* Focused on the causes, consequences, and prevention of violence
* Public health approach
* Established in 1991
* Home of CA FVRC

### The California Firearm Violence Research Center (CA FVRC)

* First state-funded center for firearm violence research
* Conducting and disseminating research on firearm violence and its prevention
* Founded in 2017

# Slide 3

## This presentation will:

1. Highlight epidemiology of firearm injury
2. Share data from the California Safety and Wellbeing Survey (CSaWS)
3. Introduce the “Swiss cheese model” of prevention

# Slide 4

## Epidemiology: Direct experiences of firearm violence

* Fatal firearm injury, 2020, in the US: 45,222 people
  + California: 3,449 people died by firearm injury in 2020
* Nonfatal firearm injury data are widely underestimated
  + Best estimates: 2-3x higher than number of deaths
* Significant disparities in populations impacted
  + Victims are more likely to be young, Black, males living in low-income, structurally disadvantaged neighborhoods
* Long-term physical and psychological impacts, including long-term disability

# Slide 5

## California Safety and Wellbeing Survey

* Repeated cross-sectional, all-online survey
* Wave 1 fielded Sept-Oct 2018 (N=2558)
* Wave 2 fielded July 2020 (N=2870)
* Responses are weighted to be statistically representative of the adult population of California
* Topics: perceptions of safety, exposure to   
  violence, firearm ownership, and more

Image – outline of California in gold with “CSaWS” across the middle in navy font.

# Slide 6

## Socioemotional effects of violence are worsened by firearms

### Distress

* 50% of people exposed to violence felt the event was severely distressing
* Pie chart: 50% severely; 24% moderately; 24% mildly; 2% not at all.

### Social Functioning Problems

* Bar chart: 47% said the violence led to problems with their family, friends, and/or school; 12% of people not exposed to violence had such problems in the past year.

### Firearms & Other Weapons Worsened Outcomes

1. When a weapon was present:
2. Respondents who experienced severe distress were more likely to report that a weapon other than a firearm was involved.

CSaWS found that 4.1% (1.2M) California adults said they or a household member had experienced violence while living in their current neighborhood

* 50% involved directly
* 43% involved a household member
* 7% didn’t specify

### Citations:

* Graphic from CSaWS fact sheet: <https://health.ucdavis.edu/vprp/UCFC/Fact_Sheets/CSaWSBrief_JInterpersViol_Aubel.pdf>
* Source: Aubel AJ, Pallin R, Wintemute GJ, Kravitz-Wirtz N. Exposure to Violence, Firearm Involvement, and Socioemotional Consequences Among California Adults. J Interpers Violence. 2021 Dec;36(23-24):11822-11838. doi: 10.1177/0886260520983924. Epub 2020 Dec 31. PMID: 33380237.

# Slide 7

## Worry about violence

“[In general, before the coronavirus epidemic/These days, during the coronavirus epidemic], how worried [were/are] you about each of the following violent events happening to you?”

The following bar charts are included on the slide. Percentages in bold equal p <.05, compared to pre-COVID. Percentages in italics equal =p <.10, compared to pre-COVID.

### Homicide

* Pre-COVID, not worried = 54.7%; during COVID, not worried = 51.2% (in italics).
* Pre-COVID, somewhat worried = 32.1%; during COVID, somewhat worried = 32.5%.
* Pre-COVID, very worried = 11.9%; during COVID, very worried = 15.1% (in bold).

### Police Violence

* Pre-COVID, not worried = 53.7%; during COVID, not worried = 48.1% (in bold).
* Pre-COVID, somewhat worried = 30.5%; during COVID, somewhat worried = 30.9%.
* Pre-COVID, very worried = 14.7%; during COVID, very worried = 19.7% (in bold).

### Assault

* Pre-COVID, not worried = 39.9%; during COVID, not worried = 36.5% (in italics)
* Pre-COVID, somewhat worried = 45.8%; during COVID, somewhat worried = 43.9%
* Pre-COVID, very worried = 13.3%; during COVID, very worried = 18.6% (in bold).

### Robbery

* Pre-COVID, not worried = 33.5%; during COVID, not worried = 30.8%.
* Pre-COVID, somewhat worried = 50.2%; during COVID, somewhat worried = 46.3% (in italics).
* Pre-COVID, very worried = 15.3%; during COVID, very worried = 22% (in bold).

### Citations

* Graphics courtesy of Amanda Aubel, MPH, CSaWS research team, VPRP/ CA FVRC, UC Davis.
* Source: Kravitz-Wirtz N, Aubel A, Schleimer J, Pallin R, Wintemute G. Public Concern About Violence, Firearms, and the COVID-19 Pandemic in California. *JAMA Netw Open.* 2021;4(1):e2033484. doi:10.1001/jamanetworkopen.2020.33484

# Slide 8

## Worry about violence

“[In general, before the coronavirus epidemic/These days, during the coronavirus epidemic], how worried [were/are] you about each of the following violent events happening to you?”

The following bar charts are included on the slide. Percentages in bold equal p <.05, compared to pre-COVID. Percentages in italics equal =p <.10, compared to pre-COVID.

### Suicide

* Pre-COVID, not worried = 74.6%; during COVID, not worried = 71% (in italics).
* Pre-COVID, somewhat worried = 16.6%; during COVID, somewhat worried = 18.7%.
* Pre-COVID, very worried = 7.9%; during COVID, very worried = 9.1%.

### Mass shooting

* Pre-COVID, not worried = 39.1%; during COVID, not worried = 43.2% (in bold).
* Pre-COVID, somewhat worried = 41.2%; during COVID, somewhat worried = 37.4% (in italics).
* Pre-COVID, very worried = 18.8%; during COVID, very worried = 18%.

### Getting hit by stray bullet

* Pre-COVID, not worried = 54.7%; during COVID, not worried = 48.8% (in bold).
* Pre-COVID, somewhat worried = 33.7%; during COVID, somewhat worried = 35.8%.
* Pre-COVID, very worried = 10.8%; during COVID, very worried = 14.3% (in bold).

### Accidental shooting

* Pre-COVID, not worried = 56.2%; during COVID, not worried = 51% (in bold).
* Pre-COVID, somewhat worried = 32.2%; during COVID, somewhat worried = 33.9%.
* Pre-COVID, very worried = 10.5%; during COVID, very worried = 14.2% (in bold).

### Citations

* Graphics courtesy of Amanda Aubel, MPH, CSaWS research team, VPRP/ CA FVRC, UC Davis.
* Source: Kravitz-Wirtz N, Aubel A, Schleimer J, Pallin R, Wintemute G. Public Concern About Violence, Firearms, and the COVID-19 Pandemic in California. *JAMA Netw Open.* 2021;4(1):e2033484. doi:10.1001/jamanetworkopen.2020.33484

# Slide 9

## Exposure to violence

“[In general, before the coronavirus epidemic/These days, during the coronavirus epidemic], how much of a problem [were/are] gunshots and shootings in your neighborhood?”

The following bar chart is included on the slide. Percentages in bold equal p <.05, compared to pre-COVID.

### Gunshots and shootings

* Pre-COVID, big problem = 7%; during COVID, big problem = 7.4%.
* Pre-COVID, small problem = 20%; during COVID, small problem = 21.1%.
* Pre-COVID, not a problem = 66.3%; during COVID, not a problem = 62.3% (in bold).
* Pre-COVID, don’t know = 6.1%; during COVID, don’t know = 8.4% (in bold).

### Citations

* Graphics courtesy of Amanda Aubel, MPH, CSaWS research team, VPRP/ CA FVRC, UC Davis.
* Source: Kravitz-Wirtz N, Aubel A, Schleimer J, Pallin R, Wintemute G. Public Concern About Violence, Firearms, and the COVID-19 Pandemic in California. *JAMA Netw Open.* 2021;4(1):e2033484. doi:10.1001/jamanetworkopen.2020.33484

# Slide 10

## Violence can also be experienced more broadly, within a community or social network

CSaWS surveyed California adults about 6 broader experiences of violence in daily life (the following data are displayed using smart art graphics):

### 2 in their community….

* 40% encountered 1 or more sidewalk memorials in an average week
* 7% considered gunshots and shootings to be a “big problem”

### 4 in their social network…

* 1 in 5 knew someone who had been shot on purpose
* 1 in 7 knew someone who had shot themselves
* 1 in 8 knew someone at perceived risk of violence to others
* 1 in 8 knew someone at perceived risk of violence to themselves

### Citations

* Graphic from CSaWS fact sheet: <https://health.ucdavis.edu/vprp/UCFC/Fact_Sheets/CSaWSBrief_EVs.pdf>
* Source: Wintemute, G.J., Aubel, A.J., Pallin, R. *et al.* Experiences of violence in daily life among adults in California: a population-representative survey. *Inj. Epidemiol.* **9**, 1 (2022). https://doi.org/10.1186/s40621-021-00367-1

# Slide 11

## Other topics in CSaWS

* Risk factors for violence
* Exposure to violence
* Behavioral responses to worry about/exposure to violence
* Firearm and ammunition purchasing, including reasons for purchasing
* Adverse Childhood Experiences (ACES)
* Gun Violence Restraining Orders (GVROs)
* Contingent valuation
* Structural racism
* Discrimination
* Social cohesion
* Activism – civic and political engagement
* And more!

Visit <https://health.ucdavis.edu/vprp/UCFC/survey.html> for a wide array of CSaWS fact sheets and publications

# Slide 12

## Introducing the Swiss cheese model

### Multiple Layers Improve Success

The Swiss Cheese Respiratory Pandemic Defense recognizes that no single intervention is perfect at preventing the spread of the coronavirus. Each intervention (layer) has holes.

A graphic of 10 slices of layered Swiss cheese is displayed on the slide. Virus particles in green are displayed floating through the holes in the Swiss cheese with a red arrow. Slices one through five are dark yellow and represent personal responsibilities. Slices six through ten are light yellow are represent shared responsibilities. At the end of the layered Swiss cheese slices is a human figure wearing a face covering with white pants, a grey top, and brown hair. Source: Adapted from Ian M. Mackay (virologydownunder.com) and James T. Reason. Illustration by Rose Wong.

### Personal responsibilities:

* Physical distance, stay home if sick
* Masks
* Hand hygiene, cough etiquette
* Avoid touching your face
* If crowded, limit your time

### Shared responsibilities:

* Fast and sensitive testing and tracing
* Ventilation, outdoors, air filtration
* Government messaging and financial support
* Quarantine and isolation
* Vaccines

### Citation:

* Source: Roberts, S. “The Swiss Cheese Model of Pandemic Defense.” *The New York Times*, 5 Dec. 2020, <https://www.nytimes.com/2020/12/05/health/coronavirus-swiss-cheese-infection-mackay.html>

# Slide 13

## The Swiss cheese model applies to gun violence prevention

* CA steadily enacted firearm violence prevention policies, beginning in the late 1980s
  + Studies of single policies at the person level show benefit, but population-level evaluations are mixed
* In aggregate: California’s rates have trended downward while the rest of the country increased
* Now: California’s firearm mortality is among the lowest in the country
  + CA: 8.5 per 100/000 people
  + US: 13.7 per 100/000

Line chart: Unadjusted firearm violence mortality rates in California and the remainder of the United States (US-CA), by year, 1981-2020

* Y axis: Deaths per 100,000 population: 0, 2, 4, 6, 8, 10, 12, 14, 16, 18
* X axis: 1981, 1983, 1985, 1987, 1989, 1991, 1993, 1995, 1997, 1999, 2001, 2003, 2005, 2007, 2009, 2011, 2013, 2015, 2017, 2019
* Red line: US-CA
* Blue line: California
* The line chart shows a drop in firearm violence mortality rates in California during the early to late 1990s.
* From 1981 to the late 1990s, California experienced a higher firearm violence mortality rate when compared to the remainder of the US.
* From approximately 1998 to 2019, California has experienced a lower firearm violence mortality rate when compared to the remainder of the US.

# Slide 14

## How will you add a layer of intervention?

Image of traditional Swiss cows wearing flowers and flags

Thank you!

Acknowledgements: Thank you to Amanda Aubel, MPH, Nicole Kravitz-Wirtz, PhD, MPH, and Garen Wintemute, MD, MPH, who provided figures and guidance in compiling these slides.

Follow VPRP and CA FVRC on Twitter: @UCDavisCVP

End of presentation.