

CPR Community Survey in King County, WA

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Report Author:

Dennis Meinhardt
Master of Public Health Candidate
UW School of Public Health

Site Supervisor:

Marlee Fischer
Program Manager, EMS Division
Public Health - Seattle & King County

Faculty Advisor:

Hendrika Meischke
Professor, Department of Health Services
University of Washington

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1.0 SUMMARY

A survey was conducted in October-November 2020 of adult residents in King County, Washington to gather information about cardiopulmonary resuscitation (CPR) training rates and willingness to perform CPR. The Emergency Medical Services (EMS) Division of Public Health - Seattle & King County managed the survey through a third-party contractor who was responsible for data collection and ensuring the representativeness of the survey sample. Minor differences between the survey population and King County demographic categories were then corrected by data weighting. Raw data from 1,471 survey respondents has now been used to determine CPR education rates and characteristics associated with confidence to perform CPR in an emergency. Survey responses were also analyzed to understand the statistical associations between demographic groups and the likelihood of having attended training or being confident to perform CPR.

King County continues to exceed the national average for the proportion of residents who have attended CPR training (73.2%, 95% CI 70.6, 75.8). However, and despite high training rates, it is estimated that less than half of all King County residents (43.6%, 95% CI 40.4, 46.8) were confident to perform CPR. Those who indicated they were confident tended to be trained, trained multiple times, and trained within the last five years. Also, those trained in a training center, at work, or at a fire department tended to be more confident to perform CPR in an emergency than those trained in a community center or at school. This survey also identified demographic groups who were less likely to have attended training in King County. These included men, those with less than a two-year college degree, those with lower household income, and those who identified with a race/ethnicity other than White.

A similar survey was conducted in 2008 with similar goals. While direct comparison is challenging due to differences in survey and analysis methods, understanding trends is important. Table 1 provides a high-level summary of the 2020 results along with the main results from 2008. Specific comparisons and limitations are identified in this report, and a full comparison is included in the appendix.

2.0 INTRODUCTION

Out-of-hospital cardiac arrest (OHCA) is a significant public health issue and leading cause of death in the US^{1,2}. Over 350,000 OHCA events happen every year in the US and 70-90% of those experiencing one will die. Survival rates for OHCA are improved significantly when bystanders perform cardiopulmonary resuscitation (CPR) and call 9-1-1^{3,4}. Further, there is significant evidence that CPR training increases bystander confidence in, and likelihood of, performing CPR⁵⁻¹⁰. The first people on the scene of an OHCA event are typically non-EMS bystanders (e.g., friends, family, or other non-EMS individuals)¹¹ and CPR training rates for these bystanders in the US are generally low. Analysis of 2011 CPR certification data across the US found that 2.4% of the US adult population received formal CPR education within a one-year period¹². Similarly, a 2015 telephone survey of a demographically representative sample of US adults found that only 18% of the population had reported being trained in the last two years with 65% having ever been trained (this included both in-person as well as video training)¹³.

These data historically contrast with King County, Washington where training rates are generally higher than the national average. Data from a 2008 survey in King County indicated that 79% of respondents had been trained in CPR⁵. These data are now updated. The EMS Division contracted with external research vendor PRR to administer a CPR community survey in the Fall of 2020 and obtain data from a representative sample of King County residents. Data from this survey were used to assess current CPR education rates, characteristics associated with willingness to perform CPR, and inequities in access to training. It is intended that results from this 2020 survey will be used to inform CPR training programs in King County.

3.0 BACKGROUND

CPR and Survival in King County. The EMS Division manages several performance metrics in the chain of survival including bystander CPR rates, dispatch recognition of cardiac arrest, basic life support response times, and overall system performance (i.e., OHCA survival rate). This requires collaboration with community partners, workplace organizations, school districts, and civic groups that provide CPR training to community members. As a direct result of this community engagement, training, and work conducted by the EMS Division, 67% of all OHCA in King County received bystander CPR in 2018 with a OHCA survival rate of 56%¹⁴, statistics well above national averages.

CPR Training. For more than 50 years, public health agencies have been evaluating how to best train the public and reduce barriers to performing CPR¹⁵. Efforts to update CPR education policies, improve community training programs, and develop new training methodologies continue to take place across the US. A significant event occurred in 2008 when an American Heart Association Science Advisory re-emphasized that quality chest compressions are most important to improving OHCA survival rates¹⁶. This advisory included a call-to-action that all OHCA individuals receive (at a minimum) chest compression CPR which further simplified compression-only CPR training without mouth-to-mouth ventilation. Since that 2008 advisory, many training programs have taken advantage of simplified methods to increase training rates, reduce disparities in access to training, and ultimately eliminate barriers to performing CPR. Some of these have included targeted training in public places^{9,17}, television campaigns^{18,19}, video training^{20,21}, and creation of new training methodologies (e.g., train the trainer)²¹⁻²⁵. CPR education is also increasing in US high schools where today 38 states require high school CPR education (including Washington State with passage of legislation in 2013)²⁶⁻²⁹. Collectively, this work is resulting in more trained individuals, improved knowledge retention, and reduced barriers to bystanders performing CPR.

These programs are significant in that more people are being trained. However, it is also noted that any *single* program or training event by itself may not necessarily lead to higher rates of bystander CPR^{10,17-20,30}. It has been shown that pervasive community training and a systems-based approach that includes community outreach, emergency dispatch, and other EMS services is effective in improving bystander CPR rates as demonstrated in King County, Washington. CPR training is an important step in that system.

Disparities in bystander CPR. Recent studies have now shown there are disparities in access to CPR training and bystander performance of CPR. A 2010 analysis of CPR certification data and a 2015 nationwide telephone survey found lower CPR training rates in communities with higher proportions of

individuals who were older, Black/African American, Hispanic, or had lower-income^{12,13}. Methodologies have also been identified to determine communities with higher instance of OHCA with correspondingly lower rates of bystander CPR performance. From 2004 – 2011, studies from communities in Colorado, Texas, Florida, Ohio, and North Carolina found that it is possible to identify these communities with statistical significance. These studies used Cardiac Arrest Registry to Enhance Survival (CARES) data and EMS data to identify census tracts where there were statistically significant higher rates of OHCA combined with lower rates of bystander CPR. In all cases, these high-risk areas were communities with minority populations and lower income^{25,30-34}.

Work is underway nationally to understand how to address bystander CPR disparities within these communities. That work includes tailored training and improved community-specific awareness programs. A qualitative study in Columbus, OH identified community-specific barriers to training and performing CPR. Among these barriers were the cost of CPR training, fear of legal repercussions, and personal safety. Making training more accessible (e.g., free training, paid public transportation to training, etc.) and avoiding “one-size-fits-all” programs were considered a first step^{35,36}. As King County continues to grow and become more diverse, attention to these national efforts may prove useful.

4.0 METHODS

2020 CPR Community Survey. The EMS Division of Public Health - Seattle & King County contracted with PRR to conduct two rounds of the CPR community survey (Appendix A) with the goal of obtaining a representative sample of at least 1,000 King County residents 18 years or older. The first round was a broad sampling of King County through survey mailers, oversampling census tracts with higher equity scores (i.e., higher concentration of more diverse and less wealthy individuals). The second round then aimed to close gaps in under-represented demographic categories by conducting targeted outreach with community-based organizations (CBOs) and other communication pathways. Respondents had the option to participate in a sweepstakes to win one of five \$100 gift cards as an incentive for survey participation. Also, stipends were provided to CBOs who agreed to promote the survey.

Survey questions were available in English and Spanish and were adapted from the 2008 survey so that a comparison could be made. CPR education was defined as “an in-person training that lasted at least 30 minutes and involved practicing CPR.” Survey participants were asked to respond to their experiences with CPR training and confidence to perform CPR in an emergency. This project used raw data obtained from the survey for analysis and reporting.

The first round took place October 5-18, 2020. 10,019 recruitment mailers were sent (380 undeliverable) to a random selection of households in King County, followed by reminder postcards. Participants 18 years or older could complete the survey in English or Spanish by mailing back the enclosed paper survey, accessing the survey online, or calling to take the survey (Spanish only). A total of 1,368 residents participated in round one.

The second round took place November 9-22, 2020. PRR reached out to community-based organizations (CBOs) who serve people in King County where there was under-representation from round one. Responses to the survey in round one slightly over-represented people who were White and under-represented people of other races, as well as people who identified as Hispanic or Latinx. Also, under-represented were younger adults and people with lower incomes. The outreach in round two

focused on recruiting people in these areas. Round two was only available online or by phone (Spanish only). An additional 103 residents participated in round two.

After two survey rounds, data from 1,471 adult (age 18 or older) respondents were available for analysis. Table 2 shows response details from each survey round.

Data Analysis. Data analysis was performed with statistical software R (version 4.0.3) and Microsoft Excel (version 16.0). A combination of descriptive statistics and statistical tests for association between survey groups was used in the analysis. One-way analysis of variance (ANOVA) tests for association between two or more quantitative variables and chi-square tests for association between two or more qualitative variable frequencies were used to compare survey groups. Where the quantity of survey responses was too small for either ANOVA or chi-square tests, those responses were either excluded or combined with another appropriate category.

Data weighting was used to account for differences between King County population and the survey sample. Data weighting is typically used when demographic discrepancies are observed (i.e., more than two percentage points between survey and population group averages). Weighted results were produced using the statistical software R with the required weights generated from the raking package 'anesrake'. Confidence intervals for weighted results were adjusted using the square root of design effect (i.e., design factor) provided in the R raking results. Weighted categories included race/ethnicity, age, sex/gender, and education.

The US Census Bureau 2019 American Community Survey (ACS) for King County was used for comparison with the survey sample. This included comparison during both the data collection process to inform CBO outreach and to determine categories for weighting.

IRB exempt status was provided by the UW Human Subjects Division (HSD) based on this work not being considered research by their definitions.

5.0 RESULTS

Survey Demographic Results. After two survey rounds, a largely representative sample of 1,471 King County adults, age 18 or older, was obtained. The response rate for round one mailings was 14%. The response rate for round two is unknown based on the CBO outreach process.

Despite efforts to closely match King County demographics, there were several minor discrepancies large enough to warrant data weighting (Table 3). Respondents who indicated a race/ethnicity of White were slightly over-represented when compared to King County demographics. Respondents who indicated a race/ethnicity of Asian/Asian American, Black/African American, and Multi-Racial showed slight under-representation. Given the community outreach and Spanish language version of the survey, respondents who indicated a race/ethnicity of Hispanic/Latinx closely represented King County demographics. Other over-represented categories included individuals age 35 and older, and those with a Bachelor's degree or higher education. Household income was mostly representative of King County with only those with household incomes less than \$25,000 being slightly under-represented. Significantly more women participated in the survey than men.

Table 4 lists languages spoken by survey respondents and a comparison to King County. A large majority of respondents spoke English well or very well which is consistent with King County demographics.

Complete demographic characteristics of the survey respondents with comparison to King County are shown in Tables 3 and 4. Comparison of 2020 survey demographics with the survey conducted in 2008 is included in the appendix.

CPR Training Results and Confidence to Perform CPR in an Emergency. Following weighting of survey data, it is estimated that 73.2% (95% CI 70.6, 75.8) of King County residents have attended CPR training. Roughly one-third of those have been trained in the last two years (34.6%, 95% CI 31.2, 38.0) and over half of those have been trained in the last five years (55.5%, 95% CI 51.9, 59.1). A majority of training happens in the workplace (45.0%, 95% CI 41.4, 48.6) and training was required for 53.1% of residents (95% CI 49.5, 56.7). For those who have never been trained, over a third of residents “do not know where to get training” (34.7%, 95% CI 27.9, 41.5) and 39.4% (95% CI 32.3, 46.5) “have not gotten around to it.” Only 1.1% of residents suggest that training is “not necessary.” A complete listing of CPR training results is shown in Table 5.

Tables 6 and 7 show the statistical associations between demographic groups from the survey and the likelihood of having attended training or being confident to perform CPR (statistical associations between demographic groups was not weighted and therefore the conclusions may or may not be generalizable to the King County Population – this consideration is discussed further below). Respondents with lower-income and lower educational attainment were less likely to have attended CPR training compared to those with higher income and higher education. Men were less likely to be trained than women in this survey. There was also a statistically significant association between race and training in the 2020 survey data. Respondents indicating a race/ethnicity other than White were less likely to have CPR training compared to White respondents. However, for this same race/ethnicity category, a larger percentage of respondents age 34 years and younger had attended training compared to those 35 years and older (Table 6).

For those survey respondents who had not attended training, there was also an association between their reasons for not attending training and their age or their race/ethnicity (Table 7). Older respondents age 35 and older tended to answer that they “*had not gotten around to it*” (74.4%, p value <0.001) compared to those age 34 and younger (25.6%, p value <0.001). Respondents identifying a race/ethnicity other than White indicated that they “*did not know where to get training*” (61.5%, p value <0.001) compared to those identifying a race/ethnicity of White (38.7%, p value <0.001).

It is estimated that less than half of King County residents are confident to perform CPR in an emergency (43.6%, 95% CI 40.4, 46.8). Table 8 shows the reasons respondents provided for not feeling confident to perform CPR. The top five reasons included, (1) never performed CPR, (2) have forgotten how or trained too long ago, (3) not comfortable with my ability to perform CPR, (4) fear of causing injury, and (5) don't know how or have no training.

Respondents who attended CPR training (n=1152, 78.9%) were more confident that those who had not attended training. Of those trained, 50.9% indicated they were confident to perform CPR compared to 49.1% who said they were not confident to perform CPR (p value <0.001). This is shown in Table 6 along with other survey group characteristics associated with having attended CPR training. There was also a statistically significant association between confidence to perform CPR and both the number of times

trained and the length of time since training was conducted. 75.2% (p value <0.001) of respondents trained in the last five years and 78.0% (p value <0.001) of respondents trained three or more times indicated they were confident in performing CPR compared to those trained more than 5 years ago or trained only one or two times. This is shown in Table 9 along with other survey group characteristics and their confidence to perform CPR.

There was also an association between confidence in performing CPR and where training was conducted. Table 10 shows results indicating that those who were trained at a training center, at work, or at a fire station tended to be more confident than those trained at school or in their community.

Overall, it is estimated that 67% of King County residents know how to perform CPR and 9% have performed CPR in an emergency.

Additional survey response data is included in the appendix.

6.0 DISCUSSION

With an estimated 73% of the population trained in CPR, King County continues to exceed the national average for CPR training rates. A 2015 national telephone survey of over 9,000 individuals estimated that only 65% of the population has been trained in CPR¹³. The national average includes both in-person and video training so the difference between King County training rates (which only includes in-person training) and this national average is likely larger.

King County also exceeds the national average in recently trained individuals. Roughly one-third (34.6%) of those trained in King County have been trained in the last two years. This compares to the national statistic of 18% for those trained in the last two years¹³. Furthermore, over half of those trained in King County have been trained in the last five years (55.5%) or indicated they had received CPR training three or more times (51.8%). It should also be noted that this 2020 survey was conducted six months into a global pandemic which could likely have reduced in-person CPR training during this time. The number of times trained and the length of time since attending training are significant contributors for whether a bystander will perform CPR in an emergency. Data from this survey and previous studies show that bystanders were more confident in performing CPR when they had been trained and trained within the last five years⁵.

Analysis of survey responses indicated that individuals with lower household income, those with less than a two-year college degree, and those who identified a race/ethnicity other than White were less likely to be trained compared individuals with higher household income, individuals with higher education attainment, or those who indicated a race/ethnicity of White. For those indicating a race/ethnicity other than White, there is a higher percentage of younger adults age 24 and less who have had training compared to older adults; this may be due to community programs and the 2013 legislation in Washington State which now requires CPR training in high schools. For survey respondents indicating a race/ethnicity other than White and also indicating that they had not attended CPR training, their most cited reason was that they “*did not know where to get training*”. These findings related to race and ethnicity could be indicating a lower access or awareness to training in certain communities in King County.

This analysis of association between race/ethnicity and training was not weighted to correct for differences between the survey demographics and King County. However, since race/ethnicity other than White was slightly under-represented in the survey sample, weighting would likely amplify these results. As King County continues to grow and become more diverse, issues with equal access and awareness of CPR training should continue to be a focus.

Lastly, while this survey showed high training rates, less than half of residents indicated they were confident to perform CPR in an emergency. Among the most common reasons for not feeling confident were that they had forgotten how or had trained too long ago. These results are also consistent with previous data, and in those cases, it was recommended to train individuals at least every five years⁸.

Limitations. The primary limitation for this analysis was selection bias since people who were familiar with CPR may have been more likely to participate in the survey. Round two aimed to close gaps between survey population and King County demographics with outreach to specific population groups which could also have included selection bias. Weighting the results closes gaps in important demographic categories but does not correct for selection bias.

It is difficult to make direct comparisons to the previous 2008 study where it was estimated that 79% of King County residents had received CPR training. The 2008 survey did not define CPR training as “in-person with practice” whereas the 2020 survey clearly defined training as “in-person, lasting at least 30 minutes, with CPR practice.” Also, 2020 survey data proportions were weighted to represent county demographics more closely. The 2008 results were not weighted. Lastly, the 2020 training rate data with confidence intervals suggest that this proportion of trained individuals may not be significantly different from previous 2008 findings.

Tests for statistical association between various demographic groups within the survey were not weighted. Therefore, the conclusions drawn from these tests may or may not be generalizable to the King County population. However, the findings related to the association with race and ethnicity are likely significant even when not weighted since weighting would amplify these results.

In conclusion, this survey shows that King County continues to exceed the national average in training residents. Analysis of survey responses identified demographic groups that were less likely to have been trained. Adult men, those with less than a two-year college degree, lower income, and indicating a race/ethnicity other than White were less likely to have attended training. Confidence in performing CPR in an emergency is associated with having attended training, the length of time since being trained and how many times training was attended. Furthermore, this confidence is also associated with training location. Respondents were more likely to be confident when trained in a training center, at work, or a fire department where training may have had a specific purpose (e.g., for work or certification requirement).

7.0 RECOMMENDATIONS

Additional insight would likely emerge if statistical tests were conducted using weighted data. Tests for association using weighted data could lead to improved understanding of whether there are disparities in access to training for different demographic groups within King County. It may then also be useful to understand if there are areas of King County where OHCA is more likely and CPR is less likely. This

would include work with community partners (e.g., through the EMS Division VPSI leaders) who provide CPR training to diverse communities and who may use these findings in their programming.

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Table 1. CPR Community Survey Results Summary

Characteristic	2020 Survey (95% CI)	2008 Survey
Total King County Population (>18 years)	1,801,166	1,347,999
Response Rate	14% (Phase 1, Mailings)	39% (Telephone)
Total Responses	1471	1001
Know how to perform CPR	67.0% (64.0, 70.0)	71.5%
Trained in CPR	73.2% (70.6, 75.8)	79.3%
Trained more than 5yrs ago	44.5% (40.9, 48.1)	52.9%
Trained in the past year	13.0% (10.6, 15.4)	17.4
Confident to perform CPR	43.6% (40.4, 46.8)	40.0%
Primary reason for getting trained	Required, 53.1% (49.5, 57.7)	Required, 52.0%
Primary reason for not getting trained	"I have not gotten around to it", 39.4% (32.3, 46.5)	"I have not gotten around to it", 41.1%
Proportion of people who said CPR training is "not necessary"	1.1% (-0.6, 2.8)	10.1%
Have performed CPR	9.3% (7.2, 11.4)	11.5%

Note: 2020 proportion estimates are weighted to reflect King County demographics

Table 2. CPR Community Survey Response Details

Survey Round	Total	Survey Language		Survey Mode		
		English	Spanish	Online	Paper	Phone
Round one	1368	1365	3	742	625	1
Round two	103	31	72	103		
Total	1471	1396	75	845	625	1

**Table 3. Demographic Characteristics of Survey Population
and King County, Washington**
(race/ethnicity, age, sex/gender, household income, education)

Characteristic	Survey Population (n=1471)	King County, 2019 Age 18 and older (n= 1,801,166)¹⁻⁴
How do you identify (race/ethnicity)², n (%)		
American Indian/Alaska Native alone	10 (0.7)	13,321 (0.6)
Asian or Asian American alone	198 (13.5)	424,590 (18.8)
Black or African American alone	48 (3.3)	147,822 (6.6)
Hispanic or Latinx, alone or in combination	136 (9.2)	222,624 (9.9)
White alone	993 (67.5)	1,302,544 (57.8)
Native Hawaiian or another Pacific Islander alone	2 (0.1)	15,702 (0.7)
Another race alone	14 (1.0)	6,574 (0.3)
Two or more races	39 (2.7)	119,587 (5.3)
Not answered	31 (2.1)	
Age, n (%)		
18-24	42 (2.9)	180,726 (10.0)
25-34	254 (17.3)	416,655 (23.1)
35-44	270 (18.4)	342,732 (19.0)
45-54	256 (17.4)	292,783 (16.3)
55-64	263 (17.9)	264,212 (14.7)
65-74	238 (16.2)	182,862 (10.2)
75+	119 (8.1)	121,196 (6.7)
Not answered	29 (2.0)	-
Sex/Gender, n (%)		
Female	874 (59.4)	899,744 (49.95)
Male	576 (39.2)	901,422 (50.05)
Gender not listed here	11 (0.7)	-
Not answered	10 (0.7)	-
Household income³ (\$), n (%)		
<25,000	112 (7.6)	99,055 (10.9)
25,000-49,999	177 (12.0)	116,130 (12.8)
50,000-74,999	204 (13.9)	121,840 (13.4)
75,000-99,999	157 (10.7)	99,668 (11.0)
100,000-149,999	254 (17.3)	175,535 (19.3)
150,000-199,999	174 (11.8)	105,225 (11.6)
>200,000	256 (17.4)	190,308 (21.0)
Don't know	59 (4.0)	-
Not answered	78 (5.3)	-
Highest grade level/education⁴, n (%)		
12 th grade or less, no diploma	49 (3.3)	112,662 (7.0)
High school graduate/GED	85 (5.8)	233,533 (14.4)
Some college/trade or vocational school	196 (13.3)	278,043 (17.2)
Associate degree	112 (7.6)	118,926 (7.3)
Bachelor degree	529 (36.0)	513,884 (31.7)
Post- graduate (masters or PhD or other professional degree)	473 (32.2)	363,392 (22.4)
Not answered	27 (1.8)	-

Table 4. Demographic Characteristics of Survey Population
and King County, Washington
(language)

Characteristic	Survey Population (n=1471)	Characteristic	King County, 2019 Households (n=907,761) ^{1,3}
Primary language at home, n (%)		Household Language, n (%)	
English	1269 (86.3)	English	634,442 (69.9)
Spanish	89 (6.1)	Spanish	60,535 (6.7)
Chinese	42 (2.9)	Chinese	45,814 (5.0)
Korean	7 (0.5)	Korean	12,259 (1.4)
Vietnamese	4 (0.3)	Vietnamese	16,263 (1.8)
Somali	1 (0.1)	Tagalog (incl. Filipino)	11,610 (1.3)
Russian	5 (0.3)	Other Asian and Pacific Islander Languages.	34,701 (3.8)
Ukrainian	3 (0.2)	Russian, Polish, or other Slavic Languages.	16,934 (1.9)
Arabic	0 (0)	Arabic	4,596 (0.5)
Amharic	2 (0.1)	French, Haitian, Cajun	8,672 (1.0)
Another language	36 (2.4)	German or other West Germanic Languages	6,846 (0.8)
Not answered	13 (0.9)	Other Indo-European languages	34,703 (3.8)
		Other and unspecified languages	20,386 (2.2)
How well do you speak English, n (%)		English Speaking Household, n (%)	
Well or very well	1381 (93.9)	Not a limited English- speaking household	857,550 (94.5)
Less than well	71 (4.8)	Limited English- speaking household	50,211 (5.5)
Not answered	19 (1.3)		

Table 5. CPR Training Summary

Characteristic	2020 Proportion Estimate % (95% CI)
Do you know how to perform CPR?	
Yes	67.0 (64.0, 70.0)
Have you ever performed CPR?	
Yes	9.3 (7.2, 11.4)
Have you ever attended a CPR training class?	
Yes	73.2 (70.6, 75.8)
No	26.8 (24.2, 29.4)
For respondents who answered “yes” to having attended a CPR training class:	
When was the most recent time you attended a CPR training class?	
<1 year	13.0 (10.6, 15.4)
1-2 years	21.6 (18.7, 24.5)
3-5 years	20.9 (18.0, 23.8)
>5 years	44.5 (40.9, 48.1)
Where did you last attend an in-person CPR Training?	
School	16.7 (14.3, 19.1)
Workplace	45.0 (41.4, 48.6)
In the community	12.0 (9.6, 14.4)
Training center	13.9 (11.4, 16.4)
Fire station	3.8 (2.3, 5.3)
Other (see details below)	8.6 (6.5, 10.7)
What was the primary reason you attended CPR training?	
Required	53.1 (49.5, 56.7)
Available at work/community center	22.3 (19.2, 25.4)
Wanted to help in an emergency	17.2 (14.5, 19.9)
Have family member/friend with heart disease	0.7 (0.1, 1.3)
Other (see below)	6.8 (5.0, 8.6)
How many total times have you attended a CPR training class?	
1	26.3 (23.2, 29.4)
2	21.8 (18.8, 24.8)
3-4	26.4 (23.3, 29.5)
5-9	14.8 (12.2, 17.4)
10+	10.6 (8.1, 13.1)
For respondents who answered “no” to having attended a CPR training class:	
What is the primary reason you have never attended an in-person CPR training?	
I have not gotten around to it	39.4 (32.3, 46.5)
I don't think it is necessary	1.1 (-0.6, 2.8)
I wouldn't perform CPR even if I were trained	3.6 (0.7, 6.5)
I know how to do CPR already	5.4 (2.8, 8.0)
I don't know where to get training	34.7 (27.9, 41.5)
No available training	1.3 (-0.9, 3.5)
No available training in my language	2.3 (0.4, 4.2)
Training too expensive	2.6 (0.7, 4.5)
Other	9.6 (5.1, 14.1)

Table 6. Characteristics of Survey Respondents who Reported Attending CPR Training Compared to Those Never Trained
(unweighted analysis of survey responses)

Characteristic	Trained in CPR	Never trained	p-value
n	1152	309	
Mean age (valid n)	51.5 (1132)	48.6 (300)	0.008 ^a
Mean age for women (valid n)	51.5 (708)	48.3 (148)	0.04 ^a
Mean age for men (valid n)	51.9 (413)	48.9 (151)	0.07 ^a
% Female (valid n)	62.5 (1146)	49.2 (305)	<0.001 ^b
% Male (valid n)	36.6 (1146)	50.5 (305)	<0.001 ^b
% With less than 2-year college degree (valid n)	20.4 (1135)	32.3 (300)	<0.001 ^b
% With less than \$49,000 household income or income unknown (valid n)	22.2 (1088)	35.7 (297)	<0.001 ^b
% race/ethnicity other than White alone (valid n)	26.2 (1131)	49.8 (299)	<0.001 ^b
% race/ethnicity other than White alone, age less than 35 (valid n)	36.2 (207)	67.1 (85)	<0.001 ^b
% race/ethnicity other than White alone, age 35 and higher (valid n)	23.9 (924)	43.0 (214)	<0.001 ^b
Confidence to perform CPR:			
% Confident ⁵ (valid n)	50.9 (1142)	16.9 (296)	<0.001 ^b
% Not Confident ⁶ (valid n)	49.1 (1142)	83.1 (296)	

^a p-value from one-way ANOVA test

^b p-value from chi-square test

Table 7. Reasons for Not Having Attended Training For Selected Age and Race/Ethnicity Categories
(unweighted analysis of survey responses)

Characteristic	I don't know where to get training	I haven't gotten around to it	Other	p-value
% Age less than 35 (valid n)	45.2 (93)	25.6 (121)	16.9 (71)	<0.001 ^b
% Age 35 and higher (valid n)	54.8 (93)	74.4 (121)	83.1 (71)	
% Race/ethnicity other than White alone	61.5 (91)	38.7 (119)	56.8 (74)	0.002 ^b
% White alone	38.5 (91)	61.3 (119)	43.2 (74)	

^a p-value from one-way ANOVA test

^b p-value from chi-square test

Table 8. Confidence to Perform CPR in an Emergency

Characteristic	Proportion Estimate % (95% CI)				
How confident would you feel to perform CPR in an emergency?					
Not confident ⁵	56.4 (53.2, 59.6)				
Confident ⁶	43.6 (40.4, 46.8)				
For respondents who answered “Not Confident” to perform CPR in an emergency:					
Please <u>rank</u> the top 3 reasons you do not feel confident to perform CPR. n	1 st	Ranking 2 nd	3 rd	Unranked Selection	Total
Never performed CPR before	96	213	119	72	500
Have forgotten how or trained too long ago	262	82	56	93	493
Not comfortable with my ability to perform CPR	53	163	199	70	485
Fear of causing injury	35	94	104	28	261
Fear of catching a disease	24	21	38	25	108
Don't know how or have no training	153	25	18	25	221
Fear of being sued	21	29	46	11	107
Not physically able	8	4	23	17	52
Not interested	1	1	3	2	7
Other	7	5	19	6	37

Note: Includes those respondents who marked their reasons but did not rank them (“Unranked”).

Table 9. Characteristics of Survey Respondents that Affect Confidence to Perform CPR
(unweighted analysis of survey responses)

Characteristic	Confident ⁶	Not Confident ⁵	p-value
Trained in CPR			
n	581	561	
Mean age (valid n)	50.2 (570)	52.8 (552)	.007 ^a
Mean age for women (valid n)	48.8 (344)	54.1 (357)	<0.001 ^a
Mean age for men (valid n)	52.9 (220)	50.7 (190)	0.17 ^a
% Female (valid n)	60.3 (579)	64.6 (557)	0.13 ^b
% Male (valid n)	38.9 (579)	34.5 (557)	0.13 ^b
% With less than 2-year college degree (valid n)	22.5 (574)	17.8 (551)	0.05 ^b
% Trained in last 5 years (valid n)	75.2 (576)	27.5 (556)	<0.001 ^b
% Trained 3 or more times (valid n)	78.0 (581)	27.9 (556)	<0.001 ^b
% Race/ethnicity other than White alone	27.0 (574)	25.2 (547)	0.54 ^b
Never Trained			
n	50	246	
Mean age (valid n)	48.3 (50)	47.9 (237)	0.90 ^a
Mean age for women (valid n)	47.3 (20)	47.8 (122)	0.87 ^a
Mean age for men (valid n)	49.0 (30)	48.1 (115)	0.80 ^a
% Female (valid n)	40.0 (50)	51.2 (242)	0.15 ^b
% Male (valid n)	60.0 (50)	48.8 (242)	0.15 ^b
% With less than 2-year college degree (valid n)	37.5 (48)	31.0 (239)	0.38 ^b
% Race/ethnicity other than White alone	53.1 (49)	48.9 (237)	0.50 ^b

^a p-value from one-way ANOVA test

^b p-value from chi-square test

**Table 10. Association Between Confidence to Perform CPR
and Training Location**
(unweighted analysis of survey responses)

Characteristic (where trained)	Confident ⁶	Not Confident ⁵	p-value
% Trained at a training center (valid n)	16.8 (583)	10.3 (562)	<0.001 ^b
% Trained at work (valid n)	53.3 (583)	42.5 (562)	
% Trained at a fire station (valid n)	4.5 (583)	4.6 (562)	
% Trained in the community (valid n)	9.9 (583)	15.5 (562)	
% Trained at School (valid n)	7.2 (583)	17.6 (562)	
% Other (valid n)	8.2 (583)	9.4 (562)	

^a p-value from one-way ANOVA test

^b p-value from chi-square test

Table notes

1. United States Census Bureau, 2019 American Community Survey (accessed 12.29.20). <https://www.census.gov/acs/www/data/data-tables-and-tools/data-profiles/>
2. Race and ethnicity estimates based on total population in King County (2,252,782)
3. [King County household income and language estimates based on number of households in King County \(907,761\)](#)
4. County-wide education estimates for population 25 years of age and over
5. Responses to confidence questions “not at all confident” or “not very confident” are combined as “Not Confident” in the tables below
6. Responses to confidence questions “confident” or “very confident” are combined as “Confident” in the tables below

APPENDICES

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Appendix A – Survey Questions

Please indicate your choices like this:

CPR EXPERIENCE

Q1. Do you know how to perform CPR? No Yes

Q2. Have you ever attended an in-person CPR training that lasted at least 30 minutes and involved practicing CPR?
 No Yes (Skip to Question Q4)

Q3. What is the primary reason you have never attended an in-person CPR training?
 I haven't gotten around to it I don't know where to get training
 I don't think it's necessary No available trainings
 I wouldn't perform CPR even if I were trained No available trainings in my language
 I know how to do CPR already Training is too expensive
 Other (please tell us more): _____

Please skip to Q9 if you have not attended an in-person CPR training.

Q4. When was the most recent time you attended an in-person CPR training?
 Less than 1 year ago 1-2 years ago 3-5 years ago More than 5 years ago

Q5. Where did you last attend an in-person CPR training?
 School Training center (e.g. American Red Cross, American Heart Association, etc.)
 Workplace Fire Station
 In the community (e.g. senior center, library, community center) Other (please tell us more): _____

Q6. What topic(s) were covered in the last CPR training you attended? Select all that apply.
 CPR for adults - with breaths (mouth to mouth) CPR for children and infants
 CPR for adults - hands only Using an automated external defibrillator (AED), a machine that measures the heart rhythm and can deliver an electric shock

Q7. What was the primary reason you attended CPR training?
 Required Wanted to help in an emergency
 Available through work or in my community Have family/friend with heart disease
 Other (please tell us more): _____

Q8. How many total times have you attended a CPR training? 1 2 3-4 5-9 10+

Q9. How confident would you feel to perform CPR in an emergency?
 Not at all confident Confident (Skip to Question Q11)
 Not very confident Very confident (Skip to Question Q11)

Q10. Please rank the top 3 reasons you do not feel confident to perform CPR. Please write 1, 2, or 3 in the box next to the item you are ranking. Please only rank 3 items.

<input type="checkbox"/> Don't know how or have no training	<input type="checkbox"/> Never performed CPR before
<input type="checkbox"/> Fear of <u>being sued</u>	<input type="checkbox"/> Not comfortable with my ability to perform CPR
<input type="checkbox"/> Fear of <u>catching a disease</u>	<input type="checkbox"/> Not interested
<input type="checkbox"/> Fear of <u>causing injury</u>	<input type="checkbox"/> Not physically able
<input type="checkbox"/> Have forgotten how or trained too long ago	<input type="checkbox"/> Other (please tell us more): _____

Q11. Have you ever performed CPR in a real emergency? No Yes

DEMOGRAPHICS

We'd like to ask you a few demographic questions. These questions help us ensure that we are hearing from a diverse group of people, but they are all optional. Your answers are confidential and will be grouped with the answers of other people.

Q12. What is the ZIP Code where you currently live? _____

Q13. How do you identify? Select all that apply. Female Male Gender(s) not listed here

Q14. How old are you? _____

Q15. What is your total household income for the last calendar year, before taxes?
 Less than \$25,000 \$50,000 to \$74,999 \$100,000 to \$149,999 \$200,000 or more
 \$25,000 to \$49,999 \$75,000 to \$99,999 \$150,000 to \$199,999 Don't know

Q16. What language do you speak most often at home?
 English Korean
 Spanish Russian
 Amharic Somali
 Arabic Ukrainian
 Chinese (please tell us which one—for example, Mandarin, Cantonese, Fuzhounese, etc.): _____ Vietnamese
 Another language (please tell us more): _____

Please continue on next page

Appendix A – Survey Questions

- Q17. How well do you speak English?** Very well Well Not well Not at all
- Q18. How do you identify? Select all that apply.**
- | | |
|---|--|
| <input type="checkbox"/> American Indian or Alaska Native | <input type="checkbox"/> Hispanic or Latinx |
| <input type="checkbox"/> Asian or Asian American | <input type="checkbox"/> Native Hawaiian or other Pacific Islander |
| <input type="checkbox"/> Black or African American | <input type="checkbox"/> White |
| | <input type="checkbox"/> Another race (please tell us more): _____ |
- Q19 What is the highest grade or year of school you have completed?**
- | | |
|---|--|
| <input type="checkbox"/> 12 th grade or less; no diploma | <input type="checkbox"/> Associate's Degree |
| <input type="checkbox"/> High school graduate or GED | <input type="checkbox"/> Bachelor's Degree |
| <input type="checkbox"/> Some college or trade/vocational school | <input type="checkbox"/> Post-graduate degree (Master's Degree, Ph.D., or other Professional Degree) |
- Q20. If you are interested in participating in the sweepstakes for one of five \$100 gift cards, please provide your email address. Please know that if you provide an email address your survey responses will remain confidential.**
- Email address: _____

Thank you for your time. To learn more about where to find CPR trainings, please visit www.kingcounty.gov/cpr

[BUSINESS REPLY MAIL ARTWORK]

Public Health - Seattle & King County (PHSKC) – CPR Community Survey

Hello! Public Health - Seattle & King County (PHSKC) is conducting a survey to learn about CPR education in the community, and we want to hear from you! Your survey answers will help us improve CPR training programs in King County. We invite an adult (18+) in your household to take our 10-minute survey.

This survey is confidential and voluntary. **After answering the questions, simply fold so that the return address to PRR, Inc. shows. Please secure with one small piece of tape and drop in the mail. No postage needed. Please mail no later than October 18, 2020.**

This survey asks about your experience with CPR training and your willingness to perform CPR in an emergency.

About CPR: CPR (or cardiovascular pulmonary resuscitation) is done in an emergency when a patient is unresponsive and not breathing, such as when the heart has stopped beating. CPR education can happen in many settings, from classes that provide certifications to community workshops. In this survey, CPR training refers to any in-person education that lasted at least 30 minutes and involved practicing CPR.

If you have questions about this survey, please contact the PHSKC Project Manager at marfischer@kingcounty.gov or by phone at 206-263-6956. The King County privacy policy is available at <https://www.kingcounty.gov/depts/health/locations/privacy-practices.aspx>

This survey is for King County residents ages 18 years or older.

I confirm that I am 18 years of age or older and a King County resident.

PLACE TAPE HERE



Appendix B – Text Responses to Survey Questions

Text Entry - How do you identify? Select all that apply.

Another race (please tell us more):

Total responses 27, n (%)

Human	6 (25.0)
Filipino	2 (8.3)
Irish	1 (4.2)
Scot/Irish	1 (4.2)
Canadian Brown/Black/European mix	1 (4.2)
Mixed	1 (4.2)
South Asian	1 (4.2)
Asian	1 (4.2)
Basque	1 (4.2)
Helicopter	1 (4.2)
Pakistani	1 (4.2)
Tagalog	1 (4.2)
Bosnian	1 (4.2)
Caucasian	1 (4.2)
Native American	1 (4.2)
Nigerian American	1 (4.2)
Other	1 (4.2)
No answer	3 (n/a)

Note: Nine text responses were provided without selecting “Another race” so total is 27 vs the 18 noted in the summary table.

Appendix B – Text Responses to Survey Questions

Text Entry - What language do you speak most often at home?
Chinese (please tell us which one—for example, Mandarin,
Cantonese, Fuzhouese, etc.)
Total responses 42, n (%)

Mandarin	22 (55.0)
Cantonese	16 (40.0)
Singaporean	1 (2.5)
Chaozhouese	1 (2.5)
No answer	2 (n/a)

Note: In the final data set, there were two entries (one 'Mandarin' and one 'Cantonese') entered in the "Another Language" text field. Also, one 'Filipino' and one 'Sign Language' entries were entered in this "Chinese" text field. These entries are corrected in the data shown.

Text Entry - What language do you speak most often at home?
Another language (please tell us more)
Total responses 37, n (%)

Hindi	5 (13.5)
Tagalog	5 (13.5)
Filipino	3 (8.1)
Telugu	3 (8.1)
Thai	2 (5.4)
Japanese	2 (5.4)
French	2 (5.4)
Bengali	1 (2.7)
Punjabi	1 (2.7)
Hebrew	1 (2.7)
Igbo	1 (2.7)
Haitian Creole	1 (2.7)
Khmer, Cambodia	1 (2.7)
Indonesian	1 (2.7)
Swahili	1 (2.7)
Urdu	1 (2.7)
Albanian	1 (2.7)
Latin	1 (2.7)
Polish	1 (2.7)
Marathi	1 (2.7)
Portuguese	1 (2.7)
Sign Language	1 (2.7)
No answer	0 (n/a)

Note: The Latin entry in this text summary was not associated with selecting "another language" in the survey.

Appendix B – Text Responses to Survey Questions

Text Entry - What is the primary reason you have never attended an in-person CPR training?

Other (please tell us more)

Total responses 32, n (%)

“Never thought about it” or “It didn’t occur to me” related answers, 12 (37.5)

1. Never thought about it
2. I’ve never thought about it
3. Never thought about it
4. Never thought about it
5. I haven't thought about it. I was trained as a kid since in elementary. I know a few basics
6. It never crossed my mind to do so. Is it a good thing? Yeh. But the perceived importance never made it an urgency. I am probably wrong and should get it...
7. it never occurred to me before
8. Haven’t thought about it
9. Never thought about it
10. It didn't really occur to me
11. Has never occurred to me to attend a training
12. I just hadn’t considered it (sp trans)

Health related reasons, 5 (15.6)

13. I am legally blind
14. Sick and too old
15. I am sick with stage 4 cancer
16. Disability
17. I need to use oxygen to help me breathe

Age related, 3 (9.4)

18. Too old
19. Too old
20. I'm 97

Busy or working, 3 (9.4)

21. Too busy
22. Working - no time for years
23. When there have been trainings, they are usually early or midweek (sp trans)

Other, 9 (28.1)

24. I’m a little uncomfortable with thinking about doing it on someone, so have not followed through with looking up how to do it. It scares me to think about doing it. Life and death situation as well as touching mouths with someone I don’t know.
25. Has not been relevant as of yet
26. I had less than 30min. training in high school (+35 yrs ago).
27. didn't get any opportunity
28. Available training is not advertised
29. I don't know
30. bigger female don't want to get on the floor
31. I have taken a class over it 5+ plus years ago
32. I watched a video about CPR, and I would like to take a training, it's only that I don't know if they are giving them in the moment due to COVID-19 (sp trans)

Appendix B – Text Responses to Survey Questions

Text Entry - Where did you last attend an in-person CPR Training? Other (please tell us more)

Total responses 95, n (%)

Hospital, 25 (26.3)

1. Hospital
2. Hospital
3. Hospital
4. Hospital
5. Hospital
6. Hospital
7. Hospital
8. Hospital
9. Hospital
10. hospital
11. Hospital
12. Hospital
13. Hospital - baby cpr
14. Hospital where I worked
15. Hospital, my workplace
16. Hospital. We took an infant first aid class.
17. Hospital; New Parent Class
18. in "baby class" at our local hospital before my first child was born.
19. Local hospital
20. Local hospital
21. Swedish Cherry Hill
22. Swedish Hospital
23. Babysitter training at local hospital
24. Evergreen Hospital
25. Highline Hospital, Burien, WA

Scouts, 6 (6.3)

26. Boy Scout Camp
27. Boy Scouts
28. boy scouts
29. Boy scouts
30. Boy Scouts
31. Scouts

Church, 5 (5.3)

32. Church
33. Church
34. Church house
35. Church sponsored event
36. Church (sp trans)

Don't remember, 4 (4.2)

37. don't remember
38. I don't remember
39. I don't remember - decades ago
40. I don't remember with certainty. I believe the course was taught by medics, and that the organization of medics was the sponsor.

Lifeguard, 3 (3.2)

41. It was a training to be a lifeguard when I was 16 (15 years ago)
42. Lifeguard training
43. Lifeguard training 30+ yrs ago

Home, 3 (3.2)

44. My Home
45. In Home

46. Phinney Ridge Neighborhood Association

Army, 2 (2.1)

47. Army
48. Army

Other, 47 (49.5)

49. I think workplace....
50. A family member who is instructs CPR training
51. Adult family care home
52. Apprenticeship School through Union
53. Arranged for our condo community
54. At a local museum as part of job training
55. BLS and CPR Training for job certification
56. Baby class and girl scout mtg
57. CEU Class state require
58. Class for soon-to-be parents
59. Commercial training CPR
60. Earth corps as part of a WFR recertification
61. EMT training center
62. Home care business
63. I was a trainer and school nurse
64. it was a baby CPR class
65. IUPAT training facility at SSCC
66. Kamanga CMA
67. King County Volunteer Search and Rescue training, 2010
68. LA Fitness Kid's Klub training program
69. Last I recall was 15-20 years ago in a Boy Scouts First Aid course
70. Massage training program
71. Medical center in a baby cpr course.
72. Medical school
73. Military
74. Non profit organization
75. Private baby CPR class
76. private training business
77. River raft guide training
78. Safety Matters
79. Seattle ACS
80. Seattle Police Explorer Program
81. Ski Patrol Training
82. the King Dome
83. The Mountaineers
84. Toddler group
85. Training center in another country
86. training for foster care
87. Training held at work college
88. training to become volunteer at local nonprofit
89. Villa comunitaria
90. WTA
91. Yacht club
92. In a Play and Learn center (sp trans)
93. Volunteer (sp trans)
94. Casa Latina
95. Online (sp trans)

Blank/No answer, 7 (n/a)

Appendix B – Text Responses to Survey Questions

Text Entry - What was the primary reason you attended CPR training? Other (please tell us more)

Total responses 75, n (%)

Expecting or recently had baby, 21 (28.0)

1. baby (expecting)
2. Birth of child
3. New baby
4. Infant CPR
5. Baby
6. New grandchild, daughter wanted
7. Had an infant and wanted to be prepared
8. About to have first child
9. Pregnant and wanted to be prepared just in case
10. Upcoming baby, be prepared
11. Pregnancy Class included this
12. First child
13. Had a newborn child
14. New parents
15. Having a baby
16. We were about to have our first child.
17. Pregnant with first child
18. Becoming a parent and wanted to learn.
19. Was pregnant and wanted to know first aid
20. I have 2 children under 4, and wanted to refresh on adult and child CPR
21. Having a baby.

Scouts, 8 (10.7)

22. Boy Scout leader requirement
23. Boy Scouts meeting
24. Worked at a Boy Scout camp
25. Boy Scout Merit Badge Requirement
26. needed as a volunteer for Girl Scout Day Camp
27. Boy scout
28. Scouting
29. Part of life saving merit badge in boy scouts

Babysitting, 3 (4.0)

30. Babysitting
31. Babysitting grandkids
32. In order to be a babysitter

Other, 43 (57.3)

33. Was instructor
34. Lifeguard training
35. For college credit
36. Needed updating
37. Reqd for ski patrol
38. I was a firefighter
39. For NAVI Rescue Diver Cert.
40. Suggested by church
41. Needed recert to be Girl scout leader
42. Grandchildren
43. To recert my WFR
44. Pediatric and work related
45. I instructed the class
46. Could be important for midwife
47. Option to all staff at my school where I worked
48. part of a class in a college
49. I am a physician
50. King County Vol. FF/EMT
51. For rescue diver scuba certification
52. To help at work
53. To become a CPR trainer for my workplace.
54. Part of wilderness first aid training
55. Needed for Scuba certification
56. Part of a voluntary work program
57. Work in a school and wanted to be ready if needed.
58. required for an extra-curricular job
59. Update training for disaster response
60. It was during school PE.
61. Part of an OSHA class for work
62. Foster Parent
63. I was a volunteer member of my workplace safety committee
64. I am a teacher and work with children.
65. Part of high school health class
66. Since I taught Red Cross CPR classes I needed to be current
67. Nanny
68. For work
69. Learning about wilderness first aid
70. Emergency preparedness
71. It was required as part of my classwork at Renton Technical College
72. I was in a nursing assistant program, and we were learning about it and practicing (sp trans)
73. Where I was a volunteer it was required that I had my certificate (sp trans)
74. Learning for an emergency (sp trans)
75. I was in a lifeguard class (sp trans)

Blank, 2 (n/a)

Appendix B – Text Responses to Survey Questions

Text Entry - Please rank the top 3 reasons you do not feel confident to perform CPR. Please write 1,2, or 3 in the box next to the line item you are ranking. Please only rank 3 items. Other (please tell us more)
Total responses 36, n (%)

Fear or worry, 10 (27.8)

1. Fear of making it worse
2. Fear of doing it wrong
3. Fear of doing something wrong
4. Don't want to do incorrectly
5. Scared under pressure
6. afraid I would panic & forget what to do
7. Afraid
8. Worried that I would freeze in an actual emergency
9. afraid I'll forget
10. I worry that I will not assess the situation properly

Outdated training, 5 (13.9)

11. Best practices/procedures may have changed since I last took the trainings.
12. outdated training
13. Seems like recommendation of how has changed since I was trained.
14. protocol changes often causing confused
15. Some of the 'rules' have changed over the years. I don't remember the most recent.

Age, 6 (16.7)

16. Age 85
17. I'm 93, hard to get up and down
18. I'm 97
19. Now very elderly with poor lungs
20. I am 68 now
21. I'm over 80. Even if I had current training, would probably depend on circumstance

Physical ability, 3 (8.3)

22. Not physically capable
23. Have a disability that would likely result in injury to me. But I'd do it if necessary
24. hands on have trouble pushing down hard enough. Having the strength to do so

Other, 12 (33.3)

25. I forgot and never perform on a actual human only a prop at school
26. just 1 and 2
27. NA
28. Never performed cpr in an emergency situation
29. No #3
30. Too long ago
31. Never performed CPR outside of the training class
32. can't save the person
33. Too personal to touch mouths
34. Need to review training memo
35. The training that I received lasted one day, I feel that it isn't sufficient, it requires more practice, a little more study in order to have the knowledge well cemented. This gives you confidence to act (sp trans)
36. In Spanish (sp trans)

Blank, 1 (n/a)

Appendix C – Demographic Comparison 2020 to 2008

Demographic Characteristics of Survey Population
and King County, Washington.

(Age, Sex/Gender, Household Income, Education)

2020 Data			2008 Comparison Data		
Characteristic	Survey Population (n=1471)	King County, 2019 Age 18 and older (n= 1,801,166) ¹	Characteristic	Survey Population (n=1001)	King County, 2000 (n=1,347,999) ⁵
Age, n (%)			Age, n (%)		
18-24	42 (2.9)	180,726 (10.0)	18-29	42 (4.2)	300,488 (22.3)
25-34	254 (17.3)	416,655 (23.1)	30-39	111 (11.1)	311,414 (23.1)
35-44	270 (18.4)	342,732 (19.0)	40-49	163 (16.2)	295,718 (21.9)
45-54	256 (17.4)	292,783 (16.3)	50-59	211 (21.1)	200,974 (14.9)
55-64	263 (17.9)	264,212 (14.7)	60-69	194 (19.4)	103,605 (7.7)
65-74	238 (16.2)	182,862 (10.2)	70-79	138 (13.8)	83,824 (6.2)
75+	119 (8.1)	121,196 (6.7)	80+	84 (8.4)	51,976 (3.9)
Not answered	29 (2.0)	-	Don't know/refused	58 (5.8)	-
Sex/Gender, n (%)			Gender, n (%)		
Female	874 (59.4)	899,744 (49.95)	Female	607 (60.6)	684,109 (50.8)
Male	576 (39.2)	901,422 (50.05)	Male	394 (39.4)	663,890 (49.2)
Gender not listed here	11 (0.7)	-	No 2008 comparison data		
Not answered	10 (0.7)	-	Education³, n (%)		
Household income² (\$), n (%)			Some high school		
<25,000	112 (7.6)	99,055 (10.9)	High school graduate	21 (2.1)	115,728 (9.7)
25,000-49,999	177 (12.0)	116,130 (12.8)	Some college	128 (12.8)	227,931 (19.2)
50,000-74,999	204 (13.9)	121,840 (13.4)	Some college	180 (18.0)	280,812 (23.6)
75,000-99,999	157 (10.7)	99,668 (11.0)	Associate degree	98 (9.8)	89,321 (7.5)
100,000-149,999	254 (17.3)	175,535 (19.3)	Bachelor degree	264 (26.4)	316,451 (26.6)
150,000-199,999	174 (11.8)	105,225 (11.6)	Master or Doctorate	257 (25.6)	158,497 (13.3)
>200,000	256 (17.4)	190,308 (21.0)	Other	14 (1.4)	-
Don't know	59 (4.0)	-	Don't know	7 (0.7)	-
Not answered	78 (5.3)	-	Refused	32 (3.2)	-
Highest grade level/education³, n (%)					
12 th grade or less, no diploma	49 (3.3)	112,662 (7.0)			
High school graduate/GED	85 (5.8)	233,533 (14.4)			
Some college/trade or vocational school	196 (13.3)	278,043 (17.2)			
Associate degree	112 (7.6)	118,926 (7.3)			
Bachelor degree	529 (36.0)	513,884 (31.7)			
Post- graduate (masters or PhD or other professional degree)	473 (32.2)	363,392 (22.4)			
Not answered	27 (1.8)	-			

Appendix C – Demographic Comparison 2020 to 2008

Demographic Characteristics of Survey Population
and King County, Washington.
(Race and Ethnicity)

2020 Data		
Characteristic	Survey Population (n=1471)	King County, 2019 Total Population (n= 2,252,782) ^{1,4}
How do you identify, n (%)		
American Indian/Alaska Native alone	10 (0.7)	13,321 (0.6)
Asian or Asian American alone	198 (13.5)	424,590 (18.8)
Black or African American alone	48 (3.3)	147,822 (6.6)
Hispanic or Latinx, alone or in combination	136 (9.2)	222,624 (9.9)
White alone	993 (67.5)	1,302,544 (57.8)
Native Hawaiian or another Pacific Islander alone	2 (0.1)	15,702 (0.7)
Another race alone	14 (1.0)	6,574 (0.3)
Two or more races	39 (2.7)	119,587 (5.3)
Not answered	31 (2.1)	-

2008 Comparison Data		
Characteristic	Survey Population (n=1001)	King County, 2000 (n=1,347,999) ⁵
Race/ethnicity, n (%)		
Native American	4 (0.4)	10,194 (0.8)
Black or African American	67 (6.7)	63,582 (4.7)
Hispanic or Latinx	25 (2.5)	64,880 (4.8)
White	756 (75.5)	1,019,311 (75.6)
Asian or Pacific Islander	54 (5.4)	149,241 (11.1)
Don't know	11 (1.1)	-
Other	37 (3.7)	40,324 (3.0)
Refused	47 (4.7)	-

Demographic Characteristics of Survey Population
and King County, Washington.

PRR Analysis Method: Categories are Race or Ethnicity alone or in Combination.
Hispanic (of any race, alone or in combination) is removed from the Denominator of Other Categories

2020 Data		
Characteristic	Survey Population (n=1471)	King County, 2019 Total Population (n= 2,252,782) ¹
How do you identify, n (%)		
American Indian or Alaska Native	26 (1.9)	44,527 (2.2)
Asian or Asian American	220 (16.5)	503,255 (24.8)
Black or African American	63 (4.7)	191,813 (9.4)
Hispanic or Latinx	136 (9.2)	222,624 (9.9)
White	1043 (78.1)	1,524,208 (75.1)
Native Hawaiian or another Pacific Islander	8 (0.6)	30,949 (1.5)
Another race (see details below)	18 (1.3)	117,769 (5.8)
Not answered	31 (2.1)	-

2008 Comparison Data		
Characteristic	Survey Population (n=1001)	King County, 2000 (n=1,347,999) ⁵
Race/ethnicity, n (%)		
Native American	4 (0.4)	10,194 (0.8)
Black or African American	67 (6.7)	63,582 (4.7)
Hispanic or Latinx	25 (2.5)	64,880 (4.8)
White	756 (75.5)	1,019,311 (75.6)
Asian or Pacific Islander	54 (5.4)	149,241 (11.1)
Don't know	11 (1.1)	-
Other	37 (3.7)	40,324 (3.0)
Refused	47 (4.7)	-

Appendix C – Demographic Comparison 2020 to 2008

Demographic Characteristics of Survey Population
and King County, Washington.
(Language)

2020 Data

	Survey Population (n=1471)
Primary language at home, n (%)	
English	1269 (86.3)
Spanish	89 (6.1)
Chinese	42 (2.9)
Korean	7 (0.5)
Vietnamese	4 (0.3)
Somali	1 (0.1)
Russian	5 (0.3)
Ukrainian	3 (0.2)
Arabic	0 (0)
Amharic	2 (0.1)
Another language (see below)	36 (2.4)
Not answered	13 (0.9)
How well do you speak English, n (%)	
Well or very well	1381 (93.9)
Less than well or very well	71 (4.8)
Not answered	19 (1.3)

	King County, 2019 Households (n= 907,761) ^{1,2}
Household Language, n (%)	
English	634,442 (69.9)
Spanish	60,535 (6.7)
Chinese	45,814 (5.0)
Korean	12,259 (1.4)
Vietnamese	16,263 (1.8)
Tagalog (incl. Filipino)	11,610 (1.3)
Other Asian and Pacific Islander Languages.	34,701 (3.8)
Russian, Polish, or other Slavic Languages.	16,934 (1.9)
Arabic	4,596 (0.5)
French, Haitian, Cajun	8,672 (1.0)
German or other West Germanic Languages	6,846 (0.8)
Other Indo-European languages	34,703 (3.8)
Other and unspecified languages	20,386 (2.2)
Not a limited English-speaking household	857,550 (94.5)
Limited English-speaking household	50,211 (5.5)

2008 Comparison Data

Characteristic	Survey Population (n=1001)	King County, 2000 (n=1,347,999) ⁵
Primary language at home, n (%)		
English	933 (92.1)	1,099,438 (81.6)
Spanish	12 (1.2)	55,741 (4.1)
Chinese	14 (1.4)	32,075 (2.4)
Japanese	4 (0.4)	11,253 (0.8)
Russian	2 (0.2)	8,750 (0.6)
Hindi	2 (0.2)	3,056 (0.2)
Other	26 (2.6)	137,686 (10.2)
Don't know/refused	20 (2.0)	-

Appendix D – CPR Response Comparison 2020 to 2008

CPR Knowledge

2020 Data (1471 respondents)

Do you know how to perform CPR? n (%)	
Yes	1015 (69.0)
No	440 (29.9)
Not answered	16 (1.1)

2008 Comparison Data (1001 respondents)

Do you know how to perform CPR? n (%)	
Yes	716 (71.5)
No	266 (26.6)
Don't know/refused	19 (1.9)

CPR Training

2020 Data (1471 respondents)

Have you ever attended a CPR training class? n (%)	
Yes	1152 (78.3)
No	309 (21.0)
Not answered	10 (0.7)

2008 Comparison Data (1001 respondents)

Have you ever attended a CPR training class? n (%)	
Yes	794 (79.3)
No	206 (20.6)
Don't know	1 (0.1)

Reason for Not Having Attended CPR Training

2020 Data

What is the primary reason you have never attended an in-person CPR training? n (%)	
I have not gotten around to it	123 (42.0)
I don't think it is necessary	4 (1.4)
I wouldn't perform CPR even if I were trained	12 (4.1)
I know how to do CPR already	10 (3.4)
I don't know where to get training	95 (32.4)
No available training	7 (2.4)
No available training in my language	5 (1.7)
Training too expensive	5 (1.7)
Other (see details below)	32 (10.9)
Not asked	1162 (n/a)
Total responses	293 (n/a)

2008 Comparison Data (1001 respondents)

Can you tell us why you have not attended a CPR training class? n (%)	
Not gotten around to it	85 (41.1)
Didn't think it was necessary	21 (10.1)
Wouldn't perform CPR even if trained	7 (3.4)
Know how already	6 (2.9)
No available training	20 (9.7)
Training too expensive	0 (0)
Other	46 (22.2)
Don't know	22 (10.6)
(Not asked)	794 (n/a)

Appendix D – CPR Response Comparison 2020 to 2008

Most Recent CPR Training Class Information.

2020 Data

When was the most recent time you attended a CPR training class? n (%)	
<1 year	137 (11.9)
1-2 years	235 (20.5)
3-5 years	223 (19.4)
>5 years	553 (48.2)
Not asked	319 (n/a)
Total responses	1148 (n/a)

Where did you last attend an in-person CPR Training? n (%)

School	144 (12.5)
Workplace	554 (47.9)
In the community	146 (12.6)
Training center	158 (13.7)
Fire station	52 (4.5)
Other (see details below)	102 (8.8)
Not asked	319 (n/a)
Total responses	1156 (n/a)

What topics were covered in the last CPR training you attended? Select all that apply. n

Topic 1: CPR for adults (with MMV)	961
Topic 2: CPR for adults (hands only)	616
Topic 3: CPR for children and infants	749
Topic 4: Using AED	567

Number of topics selected by respondent, n (%)

Respondent selected only 1 topic	292 (25.3)
Respondent selected 2 topics	259 (22.4)
Respondent selected 3 topics	329 (28.5)
Respondent selected all 4 topics	274 (23.7)
No topics selected	317 (n/a)
Not asked	319 (n/a)
Total responses	1154 (n/a)

2008 Comparison Data (1001 respondents)

When was the most recent time you attended a CPR training class? n (valid %)	
<1 year	138 (17.4)
1-5 years	231 (29.1)
>5 years	420 (52.9)
Don't know	5 (0.6)
Refused	0 (0)
Not asked	207 (n/a)

Appendix D – CPR Response Comparison 2020 to 2008

Reason for Attending CPR Training

2020 Data

What was the primary reason you attended CPR training? n (%)	
Required	604 (52.3)
Available at work/community center	278 (24.1)
Wanted to help in an emergency	188 (16.3)
Have family member/friend with heart disease	8 (0.7)
Other (see below)	77 (6.7)
Not asked	319 (n/a)
Total responses	1155 (n/a)

2008 Comparison Data (1001 respondents)

Why did you get CPR training? n (%)	
Required	412 (52.0)
Available at work/community center	184 (23.2)
Wanted to help in an emergency	120 (15.1)
Have family member/friend with heart disease	13 (1.6)
Other	155 (19.5)
Refused	3 (0.4)
Not asked	207 (n/a)

Total Times Attending CPR Training.

2020 Data

How many total times have you attended a CPR training class? n (%)	
1	280 (24.3)
2	256 (22.2)
3-4	283 (24.5)
5-9	177 (15.4)
10+	157 (13.6)
Not asked	319 (n/a)
Total responses	1153 (n/a)

2008 Comparison Data (1001 respondents)

How many total times have you attended a CPR training class? n (valid %)	
1	190 (24.0)
2	187 (23.6)
3-4	188 (23.7)
5-9	92 (11.6)
10+	100 (12.6)
Don't know/refused	36 (4.5)
Not asked	207 (n/a)

Confidence to Perform CPR Training

2020 Data (1471 respondents)

How confident would you feel to perform CPR in an emergency? n (%)	
Not confident at all	269 (18.3)
Not very confident	542 (36.8)
Confident	491 (33.4)
Very confident	144 (9.8)
Not answered	25 (1.7)

2008 Comparison Data (1001 respondents)

On a scale from 0-10, how confident do you feel to perform CPR? n (%)	
0	90 (9.0)
1-2	85 (8.5)
3-4	136 (13.6)
5-6	263 (26.3)
7-8	238 (23.8)
9-10	160 (16.0)
Don't know/refused	29 (2.9)

Appendix D – CPR Response Comparison 2020 to 2008

Reasons for Not Feeling Confident to Perform CPR

(Respondents could select up to three reasons, ranked or not. Only respondents from previous question indicating 'Not at all confident' or 'Not very confident' answered this question)

2020 Data

Please rank the top 3 reasons you do not feel confident to perform CPR. n (%)	
Never performed CPR before	500 (22.0)
Have forgotten how or trained too long ago	493 (21.7)
Not comfortable with my ability to perform CPR	485 (21.4)
Fear of causing injury	261 (11.5)
Don't know how or have no training	221 (9.7)
Fear of catching a disease	108 (4.8)
Fear of being sued	107 (4.7)
Not physically able	52 (2.3)
Not interested	7 (0.3)
Other (see details below)	37 (1.6)
Not asked	660 (n/a)
Total responses	2271 (n/a)

2008 Comparison Data (1001 respondents)

If confidence rated below 5, why do you not feel confident? n (%)	
Have forgotten how/trained too long ago	113 (33.9)
Don't know how/no training	109 (32.7)
Not comfortable	37 (11.1)
Not physically able/too old	28 (8.4)
Never done it before	27 (8.1)
Not interested	4 (1.2)
Other	10 (3.0)
Don't know	5 (1.5)
Not asked	668 (n/a)

Note: Some respondents (at least 93) did not rank their top three selections and only marked items. This table includes total selected reasons and ranks reasons based on this total.

Ranked Reasons for Not Feeling Confident to Perform CPR (summary of those respondents who ranked top three reasons)

2020 Data

Please rank the top 3 reasons you do not feel confident to perform CPR. n	Ranking		
	1 st	2 nd	3 rd
Don't know how or have no training	153	25	18
Fear of being sued	21	29	46
Fear of catching a disease	24	21	38
Fear of causing injury	35	94	104
Have forgotten how or trained too long ago	262	82	56
Never performed CPR before	96	213	119
Not comfortable with my ability to perform CPR	53	163	199
Not interested	1	1	3
Not physically able	8	4	23
Other	7	5	19
Not asked		660	

2008 Comparison Data (1001 respondents)

If confidence rated below 5, why do you not feel confident? n (%)	
Don't know how/no training	109 (32.7)
Have forgotten how/trained too long ago	113 (33.9)
Never done it before	27 (8.1)
Not comfortable	37 (11.1)
Not interested	4 (1.2)
Not physically able/too old	28 (8.4)
Other	10 (3.0)
Don't know	5 (1.5)
Not asked	668 (n/a)

Note: Does not include those respondents who marked their reasons but did not rank them.

Appendix D – CPR Response Comparison 2020 to 2008

CPR Performed in an Emergency

2020 Data (1471 respondents)

Have you ever performed CPR in an emergency, n (%)	
Yes	159 (10.8)
No	1250 (85.0)
Not answered	62 (4.2)

2008 Comparison Data (1001 respondents)

Have you ever performed CPR? n (%)	
Yes	115 (11.5)
No	886 (88.5)
Refused	0

Comparison of trained and untrained categories

2020 Data

Characteristic	Trained in CPR	Never trained	p-value
n	1152	309	
Mean age (valid n)	51.5 (1132)	48.6 (300)	0.008 ^a
Mean age for women (valid n)	51.5 (708)	48.3 (148)	0.04 ^a
Mean age for men (valid n)	51.9 (413)	48.9 (151)	0.07 ^a
% Female (valid n)	62.5 (1146)	49.2 (305)	<0.001 ^b
% Male (valid n)	36.6 (1146)	50.5 (305)	<0.001 ^b
% With less than 2-year college degree (valid n)	20.4 (1135)	32.3 (300)	<0.001 ^b
% race/ethnicity other than white alone (valid n)	26.2 (1131)	49.8 (299)	<0.001 ^b
Confidence to perform CPR:			
% Confident (responses of confident or very confident) (valid n)	50.9 (1142)	16.9 (296)	<0.001 ^b
% Not Confident (responses of not at all or not very confident) (valid n)	49.1 (1142)	83.1 (296)	

2008 Comparison Data

Characteristic	Trained in CPR	Never trained	p-value
n	794	206	
Mean age (valid n)	54.8 (759)	60.4 (182)	<0.001 ^a
Mean age for women (valid n)	55.1 (476)	61.3 (93)	0.001 ^a
Mean age for men (valid n)	54.3 (283)	59.4 (89)	0.01 ^a
% Female (valid n)	63.2 (794)	50.5 (206)	0.001 ^b
% With less than 2-year college degree (valid n)	32.2 (761)	44.9 (187)	0.001 ^b
Mean confidence in performing CPR (valid n)	6.1 (784)	3.0 (188)	<0.001 ^a

^a p-value from one-way ANOVA test.^b p-value from chi-square test.

Appendix D – CPR Response Comparison 2020 to 2008

Characteristics of Survey Respondents that Affect Confidence to Perform CPR
for those Trained and those Never Trained in CPR.

2020 Data

Characteristic	Confident (responses of 'confident' or 'very confident')	Not Confident (responses of 'not at all confident' or 'not very confident')	p-value
Trained in CPR			
n	581	561	
Mean age (valid n)	50.2 (570)	52.8 (552)	.007 ^a
Mean age for women (valid n)	48.8 (344)	54.1 (357)	<0.001 ^a
Mean age for men (valid n)	52.9 (220)	50.7 (190)	0.17 ^a
% Female (valid n)	60.3 (579)	64.6 (557)	0.13 ^b
% Male (valid n)	38.9 (579)	34.5 (557)	0.13 ^b
% With less than 2-year college degree (valid n)	22.5 (574)	17.8 (551)	0.05 ^b
% Trained in last 5 years (valid n)	75.2 (576)	27.5 (556)	<0.001 ^b
% Trained 3 or more times (valid n)	78.0 (581)	27.9 (556)	<0.001 ^b
% Race/ethnicity other than white alone	27.0 (574)	25.2 (547)	0.54 ^b
Never Trained			
n	50	246	
Mean age (valid n)	48.3 (50)	47.9 (237)	0.90 ^a
Mean age for women (valid n)	47.3 (20)	47.8 (122)	0.87 ^a
Mean age for men (valid n)	49.0 (30)	48.1 (115)	0.80 ^a
% Female (valid n)	40.0 (50)	51.2 (242)	0.15 ^b
% Male (valid n)	60.0 (50)	48.8 (242)	0.15 ^b
% With less than 2-year college degree (valid n)	37.5 (48)	31.0 (239)	0.38 ^b
% Race/ethnicity other than white alone	53.1 (49)	48.9 (237)	0.50 ^b

2008 Comparison Data

Characteristic	Confidence				p-value ^c
	0-2	3-6	7-10	Unknown or missing	
Trained in CPR					
n	79	326	379	10	
Mean age (valid n)	63.2 (76)	55.8 (309)	52.0 (366)	62.1 (8)	<0.001 ^a
Mean age for men (valid n)	63.5 (27)	54.9 (99)	52.3 (153)	53.2 (4)	0.002 ^a
Mean age for women (valid n)	63.1 (49)	56.2 (210)	51.8 (213)	71.0 (4)	<0.001 ^a
% Female (valid n)	65.8 (79)	67.8 (326)	59.1 (379)	50.0 (10)	0.05 ^b
% With less than 2-year college degree (valid n)	36.8 (76)	33.8 (317)	29.4 (360)	50.0 (8)	0.31 ^b
% Trained in last 5 years (valid n)	16.7 (78)	32.0 (322)	65.4 (379)	50.0 (10)	<0.001 ^b
% Trained 3 or more times (valid n)	25.0 (72)	34.7 (314)	68.9 (364)	37.5 (8)	<0.001 ^b
Never Trained					
n	96	73	19	18	
Mean age (valid n)	61.2 (80)	58.0 (70)	60.0 (19)	69.2 (13)	0.54 ^a
Mean age for men (valid n)	59.6 (38)	56.6 (33)	60.3 (12)	72.2 (6)	0.73 ^a
Mean age for women (valid n)	62.6 (42)	59.3 (37)	59.4 (7)	66.7 (7)	0.67 ^a
% Female (valid n)	53.1 (96)	50.7 (73)	36.8 (19)	50.0 (18)	0.43 ^b
% With less than 2-year college degree (valid n)	47.7 (86)	40.0 (70)	52.6 (19)	41.7 (12)	0.50 ^b

^a p-values from one-way ANOVA test.^b p-values from chi-square test.^c p-values calculated from non-missing values.

Appendix E – Demographic Comparison for Those Who Have CPR Training

Age (Trained in CPR)

2020 Data

Characteristic	Survey respondents trained in CPR (n=1152)
Age, n (%)	
18-29	93 (68.4)
30-39	225 (74.5)
40-49	217 (82.5)
50-59	199 (83.3)
60-69	232 (81.7)
70-79	120 (75.9)
80+	46 (76.7)
Not answered	20 (69.0)

2008 Comparison Data

Characteristic	Survey respondents trained in CPR (n=794)
Age, n (%)	
18-29	35 (83.3)
30-39	91 (82.0)
40-49	145 (89.0)
50-59	175 (82.9)
60-69	152 (78.4)
70-79	112 (81.2)
80+	50 (59.2)
Don't know/refused	34 (58.6)

Sex/Gender (Trained in CPR)

2020 Data

Characteristic	Survey respondents trained in CPR (n=1152)
Sex/Gender, n (%)	
Female	716 (81.9)
Male	420 (72.9)
Not listed	10 (90.9)
Not answered	6 (60.0)

2008 Comparison Data

Characteristic	Survey respondents trained in CPR (n=794)
Gender	
Female	502 (82.7)
Male	292 (74.1)

Household Income (Trained in CPR)

2020 Data

Characteristic	Survey respondents trained in CPR (n=1152)
Household income (\$), n (%)	
<25,000	71 (63.4)
25,000-49,999	128 (72.3)
50,000-74,999	160 (78.4)
75,000-99,999	135 (86.0)
100,000-149,999	209 (82.3)
150,000-199,999	144 (82.8)
>200,000	199 (77.7)
Don't know	42 (71.2)
Not answered	64 (82.1)

2008 Comparison Data

Characteristic	Survey respondents trained in CPR (n=794)
No 2008 comparison data	

Appendix E – Demographic Comparison for Those Who Have CPR Training

Education (Trained in CPR)

2020 Data

Characteristic	Survey respondents trained in CPR (n=1152)
Highest grade level/education, n (%)	
12 th grade or less / no diploma	20 (40.8)
High school graduate/GED	51 (60.0)
Some college/trade or vocational school	160 (81.6)
Associate degree	94 (83.9)
Bachelor degree	428 (80.9)
Master or Doctorate	382 (80.8)
Not answered	17 (63.0)

2008 Comparison Data

Characteristic	Survey respondents trained in CPR (n=794)
Education, n (%)	
Some high school	9 (42.9)
High school graduate	95 (74.2)
Some college	141 (78.3)
Associate degree	80 (81.6)
Bachelor degree	222 (84.1)
Master or Doctorate	214 (83.3)
Other	13 (92.9)
Don't know	3 (42.9)
Refused	17 (53.1)

Race and Ethnicity (Trained in CPR)

2020 Data

Characteristic	Survey respondents trained in CPR (n=1152)
How do you identify, n (%)	
White alone	835 (84.1)
Asian or Asian American alone	123 (62.1)
Hispanic or Latinx, alone or in combination	86 (63.2)
Black or African American alone	36 (75.0)
American Indian/Alaska Native alone	8 (80.0)
Native Hawaiian or another Pacific Islander alone	2 (100)
Another race alone	8 (57.1)
Two or more races	33 (84.6)
Not answered	21 (67.7)

2008 Comparison Data

Characteristic	Survey respondents trained in CPR (n=794)
Race/ethnicity, n (%)	
White/Caucasian	614 (81.2)
Hispanic of Latinx	19 (76.0)
Black or African American	56 (83.4)
Asian or Pacific Islander	37 (68.5)
Native American	4 (100.0)
Other	28 (75.7)
Don't know	5 (45.4)
Refused	31 (66.0)

Appendix E – Demographic Comparison for Those Who Have CPR Training

Language (Trained in CPR)

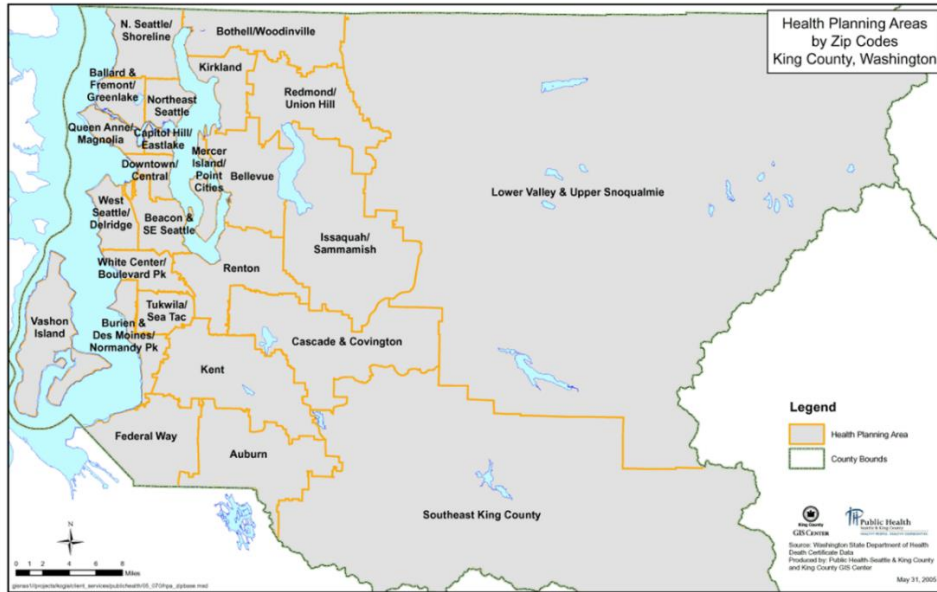
2020 Data

Characteristic	Survey respondents trained in CPR (n=1152)
Primary language at home, n (%)	
English	1046 (82.4)
Spanish	53 (59.6)
Chinese	16 (38.1)
Korean	5 (71.4)
Russian	4 (80.0)
Amharic	1 (50.0)
Arabic	0 (0)
Somali	1 (100.0)
Ukrainian	3 (100.0)
Vietnamese	2 (50.0)
Another language	14 (38.9)
Not answered	7 (53.8)
How well do you speak English? n (%)	
Very well	1039 (81.5)
Well	70 (66.0)
Not well	30 (47.6)
Not at all	3 (37.5)
Not answered	10 (52.6)

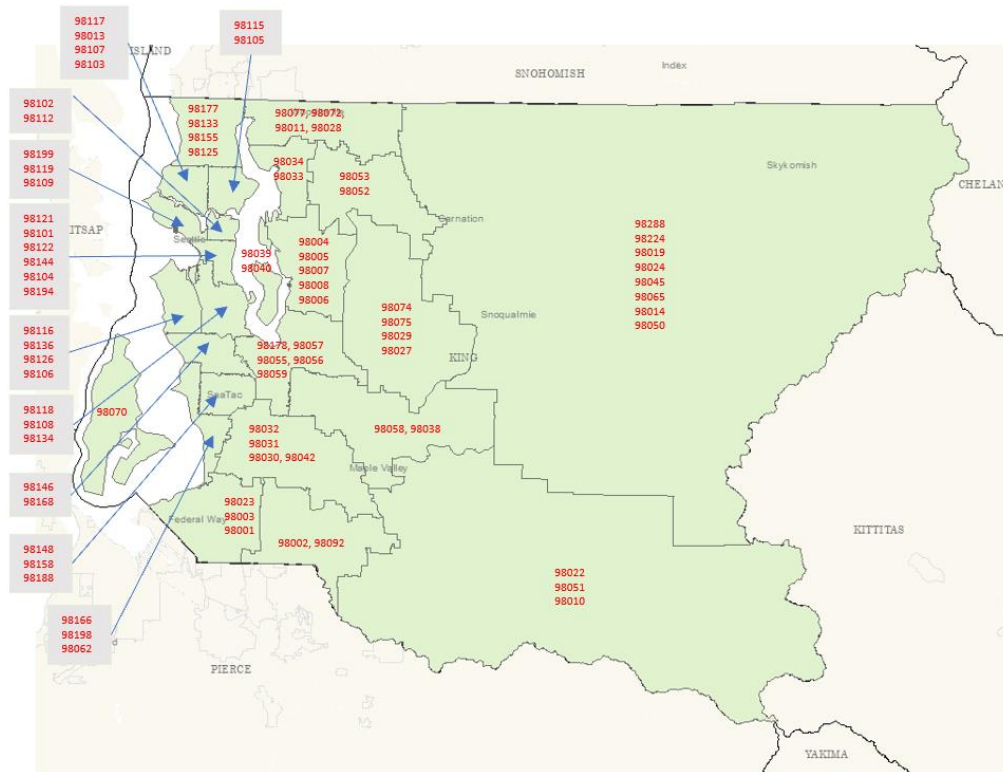
2008 Comparison Data

Characteristic	Survey respondents trained in CPR (n=794)
Primary Language at home, n (%)	
English	757 (81.1)
Spanish	10 (83.3)
Chinese	10 (71.4)
Japanese	1 (25.0)
Russian	0
Hindi	2 (100.0)
Other	23 (67.6)
Don't know/refused	9 (45.0)

Appendix F – Zip Code Analysis King County Health Planning Areas by Zip Code



05070 hpa_zipbase.gif (1224x792) (kingcounty.gov)



HPA_ZIPCODE.jpg (988x739) (kingcounty.gov)

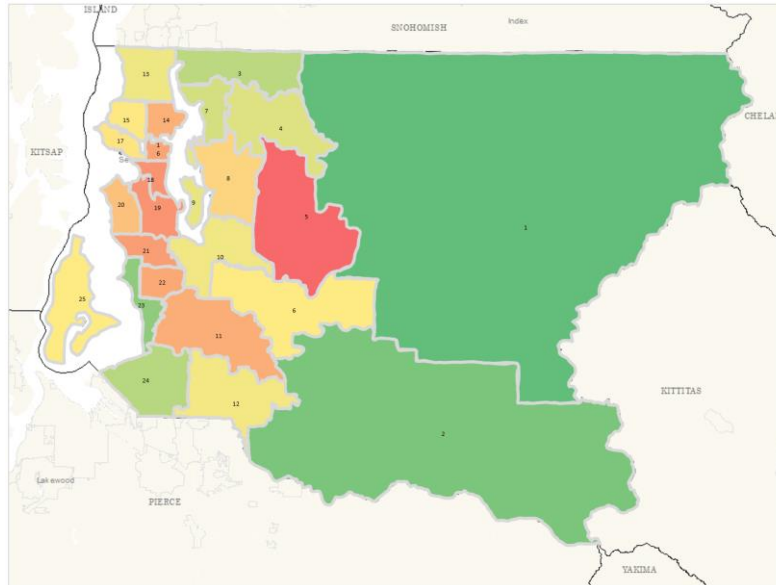
Appendix F – Zip Code Analysis

Summary of Selected Data for Each Health Planning Area

2020 Data

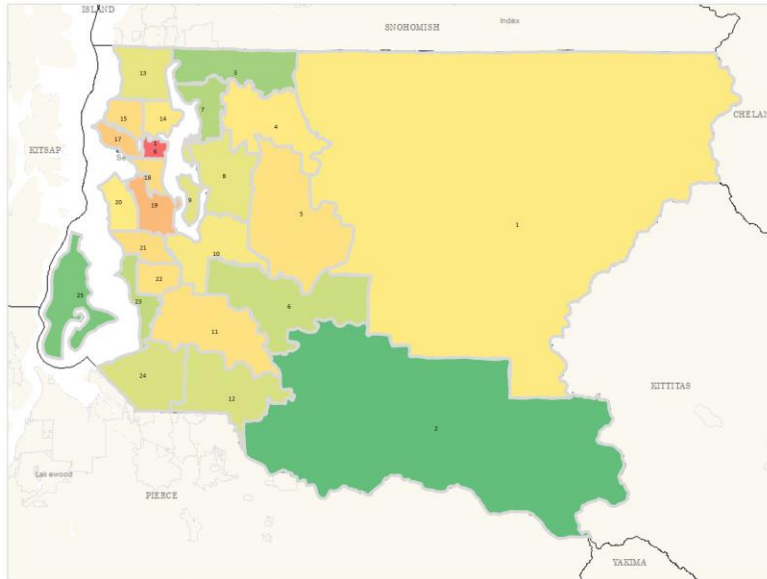
Health Planning Area	Total Responses	Trained (% of respondents trained)	Confident (% of respondents indicating confident or very confident to perform CPR)	Race/Ethnicity (% of respondents indicating race/ethnicity other than White alone)	Age (average age of respondents)
Lower Valley/Upper Snoqualmie	39	97.4	43.6	10.3	53
SE King County	19	94.7	63.2	11.1	60
Bothell/Woodinville	49	87.5	55.3	18.8	56
Redmond/Union Hill	55	83.6	43.4	30.8	52
Sammamish/Issaquah	64	67.2	41.9	31.7	55
Cascade/Covington	36	80.0	50.0	19.4	54
Kirkland	53	84.9	52.8	22.6	48
Bellevue	90	77.8	46.7	36.3	55
Mercer Island/Point Cities	17	82.4	47.1	26.7	55
Renton	76	81.6	44.7	41.9	55
Kent	77	74.0	42.1	35.5	51
Auburn	33	81.3	48.5	45.7	49
N. Seattle/Shoreline	118	81.9	46.6	22.2	53
NE Seattle	75	74.3	43.2	32.4	49
Ballard/Freemont/Greenlake	100	79.8	40.8	24.2	46
Capitol Hill/Eastlake	41	73.2	17.5	12.2	50
Queen Anne/Magnolia	68	79.4	37.3	20.6	45
Downtown/Central	109	71.6	40.7	43.0	48
Beacon/SE Seattle	58	71.4	33.9	46.6	51
W. Seattle/Delridge	83	75.9	43.8	26.8	49
White Center/Boulevard Pk	62	72.6	41.0	49.2	47
Tukwila/SeaTac	19	73.7	42.1	38.9	53
Burien/Des Moines/Normandy Pk	40	92.5	51.3	22.5	57
Federal Way	60	88.1	48.3	38.2	52
Vashon Island	5	80.0	60.0	0.0	60
No answer/wrong zip code	25				

Appendix F – Zip Code Analysis
CPR Training in King County Health Planning Areas
(percent of respondent indicating they have received CPR training)



Code	HPA	Trained	Total Responses (Trained and Never Trained)	% Trained
5	Sammamish/Issaquah	43	64	67.2%
19	Beacon/SE Seattle	40	56	71.4%
18	Downtown/Central	78	109	71.6%
21	White Center/Boulevard Pk	45	62	72.6%
16	Capitol Hill/Eastlake	30	41	73.2%
22	Tukwila/SeaTac	14	19	73.7%
11	Kent	57	77	74.0%
14	NE Seattle	55	74	74.3%
20	W. Seattle/Delridge	63	83	75.9%
8	Bellevue	70	90	77.8%
17	QueenAnne/Magnolia	54	68	79.4%
15	Ballard/Fremont/Greenlake	79	99	79.8%
6	Cacade/Covington	28	35	80.0%
25	Vashon Island	4	5	80.0%
12	Auburn	26	32	81.3%
10	Renton	62	76	81.6%
13	N. Seattle/Shoreline	95	116	81.9%
9	Mercer Is/Point Cities	14	17	82.4%
4	Redmond	46	55	83.6%
7	Kirkland	45	53	84.9%
3	Bothell/Woodinville	42	48	87.5%
24	Federal Way	52	59	88.1%
23	Burien/DesMoines/Normandy Pk	37	40	92.5%
2	SE King County	18	19	94.7%
1	Lower Valley/Upper Snoqualmie	38	39	97.4%

Appendix F – Zip Code Analysis
Confidence to Perform CPR in King County Health Planning Areas
 (percent of respondents indicating they are confident or very confident to perform CPR in an emergency)



Code	HPA	Confident	Total Responses (Confident and Not Confident)	% Confident
16	Capitol Hill/Eastlake	7	40	17.5%
19	Beacon/SE Seattle	19	56	33.9%
17	Queen Anne/Magnolia	25	67	37.3%
18	Downtown/Central	44	108	40.7%
15	Ballard/Fremont/Greenlake	40	98	40.8%
21	White Center/Boulevard Pk	25	61	41.0%
5	Sammamish/Issaquah	26	62	41.9%
11	Kent	32	76	42.1%
22	Tukwila/SeaTac	8	19	42.1%
14	NE Seattle	32	74	43.2%
4	Redmond	23	53	43.4%
1	Lower Valley/Upper Snoqualmie	17	39	43.6%
20	W. Seattle/Delridge	35	80	43.8%
10	Renton	34	76	44.7%
13	N. Seattle/Shoreline	54	116	46.6%
8	Bellevue	42	90	46.7%
9	Mercer Is/Point Cities	8	17	47.1%
24	Federal Way	28	58	48.3%
12	Auburn	16	33	48.5%
6	Cacade/Covington	18	36	50.0%
23	Burien/DesMoines/Normandy Pk	20	39	51.3%
7	Kirkland	28	53	52.8%
3	Bothell/Woodinville	26	47	55.3%
25	Vashon Island	3	5	60.0%
2	SE King County	12	19	63.2%

Appendix G – Comparison of Weighted and Non-Weighted Results

Weighting Summary for CPR Training and Confidence to Perform CPR
Weighted for Race/Ethnicity Only

2020 Data		
Characteristic	Survey Population	King County, 2019 Total Population (n= 2,252,782) ²
Race and Ethnicity, how do you identify, n (%)		
White alone	993 (69.0)	1,302,544 (57.8)
Asian or Asian American alone	198 (13.8)	424,590 (18.8)
Hispanic or Latinx, alone or in combination	136 (9.4)	222,624 (9.9)
Black or African American alone	48 (3.3)	147,822 (6.6)
Another race alone	26 (1.8)	35,597 (1.6)
Two or more races	39 (2.7)	119,587 (5.3)

Survey Responses for Race/Ethnicity: CPR Training and Confidence to Perform CPR				
("not answered" data for training and confidence survey responses is not included in weighted % data)				
Characteristic	Trained	Never Trained	Confident	Not Confident
Total survey population, n (%)	1152 (78.9)	309 (21.1)	635 (43.9)	811 (56.1)
Race and Ethnicity, how do you identify, n (%)				
White alone	835 (84.8)	150 (15.2)	446 (45.6)	533 (54.4)
Asian or Asian American alone	123 (62.1)	75 (37.9)	69 (35.6)	125 (64.4)
Hispanic or Latinx, alone or in combination	86 (63.2)	50 (36.8)	61 (45.9)	72 (54.1)
Black or African American alone	36 (76.6)	11 (23.4)	21 (45.7)	25 (54.3)
Another race alone	18 (72.0)	7 (28.0)	11 (44.0)	14 (56.0)
Two or more races	33 (84.6)	6 (15.4)	19 (50.0)	19 (50.0)
Not answered	21 (67.7)	10 (32.3)	8 (25.8)	23 (74.2)

Total Population Estimates for Training and Confidence Weighted for Race and Ethnicity		
("not answered" data for training and confidence survey responses is not included in weighted percent data)		
Characteristic	Unweighted	Weighted
Have you ever attended a CPR training class? %		
No	21.1	22.6
Yes	78.9	77.4
How confident would you feel to perform CPR in an emergency? %		
Not confident (combined responses for "not confident at all" and "not very confident")	56.1	56.5
Confident (combined responses for "confident" and "very confident")	43.9	43.5

Appendix G – Comparison of Weighted and Non-Weighted Results

Weighting Summary for CPR Training and Confidence to Perform CPR
Weighted for **Sex/Gender Only**

Weighting Variable: Sex/Gender				
("not answered/not listed" data for Sex/Gender is not included when creating weighting factors)				
2020 Data				
Characteristic	Survey Population	King County 2019 Age 18 and older (n= 1,801,166) ²		
Sex/Gender, n (%)				
Female	874 (60.3)	899,744 (49.95)		
Male	576 (39.7)	901,422 (50.05)		
Survey Responses for Sex/Gender: CPR Training and Confidence to Perform CPR				
("not answered" data for training and confidence survey responses is not included in weighted % data)				
Characteristic	Trained	Never Trained	Confident	Not Confident
Total survey population, n (%)	1152 (78.9)	309 (21.1)	635 (43.9)	811 (56.1)
Sex/Gender, n (%)				
Female	716 (82.7)	150 (17.3)	372 (43.3)	487 (56.7)
Male	420 (73.2)	154 (26.8)	256 (45.1)	311 (54.9)
Not answered/Not listed	16 (76.2)	5 (23.8)	7 (35.0)	13 (65.0)
Total Population Estimates for CPR Training and Confidence to Perform CPR				
Weighted for Sex/Gender				
("not answered" data for training and confidence survey responses is not included in weighted percent data)				
Characteristic	Unweighted	Weighted		
Have you ever attended a CPR training class? %				
No	21.1	22.1		
Yes	78.9	77.9		
How confident would you feel to perform CPR in an emergency?				
Not confident (combined responses for "not confident at all" and "not very confident")	56.1	55.9		
Confident (combined responses for "confident" and "very confident")	43.9	44.1		

Appendix G – Comparison of Weighted and Non-Weighted Results

Weighting Summary for CPR Training and Confidence to Perform CPR
Weighted for **Age Only**

Weighting Variables: Age			
("not answered" data for age is not included when creating weighting factors)			
2020 Data			
Characteristic	Survey Population	King County, 2019 Age 18 and older (n= 1,801,166) ²	
Age, n (%)			
18-24	42 (2.9)	180,726 (10.0)	
25-34	254 (17.6)	416,655 (23.1)	
35-44	270 (18.7)	342,732 (19.0)	
45-54	256 (17.8)	292,783 (16.3)	
55-64	263 (18.2)	264,212 (14.7)	
65-74	238 (16.5)	182,862 (10.2)	
75+	119 (8.3)	121,196 (6.7)	

Survey Responses for Age: CPR Training and Confidence to Perform CPR				
("not answered" data for training and confidence survey responses is not included in weighted % data)				
Characteristic	Trained	Never Trained	Confident	Not Confident
Total survey population, n (%)	1152 (78.9)	309 (21.1)	635 (43.9)	811 (56.1)
Age, n (%)				
18-24	28 (66.7)	14 (33.3)	22 (52.4)	20 (47.6)
25-34	180 (71.1)	73 (28.9)	104 (41.3)	148 (58.7)
35-44	217 (80.4)	53 (19.6)	129 (48.3)	138 (51.7)
45-54	210 (82.4)	45 (17.6)	111 (44.2)	140 (55.8)
55-64	216 (82.4)	46 (17.6)	119 (45.9)	140 (54.1)
65-74	187 (79.9)	47 (20.1)	102 (44.0)	130 (56.0)
75+	94 (81.0)	22 (19.0)	37 (32.5)	77 (67.5)
Not answered	20 (69.0)	9 (31.0)	11 (37.9)	18 (62.1)

Total Population Estimates for CPR Training and Confidence to Perform CPR		
Weighted for Age		
("not answered" data for training and confidence survey responses is not included in weighted percent data)		
Characteristic	Unweighted	Weighted
Have you ever attended a CPR training class? %		
No	21.1	22.7
Yes	78.9	77.3
How confident would you feel to perform CPR in an emergency?		
Not confident (combined responses for "not confident at all" and "not very confident")	56.1	55.5
Confident (combined responses for "confident" and "very confident")	43.9	44.5

Appendix G – Comparison of Weighted and Non-Weighted Results

Weighting Summary for CPR Training and Confidence to Perform CPR
Weighted for **Education Only**

Weighting Variables: Education				
("not answered" data for education is not included when creating weighting factors)				
2020 Data				
Characteristic	Survey Population	King County, 2019 Age 25 and older (n= 1,620,440) ^{2, 3}		
Highest grade lvl/education ³ , n (%)				
12 th grade or less, no diploma	49 (3.4)	112,662 (7.0)		
High school graduate/GED	85 (5.9)	233,533 (14.4)		
Some college/trade or vocational school	196 (13.6)	278,043 (17.2)		
Associate degree	112 (7.8)	118,926 (7.3)		
Bachelor degree	529 (36.6)	513,884 (31.7)		
Post- graduate (masters or PhD or other professional degree)	473 (32.8)	363,392 (22.4)		
Survey Responses for Education: CPR Training and Confidence to Perform CPR				
("not answered" data for training and confidence survey responses is not included in weighted % data)				
Characteristic	Trained	Never Trained	Confident	Not Confident
Total survey population, n (%)	1152 (78.9)	309 (21.1)	635 (43.9)	811 (56.1)
Highest grade lvl/education ³ , n (%)				
12 th grade or less, no diploma	20 (40.8)	29 (59.2)	22 (46.8)	25 (53.2)
High school graduate/GED	51 (60.0)	34 (40.0)	28 (34.6)	53 (65.4)
Some college/trade or vocational school	160 (82.5)	34 (17.5)	98 (51.0)	94 (49.0)
Associate degree	94 (84.7)	17 (15.3)	60 (53.6)	52 (46.4)
Bachelor degree	428 (81.5)	97 (18.5)	205 (39.0)	321 (61.0)
Post- graduate (masters or PhD or other professional degree)	382 (81.1)	89 (18.9)	213 (46.2)	248 (53.8)
Not answered	17 (65.4)	9 (34.6)	9 (33.3)	18 (66.7)
Total Population Estimates for CPR Training and Confidence to Perform CPR				
Weighted for Education				
("not answered" data for training and confidence survey responses is not included in weighted percent data)				
Characteristic	Unweighted	Weighted		
Have you ever attended a CPR training class? %				
No	21.1	24.3		
Yes	78.9	75.7		
How confident would you feel to perform CPR in an emergency?				
Not confident (combined responses for "not confident at all" and "not very confident")	56.1	56.5		
Confident (combined responses for "confident" and "very confident")	43.9	43.5		

Appendix G – Comparison of Weighted and Non-Weighted Results

Weighting Summary for Selected CPR Survey Questions
(Unweighted and Weighted for Race/Ethnicity, Sex/Gender, Age, Education)
“not answered” data for training and confidence survey responses is not included in weighted proportion

Characteristic	Unweighted	Weighted
Have you ever attended a CPR training class? %		
No	21.1	26.8
Yes	78.9	73.2
How confident would you feel to perform CPR in an emergency?		
Not confident (combined responses for “not confident at all” and “not very confident”)	56.1	56.4
Confident (combined responses for “confident” and “very confident”)	43.9	43.6
Do you know how to perform CPR? %		
Yes	69.8	67.0
No	30.2	33.0
What is the primary reason you have never attended an in-person CPR training? %		
I have not gotten around to it	42.0	39.4
I don’t think it is necessary	1.4	1.1
I wouldn’t perform CPR even if I were trained	4.1	3.6
I know how to do CPR already	3.4	5.4
I don’t know where to get training	32.4	34.7
No available training	2.4	1.3
No available training in my language	1.7	2.3
Training too expensive	1.7	2.6
Other	10.9	9.6
When was the most recent time you attended a CPR training class? %		
<1 year	11.9	13.0
1-2 years	20.5	21.6
3-5 years	19.4	20.9
>5 years	48.2	44.5
Where did you last attend an in-person CPR Training? %		
School	12.5	16.7
Workplace	47.9	45.0
In the community	12.6	12.0
Training center	13.7	13.9
Fire station	4.5	3.8
Other (see details below)	8.8	8.6
What was the primary reason you attended CPR training? %		
Required	52.3	53.1
Available at work/community center	24.1	22.3
Wanted to help in an emergency	16.3	17.2
Have family member/friend with heart disease	0.7	0.7
Other (see below)	6.7	6.8
How many total times have you attended a CPR training class? %		
1	24.3	26.3
2	22.2	21.8
3-4	24.5	26.4
5-9	15.4	14.8
10+	13.6	10.6
Have you ever performed CPR? %		
Yes	11.3	9.3
No	88.7	90.7