

Background

In communities where there are very few cases of COVID-19, current literature suggests that large scale testing could provide for early identification of new COVID-19 cases. The epidemiological benefit in large scale testing allows for early targeted isolation and quarantine and - along with social distancing measures - can lower the R_0 , thereby limiting the number of new infections in a community. (1) Beginning May 2020, Island County Public Health (ICPH), in response to the Governor's Safe Start reopening plan, expanded testing in Island County. These expansion efforts were initiated in addition to the ongoing identification and monitoring of all Island County residents with confirmed COVID-19 already taking place. This effort aims to ensure rapid evaluation of the health status of all Island County residents with a lab confirmed case of COVID-19 and to identify potential latent disease in the community. This report is a summary of case investigation findings for the months of March, April & May, 2020 and a summary of finding from ICPH testing efforts for the month of May 2020.

Data Limitations & Challenges

The methodology applied to COVID-19 case investigation is an evolving process, an iterative process, and may change over time as part of continuous quality improvement. The information in this report is reflective of data as of June 1st, 2020. This data only includes sample results for individuals tested for COVID-19. Although the data is reported as accurately and completely as possible, updates to the data included in this report may take place based on new findings. Investigation takes place in collaboration with community partners across Island County. All Island County COVID-19+ residents identified in May 2020 may not be included in this report. All Island County residents tested by ICPH in May 2020, may not be included in this report.

Investigation Findings

For the month of April 2020, 46 lab confirmed COVID-19 cases were diagnosed in Island County. As indicated in the data limitations section of this report, updates to the April data took place in the month of May 2020, and two lab confirmed COVID-19 cases with April diagnosis dates originally assigned to Island County were reassigned to other counties. For the month of March 2020, 114 lab confirmed COVID-19 cases were diagnosed in Island County. As indicated in the data limitations section of this report, updates to the March data took place in the month of April 2020, and an additional 12 lab confirmed COVID-19 cases with March diagnosis dates were identified. Reasons for data updates may include updated Department of Health guidance for determining residency for a COVID-19 case and simple address corrections reported from the testing laboratory, which often leads to the need to add or remove cases

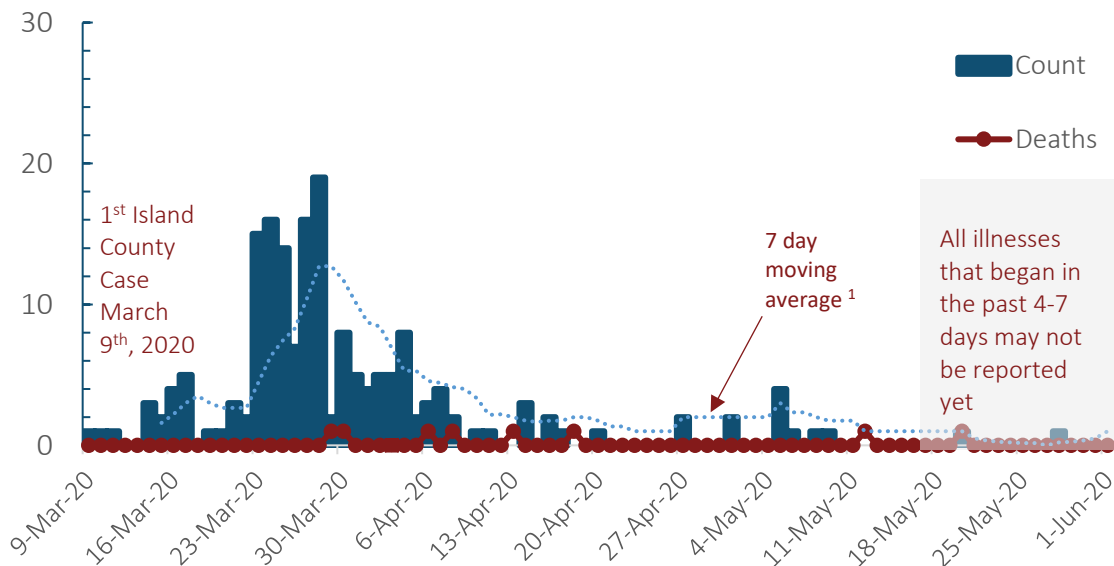
from the accountable county on record. Assignment of accountable county is based upon residency. Current DOH guidance describes residency as the location of the case at onset of symptoms. For the month of May 2020, 11 lab confirmed COVID-19 cases were diagnosed and identified. As of June 1st, 2020, there were a total of 181 COVID-19 confirmed cases. (Table 1)

Table 1: Total COVID-19 Confirmed Counts, Island County, March, April, & May 2020

Count	March	April	May	Total
Original Count	114	46	11	171
Additional Count	12	-2	0	10
Total Count	126	44	11	181

The epidemiologic curve is a tool to track the outbreak of a disease. It visualizes positive case counts and deaths over the progression of the outbreak. More cases or deaths over a short time period create a very steep curve, while a flat curve indicates fewer cases over time. As an outbreak progresses, governments enact policies to help flatten the curve. One such policy is Governor Inslee’s “Stay Home, Stay Healthy” order. Figure 1 visualizes Island County’s epidemiologic curve for March and April 2020. (Figure 1)

Figure 1: Island County Epidemiological Curve, March, April, & May 2020



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¹ The average percentage of tests that were positive over the last 7 days.

For March of 2020, persons assigned female at birth represented 67% of overall COVID-19 cases in Island County, compared to 33% in those assigned male at birth. For the month of April 2020, those cases assigned female at birth represented 61% of the cases in Island County, compared to 39% in those assigned male at birth. While in May 2020, the cases assigned female at birth represented 27% of the cases in Island County, compared to 73% for those assigned male at birth. When combined, the total cases assigned female at birth represent 64% of the total cases COVID-19 case count, compared to 36% of those assigned male at birth. (Table 2)

Table 2: Island County COVID-19+ Cases Sex Assigned at Birth, March, April, & May 2020

Sex	March		April		May		Total	
	N	%	N	%	N	%	N	%
Female	85	67%	27	61%	3	27%	115	64%
Male	41	33%	17	39%	8	73%	66	36%
Grand Total	126	100%	44	100%	11	100%	181	100%

During the month of March, 2% of positive cases reported fell within the age band of 19 years or younger. The remaining 98% of cases were distributed among the remaining four age bands, with 21% falling into the 20-39 age group, 25% falling into the 40-59 age group, 28% falling into the 60-79 age group, and 25% falling into the 80+ age group. For the month of April, 2% of positive cases reported fell into the age band 19 years or younger. The remaining 98% of cases were distributed among the remaining four age bands, with 15% falling into the 20-39 age group, 35% falling into the 40-59 age group, 35% falling into the 60-79 age group, and 13% falling into the 80+ age group. While in May, 0% of positive cases reported fell within the age band of 19 years or younger, 18% were included in the 20-39 age group, 55% fell into the 40-59 age group, 27% were a part of the 60-79 age group, and no May cases were age eighty or older. When combined, for March, April, and May, 2% of the total cases are ages 19 years or younger, 20% are between the ages 20-39 years, 29% are between the ages 40-59 years, 29% are between the ages of 60-79 years, and 20% are 80 years of age or older. (Table 3). In the COVID-19 Island County case population, over 50% of the May 2020 cases indicated “unknown” status for ethnicity.

Table 3: Island County COVID-19 Age Distribution, March, April, & May 2020.

Age Group	March		April		May		Total	
	N	%	N	%	N	%	N	%
<=19	2	2%	1	2%	0	0%	3	2%
20-39	27	21%	7	15%	2	18%	36	20%
40-59	31	25%	16	35%	6	55%	53	29%
60-79	35	28%	14	35%	3	27%	52	29%
80+	31	25%	6	13%	0	0%	37	20%
Total	126	100%	44	100%	11	100%	181	100%

In March 2020, the distribution of identified positive cases varied with 21% of the March cases reporting residency in Camano Island, 4% reporting residency in Clinton, 34% reporting residency in Coupeville², 8% reporting residency in Freeland, 1% reporting residency in Greenbank, 7% reporting residency in Langley, and 30% reporting residency in Oak Harbor. In April 2020, the distribution of identified positive cases varied with 20% reporting residency in Camano Island, 4% reporting residency in Clinton, 24% reporting residency in Coupeville³, 2% reporting residency in Freeland, 2% reporting residency in Greenbank, 2% reporting residency in Langley, and 46% reporting residency in Oak Harbor. An in May of 2020, 9% of the cases reported residency in Camano Island, 0% reporting residency in Clinton, 0% reporting residency in Coupeville, 9% reporting residency in Freeland, 1% reporting residency in Greenbank, 0% reporting residency in Langley, and 82% reporting residency in Oak Harbor. When combined, for March & April 2020, 20% of the total cases reported residency in Camano Island, 4% reported residency in Clinton, 25% reported residency in Coupeville⁴, 6% reported residency in Freeland, 2% reported residency in Greenbank, 6% reported residency in Langley, and 37% reported residency in Oak Harbor. (Table 4)

² This number is skewed due to the ongoing COVID-19 outbreak at Careage of Whidbey.

³ This number is skewed due to the ongoing COVID-19 outbreak at Careage of Whidbey.

⁴ This number is skewed due to the ongoing COVID-19 outbreak at Careage of Whidbey.

Table 4: Island County COVID-19 Geographic Distribution, March, April, & May 2020.

Location	March		April		May		Total	
	N	%	N	%	N	%	N	%
Anacortes	1	1%	0	0%	0	0%	1	1%
Camano Island	27	21%	8	18%	1	9%	36	20%
Clinton	5	4%	2	5%	0	0%	7	4%
Coupeville	34	27%	11	25%	0	0%	45	25%
Freeland	10	8%	1	2%	0	0%	11	6%
Greenbank	1	1%	1	2%	1	9%	3	2%
Langley	9	7%	1	2%	0	0%	10	6%
Oak Harbor	38	30%	20	45%	9	82%	67	37%
Seattle	1	1%	0	0%	0	0%	1	1%
Grand Total	126	100%	44	100%	11	100%	181	100%

According to the Washington State DOH, signs and symptoms that help identify if an individual meets the case definition include: fever, cough, and shortness of breath. As a part of the investigation process, case investigators assess an individual's presenting symptoms. In March, 75% of cases self-identified as symptomatic⁵, while in April 70% of cases self-identified as symptomatic. In May, the percentage of cases reporting as symptomatic dropped to 64%. Of the total combined cases, 73% reported as symptomatic. (Table 5)

Table 5: Island County COVID-19 Case Symptomatic, March, April, & May 2020

Symptomatic	March		April		May		Total	
	N	%	N	%	N	%	N	%
No	30	24%	6	13%	2	18%	38	21%
Unknown	2	2%	6	13%	2	18%	10	6%
Yes	94	75%	32	70%	7	64%	133	73%
Grand Total	126	100%	44	100%	11	100%	181	100%

One part of case investigation is surveillance for laboratory-confirmed COVID-19 associated with hospitalizations for Island County residents. (2) Among the 181 COVID-19 cases investigated in Island County, 80% were not hospitalized for COVID-19 associated illnesses; 14% were hospitalized for COVID-19

⁵ CDC lists nine symptoms associated with COVID-19: cough, shortness of breath or difficulty breathing, fever, chills, repeated shaking with chills, muscle pain, headache, sore throat, and new loss of taste or smell.

associated illness, and for 6% of lab confirmed COVID-19 cases, the hospitalization status could not be determined. (Table 6)

Table 6: Island County COVID-19 Hospitalizations, March, April, & May 2020

Hospitalized	March		April		May		Total	
	N	%	N	%	N	%	N	%
No	100	79%	37	84%	8	73%	145	80%
Unknown	9	7%	0	0%	1	9%	10	6%
Yes	17	13%	7	16%	2	18%	26	14%
Grand Total	126	100%	44	100%	11	100%	181	100%

Findings from ICPH Testing

Beginning on May 12th and throughout the rest of the month of May 2020, ICPH, in collaboration with Whidbey Health Medical Center, tested 2,769 Island County residents for the presence of the virus, SARS-CoV-2, the virus that causes COVID-19. Of the total tests administered in May - the largest percentage of total testing in Island County - 22.1% occurred on May 19th, 2020. (Table 7)

Table 7: ICPH Testing Counts in May 2020

Date	N	%
5/12/2020	50	1.8%
5/13/2020	173	6.2%
5/14/2020	207	7.5%
5/15/2020	232	8.4%
5/16/2020	228	8.2%
5/18/2020	539	19.5%
5/19/2020	607	21.9%
5/20/2020	314	11.3%
5/21/2020	277	10.0%
5/26/2020	67	2.4%
5/27/2020	54	2.0%
5/28/2020	12	0.4%
5/29/2020	9	0.3%
Grand Total	2769	100.0%

Of the total 2,769 individuals tested in May, 2,227 reported date of birth for age stratification. During the month of May, 0.8% of positive cases reported fell within the age band of 19 years or younger. The remaining 99.2% of cases were distributed among the remaining four age bands, with 13.6% falling into

the 20-39 age group, 24.6% falling into the 40-59 age group, 53.4% falling into the 60-79 age group, and 7.6% falling into the 80+ age group. (Table 8)

Table 8: Age Distribution of Island County Residents Tested, May 2020.

Age	N	%
</=19	22	0.8%
20-39	371	13.6%
40-59	671	24.6%
60-79	1455	53.4%
80+	208	7.6%
Total	2727	100.0%

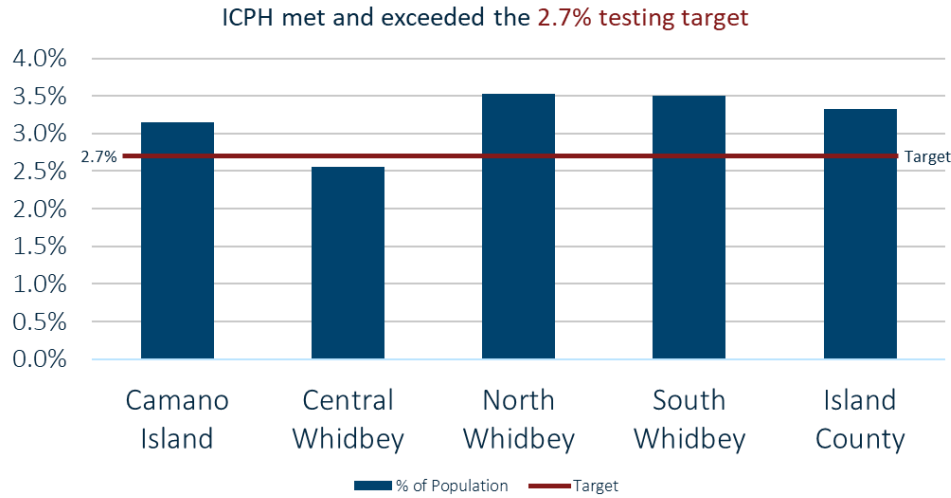
The Governor’s Safe Start reopening plan detailed the need to expand testing and testing opportunities across Washington to identify and isolate COVID-19 cases to reduce the spread of the virus. Local Health Jurisdictions were charged with expanding testing, isolating positive cases quickly, identify contacts and quarantining contacts quickly. The plan proposed for local health jurisdictions to facilitate and ensure the testing of at least 2.7% of the total population during the month of May 2020. Using this information, ICPH set the goal of testing 2.7% of the total population; comprised of 2.7% of each of the four geographic regions in Island County: Camano Island, Central Whidbey, North Whidbey, and South Whidbey. As of June 1, 2020, ICPH met and exceeded the 2.7% goal for three of the four geographic regions across Island County. In Camano Island, ICPH tested 518 individuals, 74 more than the 2.7% goal; for the North Whidbey geographic region, ICPH tested 1,398 individuals, 329 more than the 2.7% goal; for Central Whidbey, ICPH tested 268 individuals, 16 fewer individuals than the 2.7% goal; and in South Whidbey, ICPH tested 585 individuals, 133 more than the 2.7% goal. (Table 9) (Figure 2)

Table 9: Island County COVID-19 Geographic Distribution of Testing Sites, May 2020

Location	N	%	Population ⁶	% of Population	Goal 2.7%	Gap to Goal
Camano Island	518	18.9%	16427	3.2%	444	-74
Central Whidbey	268	9.8%	10500	2.6%	284	16
North Whidbey	1398	50.9%	39608	3.5%	1069	-329
South Whidbey	585	21.3%	16727	3.5%	452	-133
Total	2769	100.0%	83262	3.3%	2249	-496

⁶ North, Central, and South Whidbey population is based on school district boundaries. Given that Camano Island residents attend both Island and Snohomish County school districts, total population of Camano Island was used for this report.

Figure 2: Island County COVID-19 Geographic Distribution of Testing Sites, May 2020



Of the 1,398 individuals tested in North Whidbey, four individuals lacked information on date of birth for age calculation and stratification. For the 1,394 individuals with date of birth, the top three age groups represented include: individuals 65 to 69 years old with 14.8%, individuals 70 to 74 year old with 14.3%, and individuals 60-64 years old with 10.9%. (Table 10)

Table 10: Island County COVID-19 Age Distribution of North Whidbey Testing Sites, May 2020

North Whidbey				
Age	Total Population	%	Population Tested	%
0-4	3738	9%	-	-
5-9	2663	7%	-	-
10-14	2072	5%	-	-
15-19	1923	5%	14	1.0%
20-24	4111	10%	44	3.2%
25-29	3606	9%	48	3.4%
30-34	2708	7%	66	4.7%
35-39	2238	6%	73	5.2%
40-44	1665	4%	78	5.6%
45-49	1787	5%	63	4.5%
50-54	1771	4%	90	6.5%
55-59	1943	5%	129	9.3%
60-64	2256	6%	152	10.9%
65-69	2117	5%	206	14.8%
70-74	2066	5%	199	14.3%
75-79	1303	3%	135	9.7%
80-84	741	2%	56	4.0%

85+	899	2%	41	2.9%
Total	39608	100%	1394	100.0%

Of the 268 individuals tested in Central Whidbey, eight individuals lacked information on date of birth for age calculation and stratification. For the 260 individuals with date of birth, the top three age groups represented include: individuals 60 to 59 years old with 12.7%, individuals 70 to 74 year old and individuals 65-69 years old both with 9.6% of the total tests administered in Central Whidbey. (Table 11)

Table 11: Island County COVID-19 Age Distribution of Central Whidbey Testing Sites, May 2020

Central Whidbey				
Age	Total Population	%	Population Tested	%
0-4	457	4%	-	-
5-9	433	4%	-	-
10-14	401	4%	-	-
15-19	317	3%	0	0.0%
20-24	297	3%	11	4.2%
25-29	414	4%	11	4.2%
30-34	386	4%	17	6.5%
35-39	405	4%	15	5.8%
40-44	379	4%	13	5.0%
45-49	452	4%	17	6.5%
50-54	636	6%	21	8.1%
55-59	963	9%	18	6.9%
60-64	1184	11%	33	12.7%
65-69	1313	13%	25	9.6%
70-74	1027	10%	25	9.6%
75-79	662	6%	21	8.1%
80-84	366	3%	10	3.8%
85+	408	4%	23	8.8%
Total	10500	100%	260	100.0%

Of the 585 individuals tested in South Whidbey, 30 individuals lacked information on date of birth for age calculation and stratification. For the 555 individuals with date of birth, the top three age groups represented include: individuals 60 to 64 years old with 21.3%, individuals 70 to 74 years old with 17.3%, and individuals 60-64 years old with 14.4% of the total tests administered in South Whidbey. (Table 12)

Table 12: Island County COVID-19 Age Distribution of South Whidbey Testing Sites, May 2020

South Whidbey				
Age	Total Population	%	Population Tested	%
0-4	583	3%	-	-
5-9	673	4%	-	-
10-14	737	4%	-	-
15-19	593	4%	6	1.1%
20-24	404	2%	10	1.8%
25-29	512	3%	17	3.1%
30-34	508	3%	12	2.2%
35-39	548	3%	14	2.5%
40-44	698	4%	19	3.4%
45-49	864	5%	12	2.2%
50-54	1119	7%	31	5.6%
55-59	1778	11%	50	9.0%
60-64	2150	13%	80	14.4%
65-69	2044	12%	118	21.3%
70-74	1381	8%	96	17.3%
75-79	853	5%	50	9.0%
80-84	617	4%	22	4.0%
85+	666	4%	18	3.2%
Total	16727	100%	555	100.0%

Of the 518 individuals tested on Camano Island, all individuals reported information on date of birth for age calculation and stratification. For the 518 Camano Island residents tested as part of ICPH testing initiative, the top three age groups represented include: individuals 65 to 74 years old with 36.5%, individuals 75 to 84 years old with 16.6%, and individuals 45-54 years old with 12.7% of the total tests administered. (Table 13)

Table 13: Island County COVID-19 Age Distribution of Camano Island Testing Sites, May 2020

Camano Island				
Age	Total Population ⁷	%	Population Tested	%
0-4	596	4%	-	-
5-9	592	4%	-	-
10-14	847	5%	-	-
15-19	829	5%	2	0.4%
20-24	663	4%	4	0.8%
25-34	1,338	8%	15	2.9%
35-44	1,305	8%	32	6.2%
45-54	2,161	13%	66	12.7%
55-59	1,492	9%	46	8.9%
60-64	1,675	10%	65	12.5%
65-74	3,178	19%	189	36.5%
75-84	1,218	7%	86	16.6%
85+	533	3%	13	2.5%
Total	16,427	100%	518	100.0%

Conclusions

For the month of May, the number of new lab confirmed COVID-19 cases dropped by 75%. In addition, of the greater than 2,700 individuals tested in the month of May through the ICPH testing initiative, zero new COVID-19 cases were found in any of the four communities across Island County. The information and efforts included in this report all worked to move Island County into Phase II of the Governor’s Reopening plan on May 23rd, 2020. Continued diligence in testing, monitoring, and surveillance will still be needed as Island County looks toward moving to Phase III of the reopening plan.

References

1. *The Appropriate Use of Testing for COVID-19*. Zitek, Tony MD. 3, s.l. : The Western Journal of Emergency Management, 2020, Vol. 21.
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⁷ Source: U.S. Census Bureau, 2014-2018 American Community Survey 5-Year Estimates.

