

Exploration number of false negatives due to the increased use of antigen tests

- Count of antigen tests per GGD for the week 1-7th February, only those tests not due to BCO (or unknown).
- Example GGD Groningen; **2106 antigen tests of which 55 positive**

	True positive	True negative	Total
Positive antigen test			55
Negative antigen test			
Total			2106
Sensitivity/specificity	78.17%	99.8%	

- And assuming a sensitivity of **78.17%** and a specificity of **99.8%** based on a weighted average of the values.

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- Example GGD Groningen; 2106 antigen tests of which 55 positive

	Positive	Negative	Total
Positive antigen test	True positive	False positive	55
Negative antigen test	False negative	True negative	2051
Total			2106
Sensitivity/specificity	78.17%	99.8%	

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	Positive	Negative	Total
Positive antigen test	$78.17\% * 2106x$	$(1-99.8)*2106*(1-x)$	55
Negative antigen test	$(1-78.17%)*(2106x)$	$99.8\%*2106*(1-x)$	2051
Total	$2106x$	$2106*(1-x)$	2106
Sensitivity/specificity	78.17%	99.8%	$x = \sim 0.031$

Exploration number of false negatives due to the increased use of antigen tests

- Count of antigen tests per GGD for the week 1-7th February, only those tests not due to BCO (or unknown).
- Example GGD Groningen; 2106 antigen tests (not due to BCO) of which 55 positive

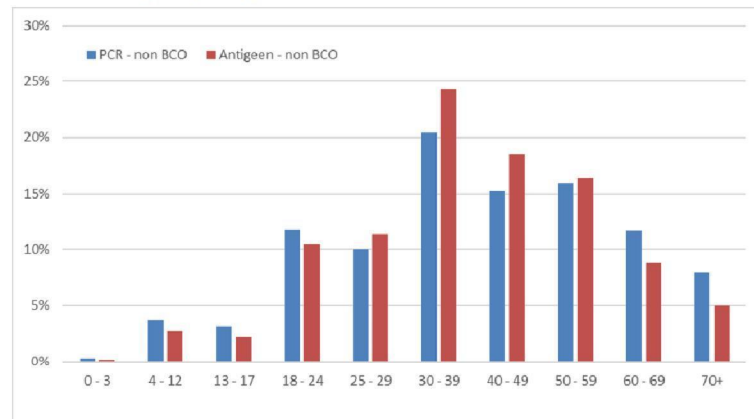
	Positive	Negative	Total
Positive antigen test	51	4	55
Negative antigen test	14	2037	2051
Total	65	2041	2106
Sensitivity/specificity	78.17%	99.8%	

	True positive	False negative	False positive	True negative	Total
GGD Groningen	51	14	4	2037	2106
GGD Drenthe	31	9	2	761	802
GGD IJsselnd	21	6	2	1091	1120
GGD Regio Twente	1	0	0	48	49
GGD Noord- en Oost-Gelderland	2	0	0	202	204
Veiligheids- en Gezondheidsregio Gelderland-Midden	0	0	0	166	166
GGD Gelderland-Zuid	0	0	0	104	104
GGD Flevoland	0	0	0	144	144
GGD Regio Utrecht	77	21	5	2730	2834
GGD Hollands-Noorden	0	0	1	289	290
GGD Kennemerland	31	9	3	1447	1490
GGD Amsterdam	30	8	2	1151	1191
GGD Gooi en Vechtstreek	1	0	1	253	254
GGD Hollands-Midden	12	3	1	562	578
GGD Rotterdam-Rijnmond	197	55	7	3592	3851
Dienst Gezondheid & Jeugd ZHZ	6	2	0	122	130
GGD Zeeland	6	2	0	89	97
GGD West-Brabant	169	47	6	3226	3449
GGD Hart voor Brabant	63	17	2	893	975
GGD Brabant-Zuidoost	85	24	2	1040	1151
GGD Limburg-Noord	0	0	0	34	34
GGD Zuid-Limburg	28	8	2	863	901
GGD Haaglanden	5	1	1	369	376
GGD Fryslân	158	44	3	1630	1836
GGD Zaanstreek/Waterland	4	1	0	88	93
Total	976	273	46	22930	24225

Thus: test show 1022 positive, using assumed tests details there are 46 wrongly positive and a total of 1249 true positives (+22%).

Antigen less often positive

- PCR 9.8% vs Antigen 4.2%; despite very similar age distribution, and mainly symptomatic disease



	PCR (no BCO)	% positive	Antigen test (no BCO)	% positive
Asymptomatic	16864	8.3	794	3.0
Symptomatic	123756	9.8	17267	5.4

Relation between antigen test use (% of overall test) and control of outbreak - % of all tests due to BCO.

