WATCH TRIAL RESULTS

Test date	Participant	Sex	Age (yrs)	Method	Status	Free-living: True positives	False negatives	False positives	Precision (%) (Specificity)	Recall (%) (Sensitivity)	Comments
TICWATCH C2 VALIDATION											
06/10/2020	P01	M	19	Lab visit	Complete	7	3	0	100	70	One false positive in raw data but ppt noted "no problems" at that time
06/10/2020	P02	M	25	Lab visit	Complete	13	3	0	100	81	All false negatives were when walking. Additional false negative in raw data but ppt identified this as a mistaken button press
28/11/2020	P03	F	20	Remote	Complete	14	2	2	88	88	Ppt noted 2 accidental false negative button presses. Ppt noted 2 cigarettes smoked at time when 2 false positives recorded in raw data
30/11/2020	P04	M	24	Remote	Complete	2	11	1	66	17	Outlier. Ppt noted an undetected cigarette but not recorded as a false negative; added to false negative count
30/11/2020	P05	F	21	Remote	Complete	6	4	4	60	60	One false negative was when walking. Timings of additional false negatives indicate accidental button press (e.g. when ppt notes cigarette was smoked). Additional false positive but not noted by ppt
28/11/2020	P06	M	21	Remote	Complete	7	3	2	78	70	One false negative in raw data but ppt did not identify a missed cigarette
10/12/2020	P07	F	20	Remote	Complete	15	2	4	79	88	One cigarette noted in ppt's diary was recorded as a false positive
04/12/2020	P08	M	21	Remote	Complete	12	4	0	100	75	Two false negatives recorded within 8 seconds of each other, taken as one
	P09	M	20	Remote	Ppt away						
	P10	M	20	Remote	Ppt away						
19/01/2021	P11	F	21	Remote	Complete	8	4	2	80	67	Two false negatives recorded in response to activity ppt noted as exercise - can disregard. Ppt noted one false negative as accidental button press. One false negative at same time as false positive recorded. False negative recorded on removing watch, accidental button press
18/01/2021	P12	F	20	Remote	Complete	8	4	1	89	67	Ppt commented that watch did not detect smoking (false negative) when walking or lying down. From log, false negatives also show pattern of taking breaks >80s while smoking. Ppt noted two false negatives recorded accidentally
	P13	F	21	Remote	With ppt						
	P14	F	21	Remote	With ppt						
25/01/2021	P15	M	19	Remote	Complete	10	1	1	91	91	Ppt did not note any false positives in the diary but one was recorded on the watch
22/01/2021	P16	F	21	Remote	Complete	11	1	1	92	92	
25/01/2021	P17	M	21	Remote	Complete	11	3	0	100	71	Ppt noted two cigarettes recorded while log indicates watch not worn, disregarded. Ppt diary incomplete
25/01/2021	P18	F	20	Remote	Complete	12	0	1	92	100	

		Mean Precision (%)	Recall (%)	Sample size	Precision 95% CI lower	upper	Recall 95% CI lower	upper
LG mean precision/recall:	*for comparison*	*86*	*71*	*n=13*	*78*	*93*	*63*	*78*
C2 mean precision/recall:	TicW C2 so far:	87	74	n=14	80.4	93.2	63.9	84.3
	Excluding outlier	88.3	78.5	n=13	82.3	94.5	72.1	84.9

Notes:

Accuracy = (true positives + true negatives) / (true pos + true neg + false pos + false neg) x 100
Accuracy is the percentage of true results amongst the total number of cases examined
i.e. a measure of how well the device correctly identifies a smoking event (Accuracy cannot be calculated in free-living as we do not know the correct number of true negatives)

Precision = true positives / (true positives + false positives) x 100
Precision is the percentage of true positives amongst events identified as smoking
i.e. a measure of how many of the events identified as smoking are actual smoking events (specificity)

Recall = true positives / (true positives + false negatives) x 100
Recall is the percentage of true positives amongst the actual smoking events
i.e. a measure of how many of the actual smoking events have been identified (sensitivity)