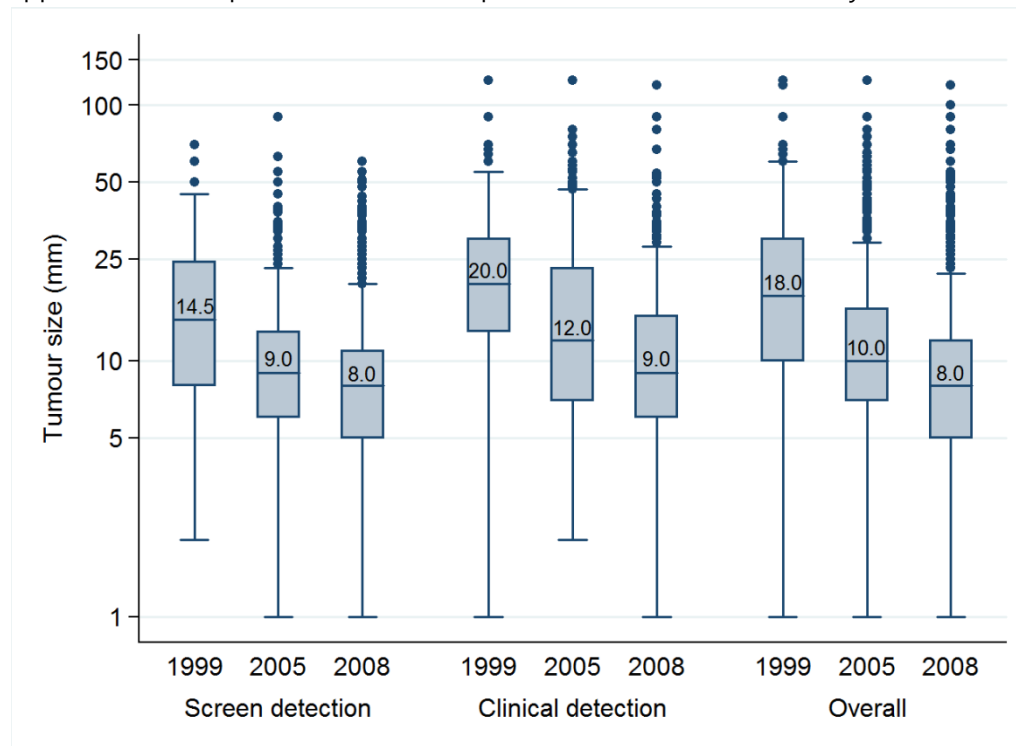


Appendix: Supplementary material

Supplementary Figure 1. Box plots showing the change in the tumour size by the diagnostic year according to the detection routes

Footnote: Y-axis represents tumour size (mm) in a 10 logarithmic scale. The box represent the 3rd quartile and 1st quartile of the tumour size and the median was shown inside the box. The lines, called whiskers, are drawn to span all data points within 1.5 interquartile range (IQR) from the upper and lower quartile and circles represent the extreme values beyond the bounds of the whisker.



Supplementary table 1. Comparison between estimated mean age and sex distribution of thyroid cancer patients and mean age and sex distribution of thyroid cancer patients

	Year					
	1999		2005		2008	
	NEST data	KNCI DB	NEST data	KNCI DB	NEST data	KNCI DB
Age (year)	46.3 (44.8 – 47.9)	46.6 ± 15.2	47.3 (46.7 – 47.9)	47.2 ± 12.8	47.0 (46.0 – 47.9)	47.6 ± 12.1
Sex						
Men	136 (15.8)	521 (15.6)	328 (13.6)	1,779 (14.0)	434 (17.2)	4,336 (15.9)
Women	755 (84.2)	2,823 (84.4)	2,027 (86.4)	10,975 (86.1)	2,116 (82.8)	22,905 (84.1)

NEST data = National Epidemiologic Survey of Thyroid cancer; KNCI DB= Korea National Cancer Incidence Database

Mean ages and proportion of the sex from NEST data were estimated considering the weights and sample design.

Ages for NEST data were expressed as means and their 95% confidence intervals and ages for KNCI DB were expressed as means ± standard deviations.

Sexes for NEST data and KNCI DB were expressed as numbers (percentages).

Supplementary table 2. Comparison between estimated age-standardized incidence rate of thyroid cancer and true age-standardized incidence rate of thyroid cancer

	Year					
	1999		2005		2008	
	Estimated incidence rate (NEST data)	Real incidence rate (KNCI DB)	Estimated incidence rate (NEST data)	Real incidence rate (KNCI DB)	Estimated incidence rate (NEST data)	Real incidence rate (KNCI DB)
Total	6.37 (6.15 – 6.59)	6.3	20.45 (20.09 – 20.81)	20.7	40.73 (40.23 – 41.22)	41.3
Men	2.18 (1.99 – 2.37)	2.1	5.68 (5.41 – 5.96)	5.9	13.97 (13.56 – 14.38)	13.3
Women	10.48 (10.08 – 10.87)	10.4	35.04 (34.38 – 35.71)	35.3	67.61 (66.71 – 68.51)	69.3

NEST data = National Epidemiologic Survey of Thyroid cancer; KNCI DB= Korea National Cancer Incidence Database

Age-standardized incidence rates and their 95% confidence intervals (CIs) was calculated per 100,000 people and Segi's world standard population was used for age-standardization. Age-standardized incidence rates were calculated as weighted mean of the age-specific rates, which the weights are taken from the proportion of population of Segi's world standard population.

Estimated incidence rates from NEST data were calculated considering the weights and sample design.

Supplementary table 3. Changes in median tumour size of thyroid cancer according to the routes of tumour detection and, 1999-2008

Variables	1999						2005						2008					
	Routes of tumour detection						Routes of tumour detection						Routes of tumour detection					
	SD		CD		Total		SD		CD		Total		SD		CD		Total	
Tumour size	n	Tumour size	n	Tumour size	n	Tumour size	n	Tumour size	n	Tumour size	n	Tumour size	n	Tumour size	n	Tumour size	n	Tumour size
Total	120	14.5 (8-24.5)	409	20 (13-30)	891	18 (10-30)	1,090	9 (6-13)	773	12 (7-23)	2,355	10 (7-16)	1,431	8 (5-11)	564	9 (6-15)	2,550	8 (5-12)
Men	19	15 (10-30)	66	25 (13-35)	136	20.5 (12-35)	163	9 (7-15)	87	20 (8-40)	328	11 (7-21)	257	9 (6-13)	81	10 (7-26)	434	9 (6-15)
Women	115	14 (8-20)	381	20 (13-30)	755	18 (10-30)	927	9 (6-13)	686	12 (7-20)	2,027	10 (7-15)	1,174	8 (5-11)	483	8 (6-14)	2,116	8 (5-12)

SD=Screen detection; CD=Clinical detection; LN=Lymph node involvement

Total include cases detected by screen detection, clinical detection and unknown routes of detection

Tumour sizes were expressed as median (interquartile range)

Supplementary table 4. proportion of regional lymph node involvement by tumour size according to the routes of tumour detection and, 1999-2008

Variables	1999						2005						2008					
	Routes of tumour detection						Routes of tumour detection						Routes of tumour detection					
	SD		CD		Total		SD		CD		Total		SD		CD		Total	
Tumour size	n	LN(+)	n	LN(+)	n	LN(+)	n	LN(+)	n	LN(+)	n	LN(+)	n	LN(+)	n	LN(+)	n	LN(+)
<10mm	33	6 (18.2)	59	12 (20.3)	162	37 (22.8)	558	120 (21.5)	255	68 (26.7)	1,013	245 (24.2)	906	262 (28.9)	294	56 (19.1)	1,512	430 (28.4)
10- 20mm	43	16 (37.2)	112	33 (29.5)	232	79 (34.1)	392	168 (42.9)	250	95 (38.0)	768	310 (40.4)	421	208 (49.4)	159	68 (42.8)	707	345 (48.8)
20-30mm	21	10 (47.6)	100	45 (45.0)	168	82 (48.8)	73	36 (49.3)	112	60 (53.6)	234	125 (53.4)	57	30 (52.6)	48	28 (58.3)	138	81 (58.7)
≥30mm	23	8 (34.8)	138	60 (43.5)	208	92 (44.2)	43	22 (51.2)	128	63 (49.2)	212	109 (51.4)	32	12 (37.5)	50	29 (58.0)	115	65 (56.5)
Unspecified	14	6 (42.9)	38	10 (26.3)	121	29 (24.0)	24	3 (12.5)	28	3 (10.7)	128	10 (7.8)	15	2 (13.3)	13	2 (15.4)	78	8 (10.3)

SD=Screen detection; CD=Clinical detection; LN=Lymph node involvement

Total include cases detected by screen detection, clinical detection and unknown routes of detection

Lymph node involvements were expressed as numbers (percentages)