

# Biostatistics 6030

Review on other concepts and  
applications

# Descriptive statistics: measures of central tendency

- **Median**

- How to calculate

- Order the observations from smallest to largest

- The sample median is

- The  $\left(\frac{n+1}{2}\right)$  *th* observation if  $n$  is odd

- The average of the  $\left(\frac{n}{2}\right)$  *th* and  $\left(\frac{n}{2} + 1\right)$  *th* observations if  $n$  is even.

# Ordered array of ages of 189 subjects

30	34	35	37	37	38	38	38	38	39	39	40	40	42	42
43	43	43	43	43	43	44	44	44	44	44	44	44	45	45
45	46	46	46	46	46	46	47	47	47	47	47	47	48	48
48	48	48	48	48	49	49	49	49	49	49	49	50	50	50
50	50	50	50	50	51	51	51	51	52	52	52	52	52	52
53	53	53	53	53	53	53	53	53	53	53	53	53	53	53
53	53	54	54	54	54	54	54	54	54	54	54	54	55	55
55	56	56	56	56	56	56	57	57	57	57	57	57	57	58
58	59	59	59	59	59	59	60	60	60	60	61	61	61	61
61	61	61	61	61	61	61	62	62	62	62	62	62	62	63
63	64	64	64	64	64	64	65	65	66	66	66	66	66	66
67	68	68	68	69	69	69	70	71	71	71	71	71	71	71
72	73	75	76	77	78	78	78	82						

N= 189

Order the data from smallest to largest.

Sample median =  $\left(\frac{n+1}{2}\right)th = \left(\frac{189+1}{2}\right)th = 95th$  one

Counting from the smallest up to the 95th value we see that it is 54.

Thus the median age of the 189 subjects is 54 years.