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AT A GLANCE/ PHARMACY CALCULATIONS PREVALENCE

Calculating the prevalence of a condition within a given population.

Example 1

If approximately 1 person in 16 in the UK has diabetes, and the UK population is approximately 64 million, approximately how many people in UK have diabetes?

Method

Step 1: Prevalences are fractions

$$\frac{1}{16} \times 64{,}000{,}000 = \mathbf{4{,}000{,}000} \checkmark$$

Example 2

If approximately 19 per 10,000 children aged 10-11 years are severely obese, and the local population of children aged 10-11 years is 5,615, approximately how many will be severely obese?

Method

Step 1: Prevalences are fractions

$$\frac{19}{10{,}000} \times 5{,}615 = 10.6685 = \mathbf{11}^{*} \checkmark$$

* Individuals – so round to a whole number

Example 3

If, in one year, approximately 396 per 100,000 people in the UK are diagnosed with cancer, and of these, 13% are diagnosed with lung cancer, approximately how many people in the UK are diagnosed with lung cancer in that year? (UK pop = 64 million)

Method

Step 1: Number of cancer diagnoses as a whole

$$\frac{396}{100,000} \times 64,000,000 = 253,440$$

Step 2: Number of lung cancer diagnoses

$$\frac{13}{100} \times 253,440 = \mathbf{32,947} \quad ✓$$

Example 4

If, in one year, the death rate from all causes in Scotland was approximately 1,034 per 100,000, and of these, 15.1% were the result of coronary heart disease (CHD), approximately how many people in Scotland died from CHD in that year? (Scotland pop = 5.2 million)

Method

Step 1: Number of deaths as a whole

$$\frac{1034}{100,000} \times 5,200,000 = 53,768$$

Step 2: Number of deaths from CHD

$$\frac{15.1}{100} \times 53,768 = \mathbf{8,119} \quad ✓$$

Q1

If 1 person in 400 has Condition A, approximately how many people in a population of 250,000 will have Condition A?

Q2

If 64 people per 100,000 have Condition B, approximately how many people in a population of 24,000 will have Condition B?

Q3

If 150 people per 10,000 have Condition C, and of these 40% have Type-A, approximately how many people in a population of 6,000 will have Condition C, Type-A?

Q4

If women are twice as likely as men to suffer from Condition D, and 268 per 100,000 men suffer from Condition D, approximately how many women in a population of 3.2 million will suffer from Condition D (assuming that women make up 50% of the general population)?

Q5

If 16 in 10,000 people have Condition E, and, of these, 8.5% will have the Type-B form, then approximately how many people in a population of 1.46 million will have the Type-B form of Condition E?

Answers

Q1 = 625. **Q2** = 15. **Q3** = 36. **Q4** = 17152. **Q5** = 199.