

Glaucoma - the scale of the problem

Ian Murdoch

World blindness

Cause	Number blind (million)
Cataract	17.71
Glaucoma	4.4
ARMD	3.32
Trachoma	3.32
Diabetic retinopathy	1.85
Onchocerciasis	-
Childhood blindness	-
Others (incl ARMD)	6.27
Total:	36.9

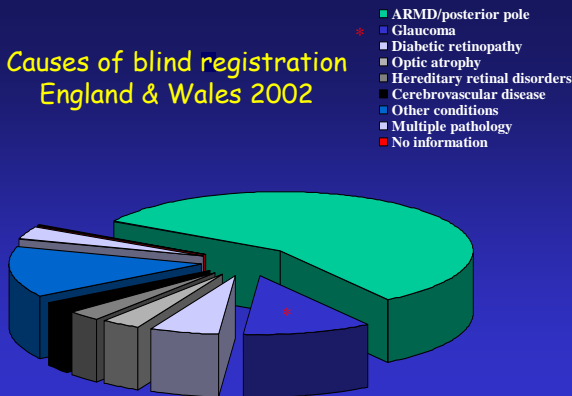
<http://www.who.int/mediacentre/factsheets/fs282/en/>

Glaucoma

- affects about 60.5 million in world (79.6 million by 2020)
- affects about 0.5 million in UK (~ 2% aged 40+ years)

Quigley and Braman BJO 2006

Causes of blind registration England & Wales 2002



<http://www.biomedcentral.com/1471-2458/6/98>

50% or less glaucoma
diagnosed and
receiving therapy



50% or less glaucoma diagnosed and receiving therapy

50% or more glaucoma undiagnosed and not receiving therapy

• Total costs of glaucoma (in the working age and elderly population in the UK) range from £16 to £38 billion annually with average annual costs per patient ranging from £7,239 to £17,246.

• If only 10% of the glaucoma population received earlier treatment that arrested the development of visual impairment this kind of programme could save the government between £555 million and £1 billion.

<http://www.healthyeeyes.org.uk/index.php?id=25&type=33>

Glaucoma

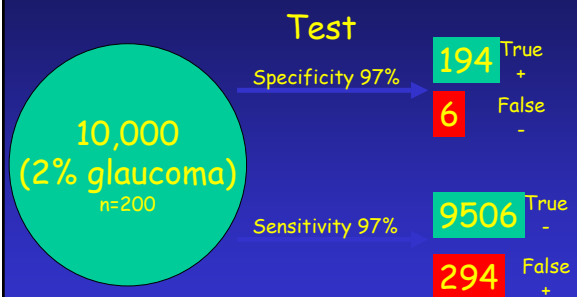
- how well is it being detected?
- are the right patients being referred at the right time
- how well are we caring for glaucoma patients?
- who is accountable for failures in care delivery?

Glaucoma

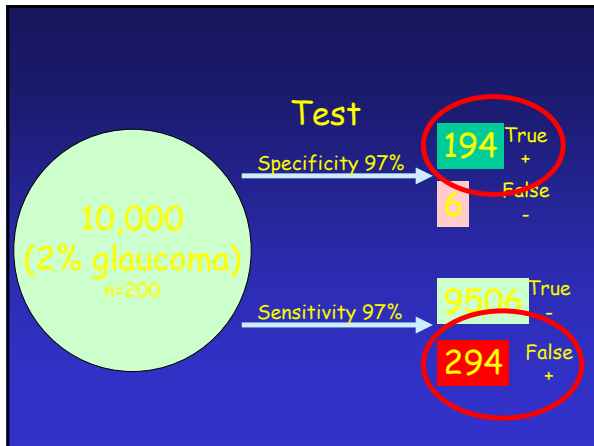
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In the UK

- OOs detect POAG
- PPV 40%



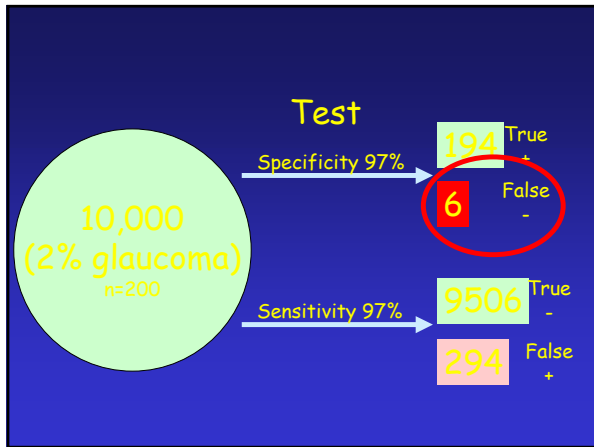
Murdoch, Theodoros Eye 2003:17-5-6



Positive predictive value

$$\frac{194}{194 + 294} = 40\%$$

Sensitivity 97%
Specificity 97%



Criterion	Sensitivity	95% CI	Specificity	95% CI	LR	LR	PPV	NPV
>77.0	100.00	87.4 - 100.0	0.00	0.0 - 19.8	1.00	1.00	0.0	100.0
>84.0	100.00	87.4 - 100.0	37.78	23.8 - 53.5	1.61	0.00	88.3	100.0
>90	100.00	87.4 - 100.0	37.78	23.8 - 53.5	1.58	0.00	85.9	94.4
>102	99.45	94.2 - 100.0	27.26	17.0 - 39.0	2.86	0.027	78.3	86.8
>102	95.36	84.1 - 97.5	68.67	57.0 - 80.0	2.89	0.005	77.9	93.8
>103	96.36	84.1 - 97.5	73.33	61 - 84.4	2.81	0.005	81.5	94.3
>104	94.55	83.8 - 98.8	73.33	61 - 84.4	3.15	0.074	81.2	91.7
>104	94.55	83.8 - 98.8	75.56	65 - 87.1	3.87	0.072	82.5	91.9
>104	92.73	84.1 - 97.5	78.66	65 - 87.1	3.79	0.069	82.3	93.5
>108	82.73	74.7 - 87.7	85.11	72 - 94.9	6.95	0.064	89.5	90.7
>108	80.91	70.0 - 90.7	85.11	73.0 - 97.5	10.23	0.10	92.6	89.1
>110	81.62	69.1 - 91.1	85.11	74.9 - 97.5	9.20	0.20	91.8	89.4
>112.0	81.62	69.1 - 91.1	83.33	67.7 - 94.5	12.27	0.19	93.7	89.8
>112.7	80.90	67.0 - 89.8	83.33	67.7 - 94.5	10.00	0.21	93.6	79.2

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No!

- many have significant visual loss at time of referral

Grant and Burke 1982

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- not assessed for those in the system but probably reasonably except....
 - growing numbers
 - struggling clinics
 - 19th century FU/flow
- clearly dreadfully for those not diagnosed!

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- health system for those in system
- public health for those not in system

Politics

Money