Neglected Tropical Diseases

Infection, modelling and control

Robert Smith?

Department of Mathematics and Faculty of Medicine
The University of Ottawa

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  - lack of hygeine.

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Elephantitis		120	1.3 billion
Trachoma		84	590 million
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Guinea Worm Disease		0.01	N/A
Buruli ulcer		N/A	N/A.

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  - malaria
  - TB
  - novel emerging infections.

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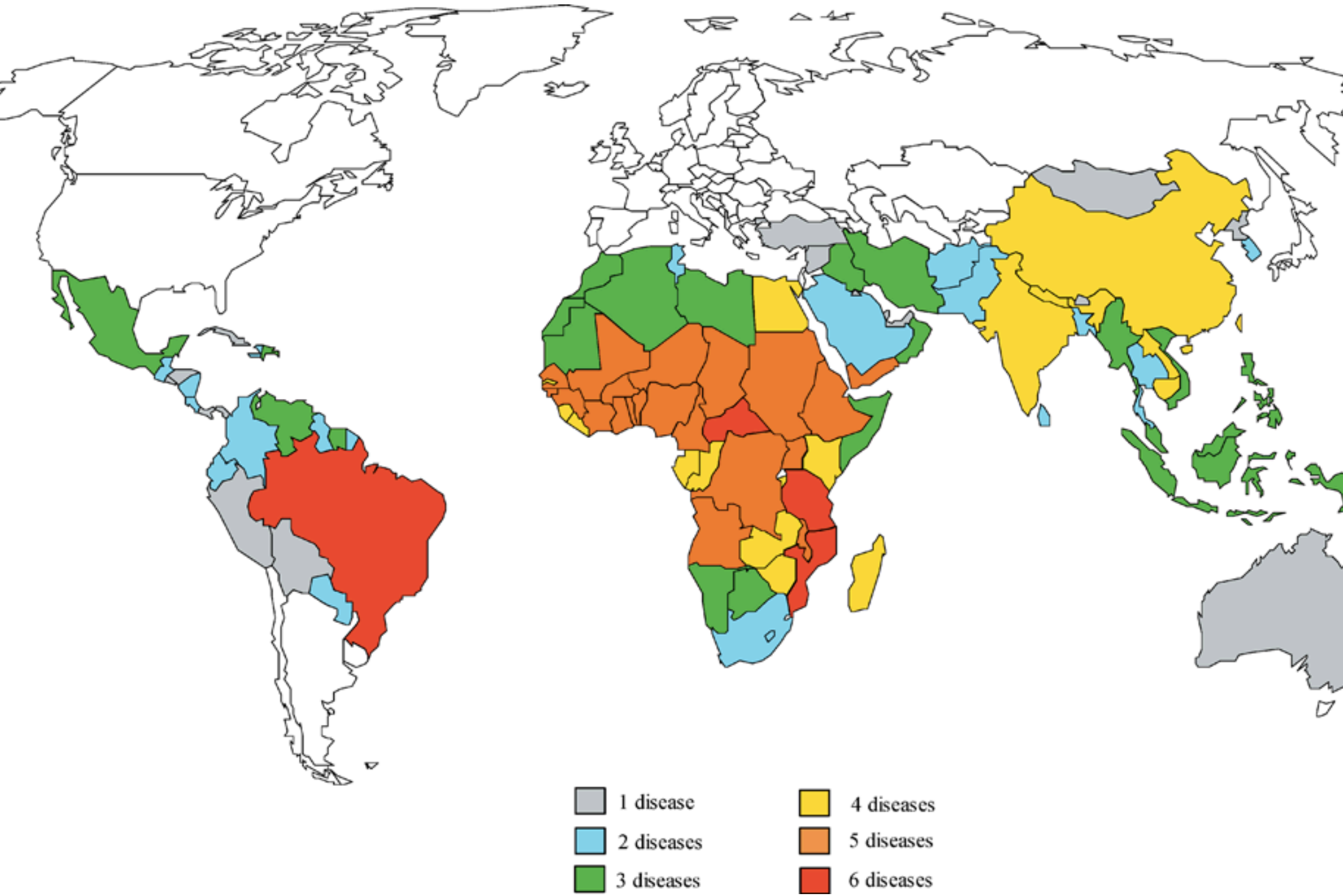
1 disease
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3 diseases
4 diseases
5 diseases
6 diseases

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Measuring the impact

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- These are likely underestimates, especially for NTDs.

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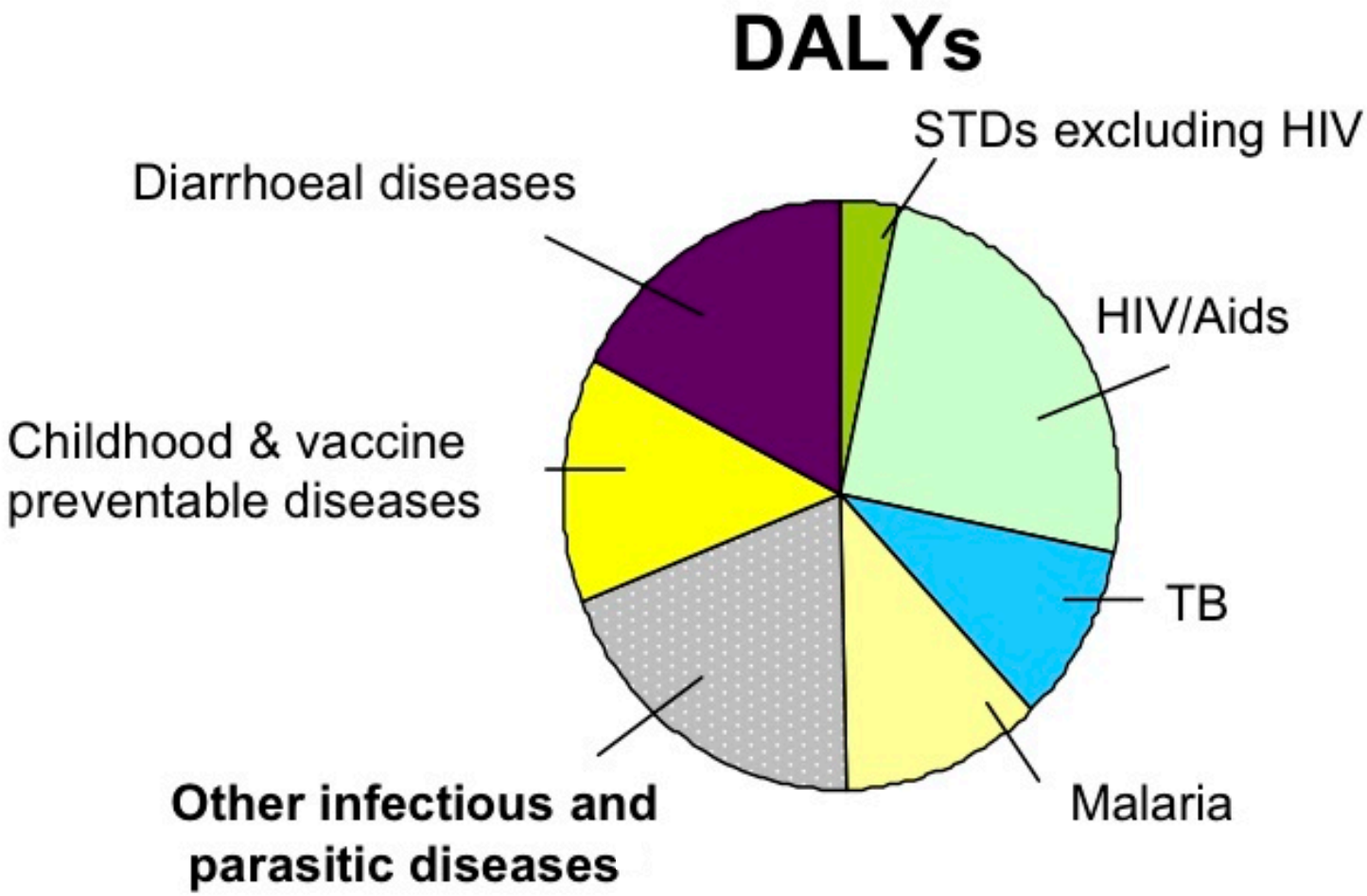
Proportion of DALYs



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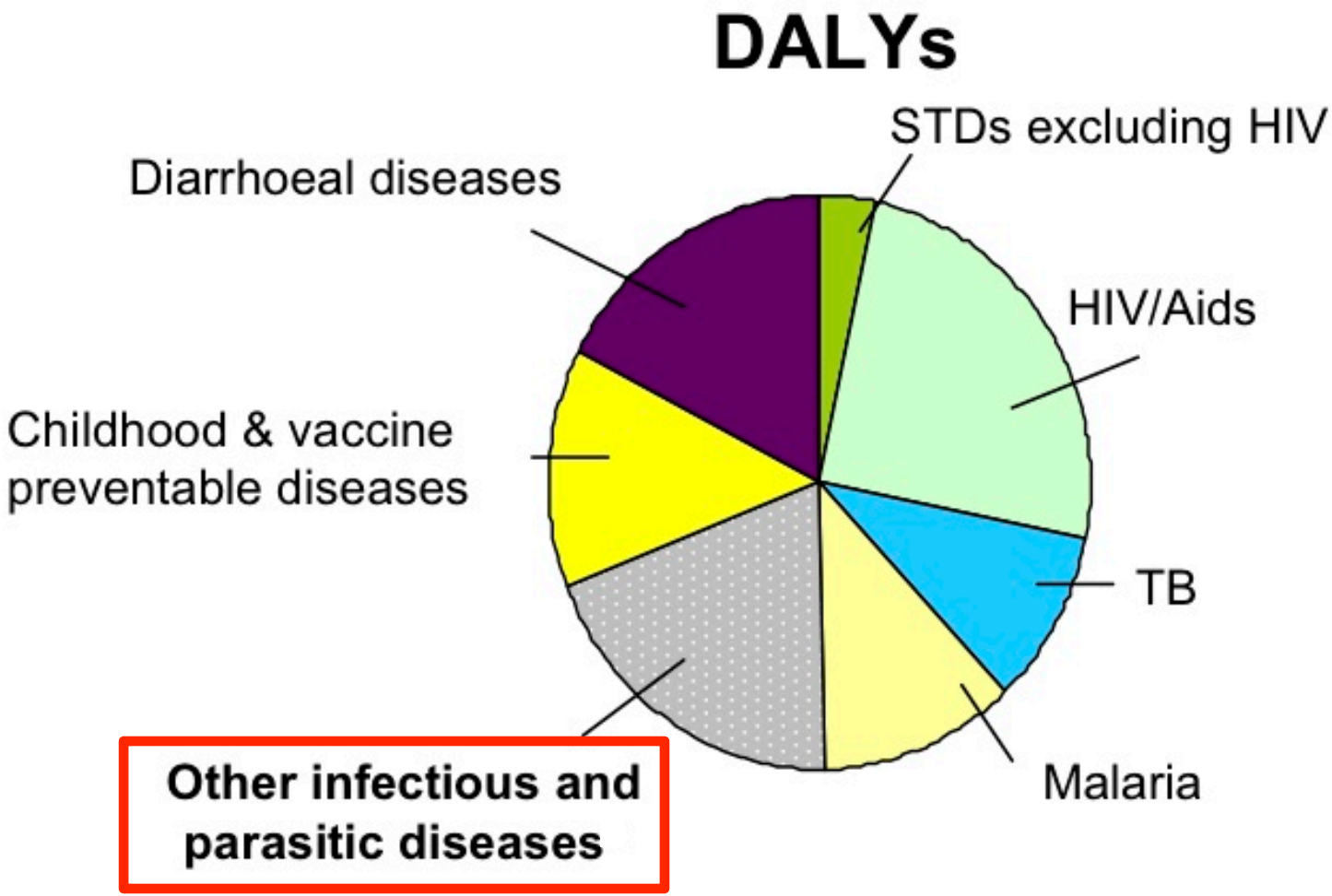

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Control	Mass dewormings, drugs.		

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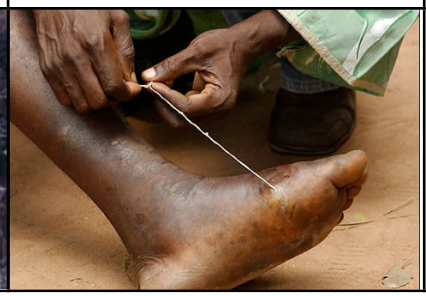
		Blindness, disfigurement, skin disease	Painful blister in foot, inflammation	Target organ damage, highest mortality
				

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			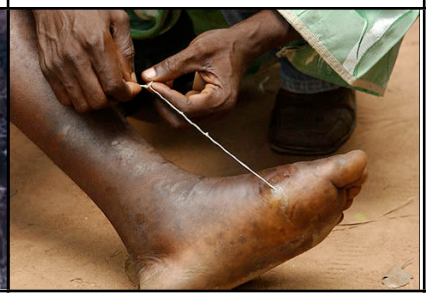	
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Control	Interrupt transmission cycle, yearly mass drug admin	Vector control, yearly mass drug admin	Safe water, health education	Molluscicide, yearly mass drug admin.

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	Visceral	*Cutaneous*		*T.b.g.*	*T.b.r.*

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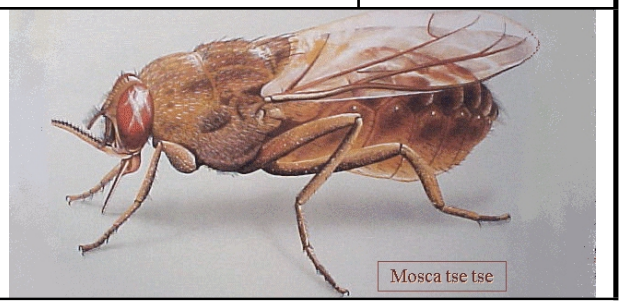
				Anemia, enlarged lymph nodes, personality change, gait	Death within a year
					

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				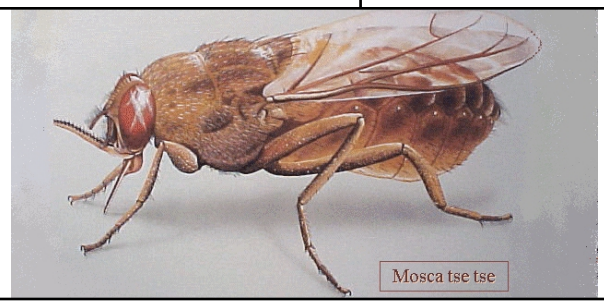	
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				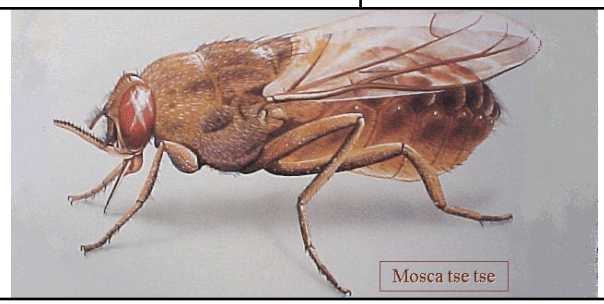	
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Control	Case detection & management, vector control		Case detection & management, vector control	Case detection & management.	

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				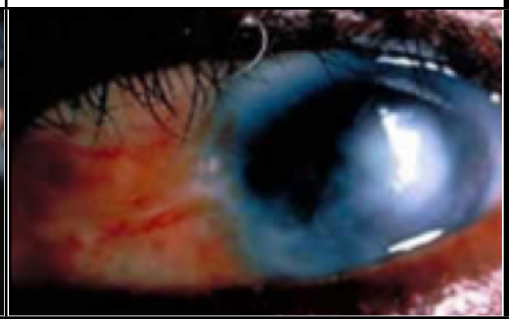

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Control	Amputation	Multidrug treatment		facial hygeine, surgery

Management and control

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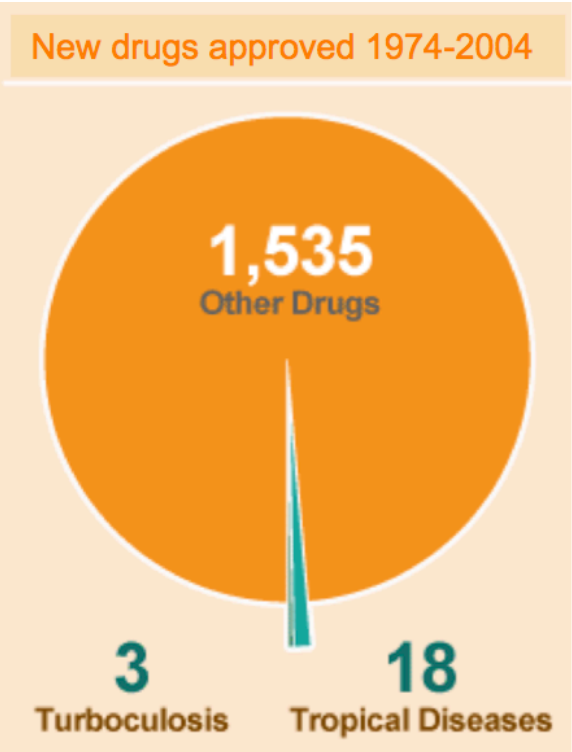

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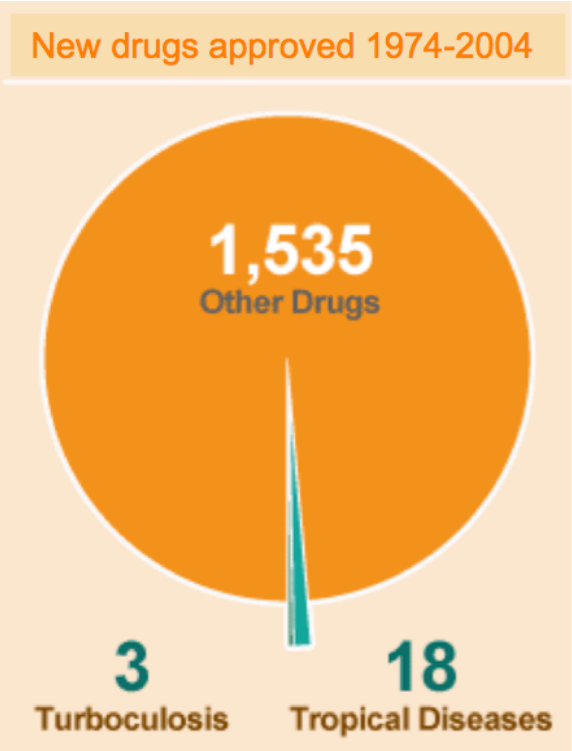

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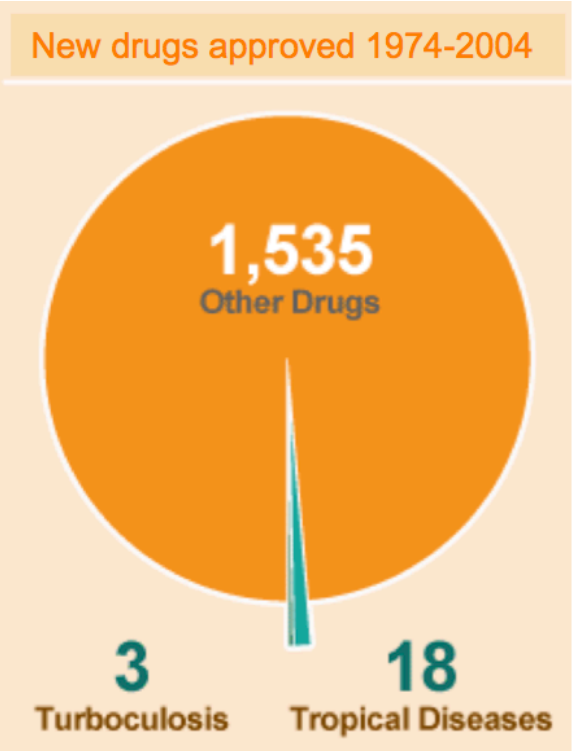

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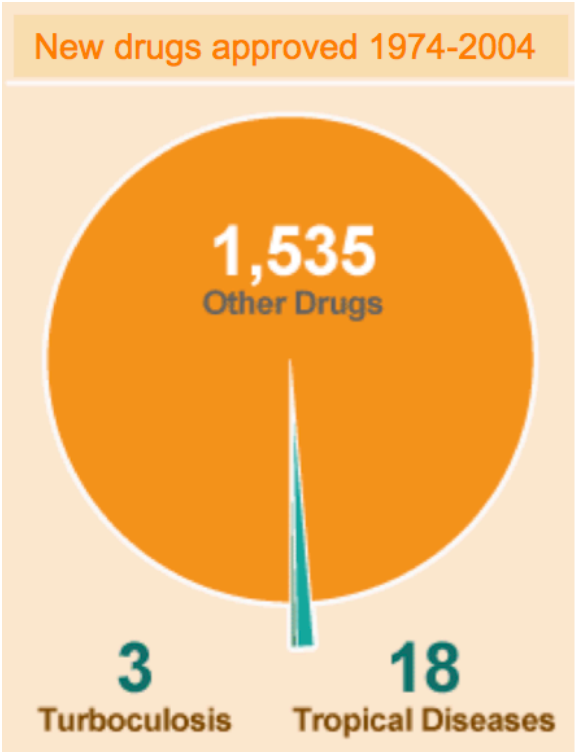

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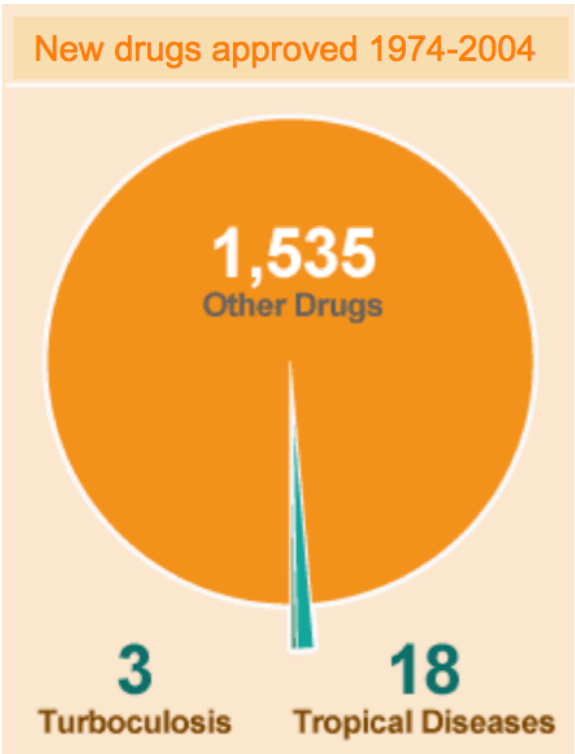

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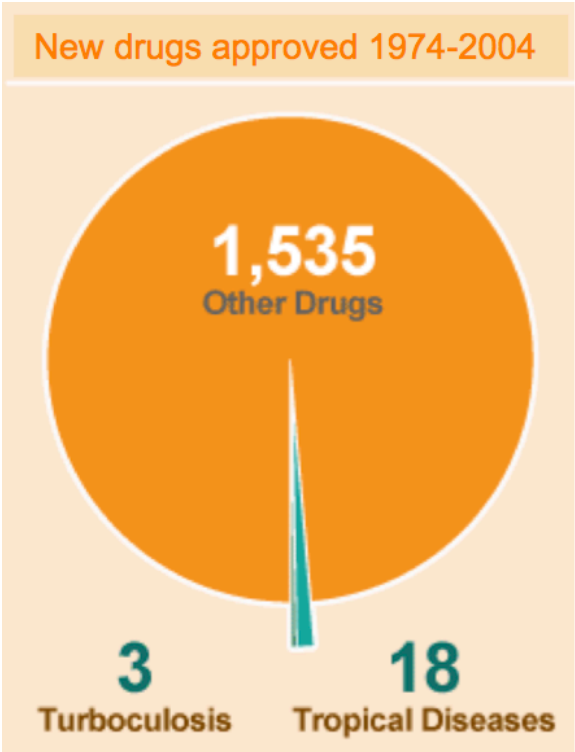

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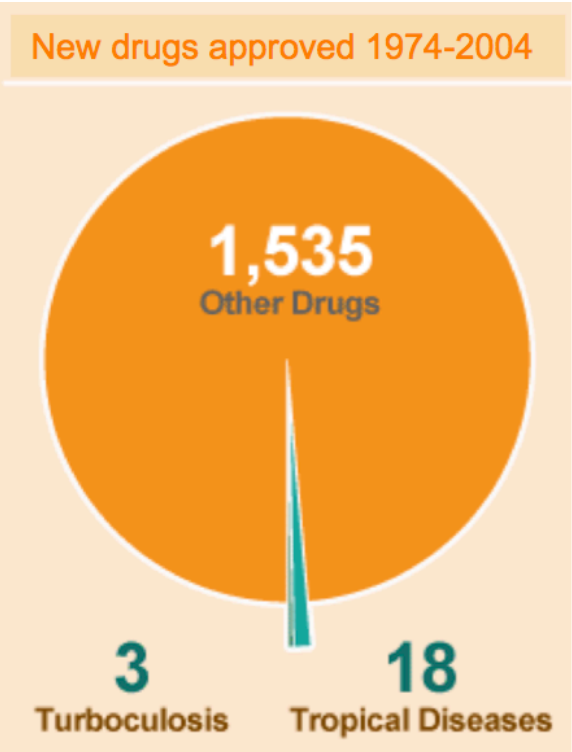

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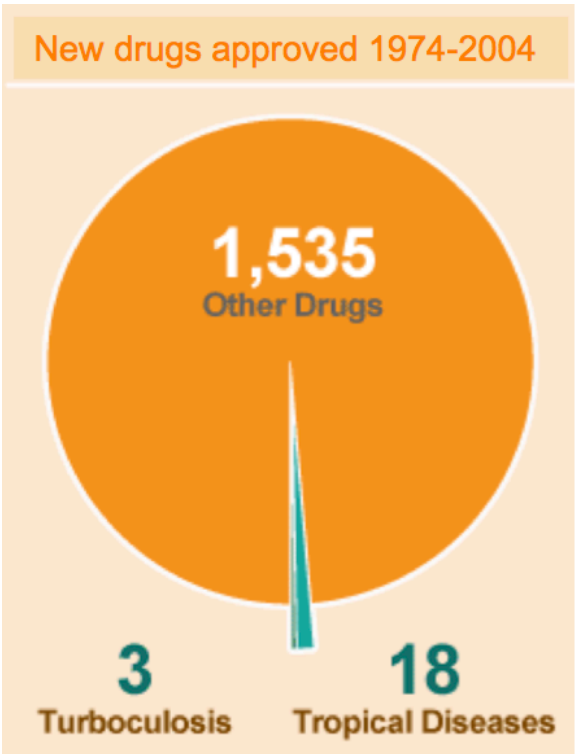

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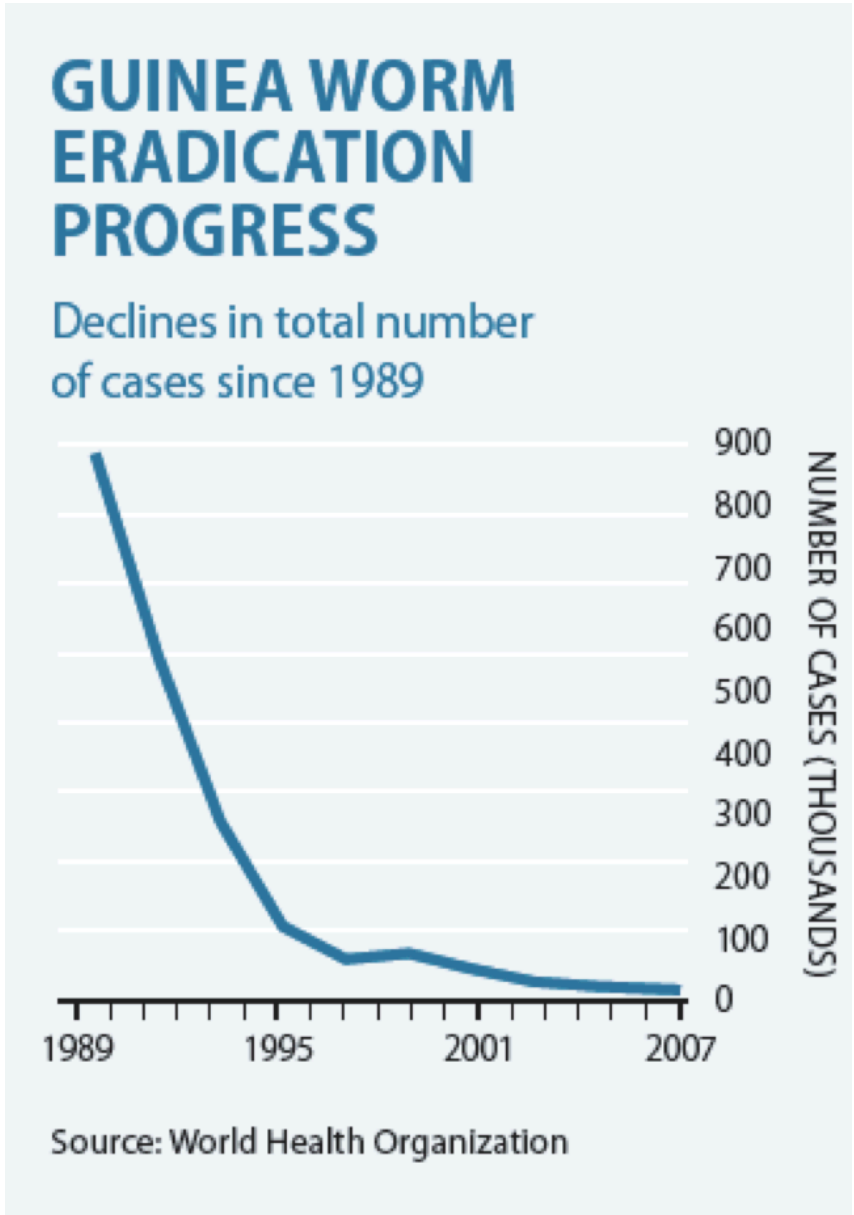

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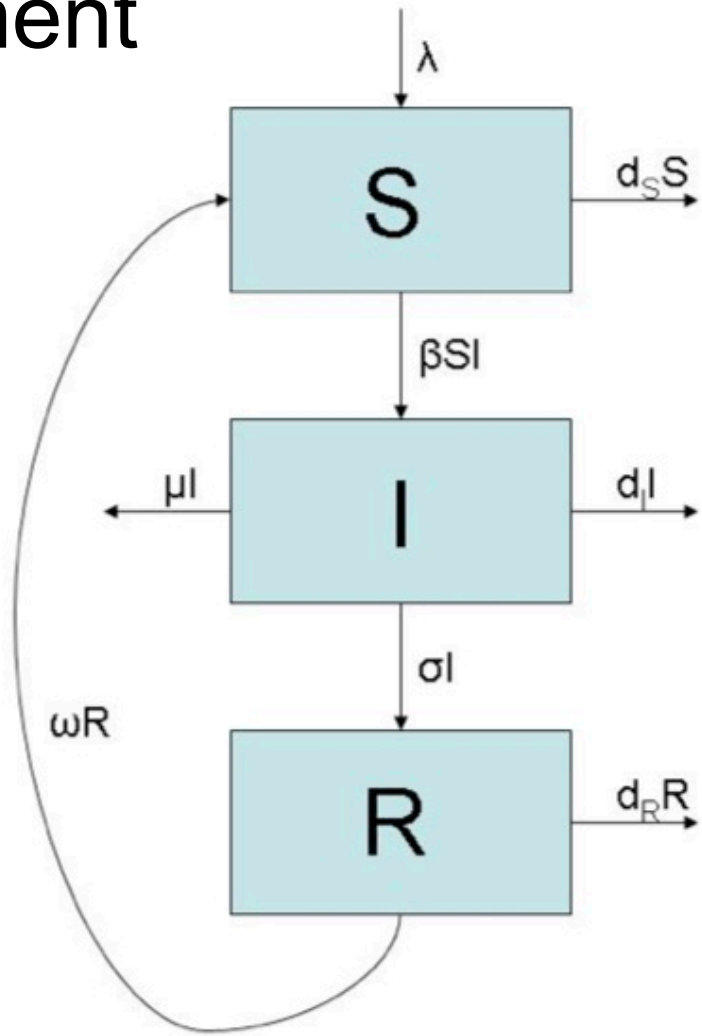

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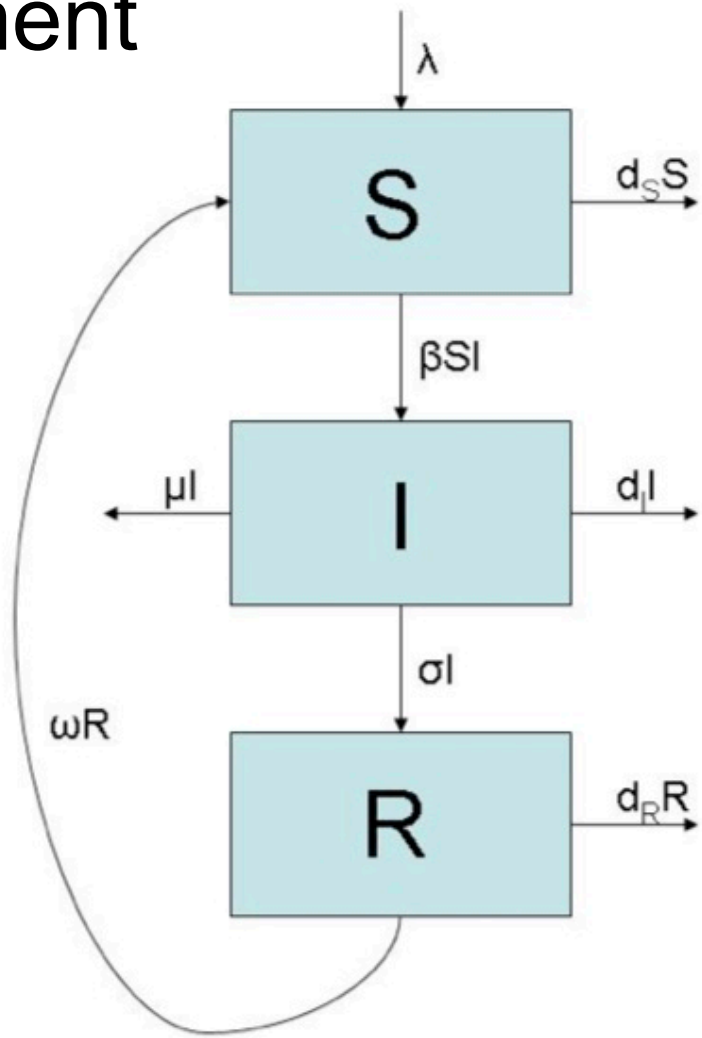

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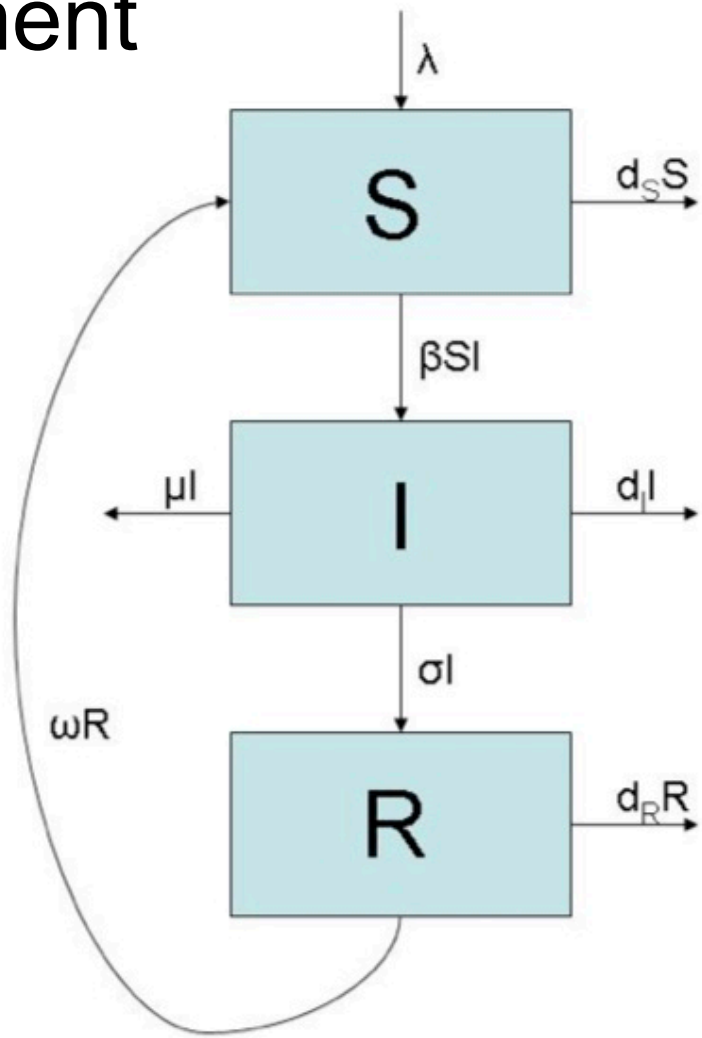

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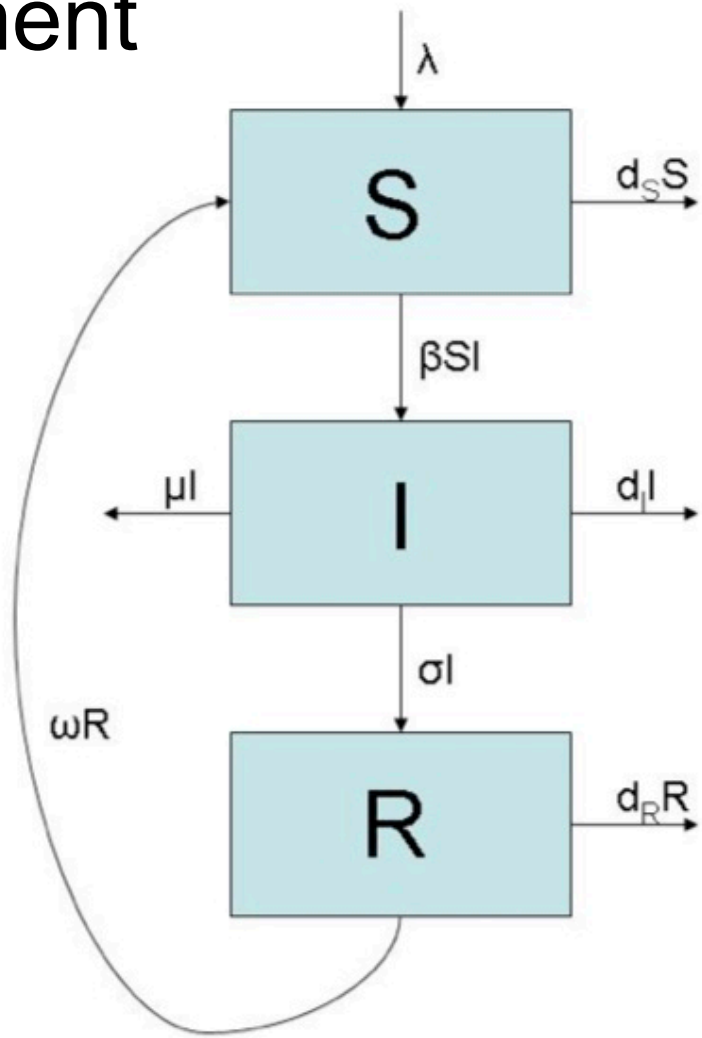

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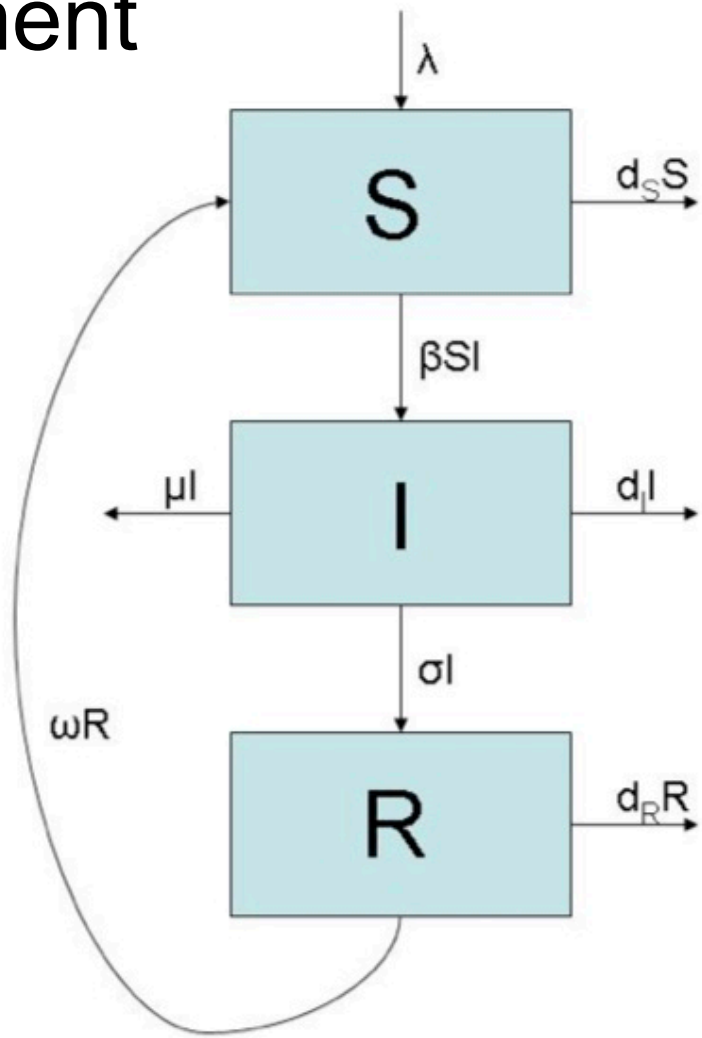

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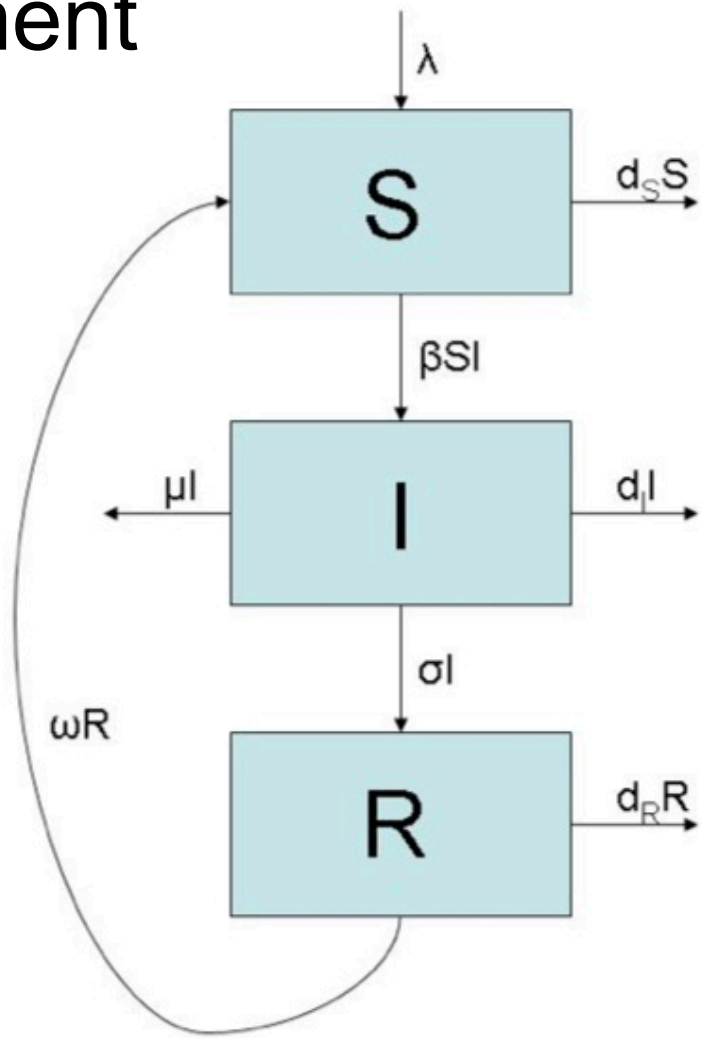

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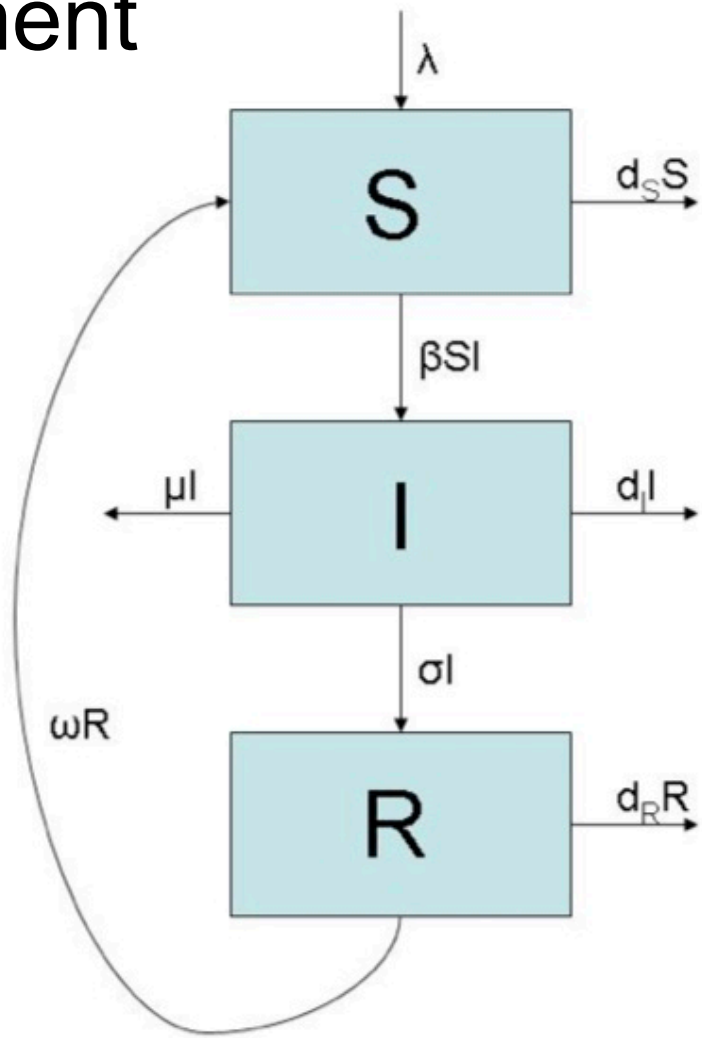

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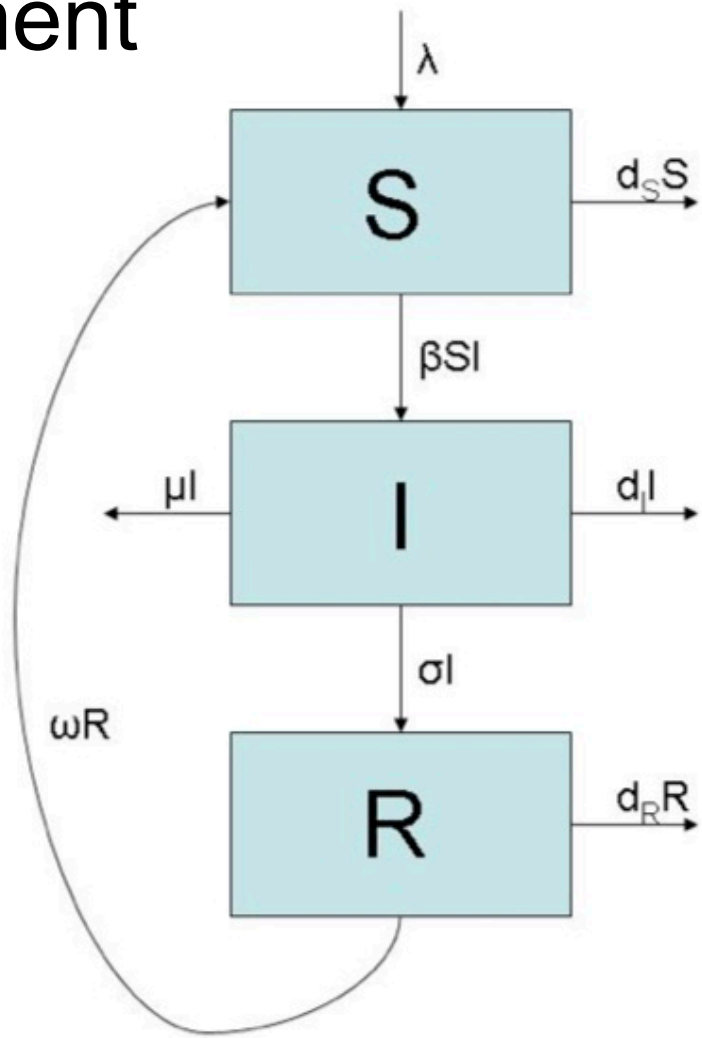

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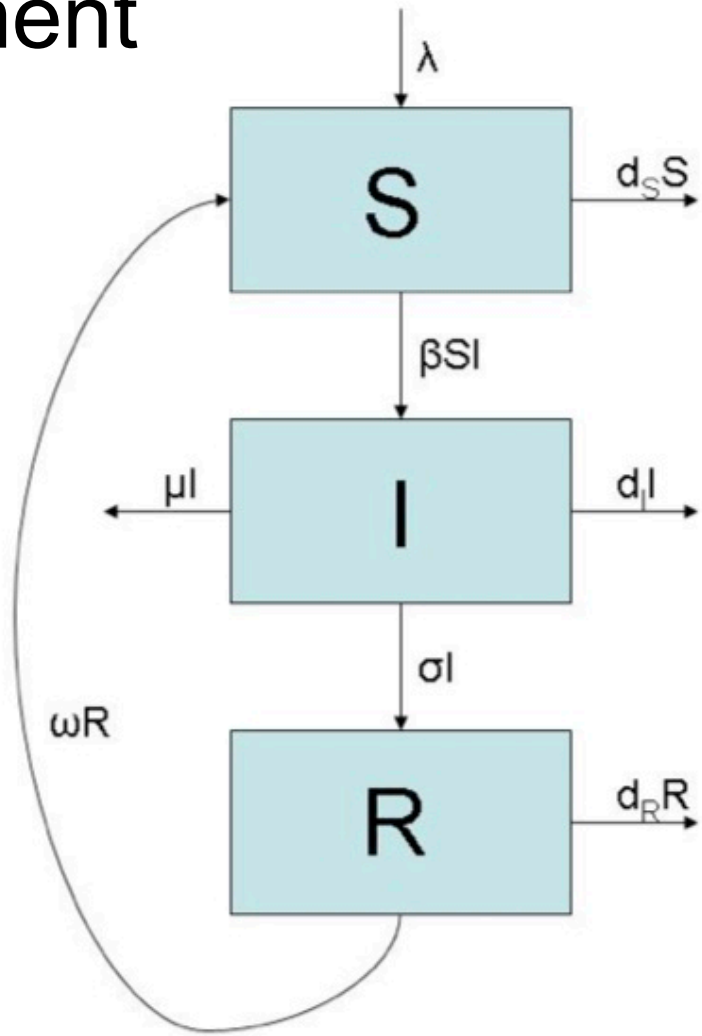

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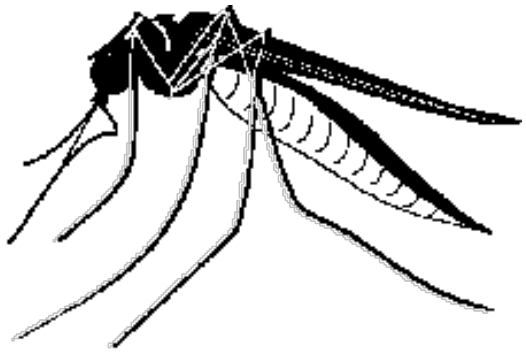

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- Policy analysts need to be better educated about the power of models.

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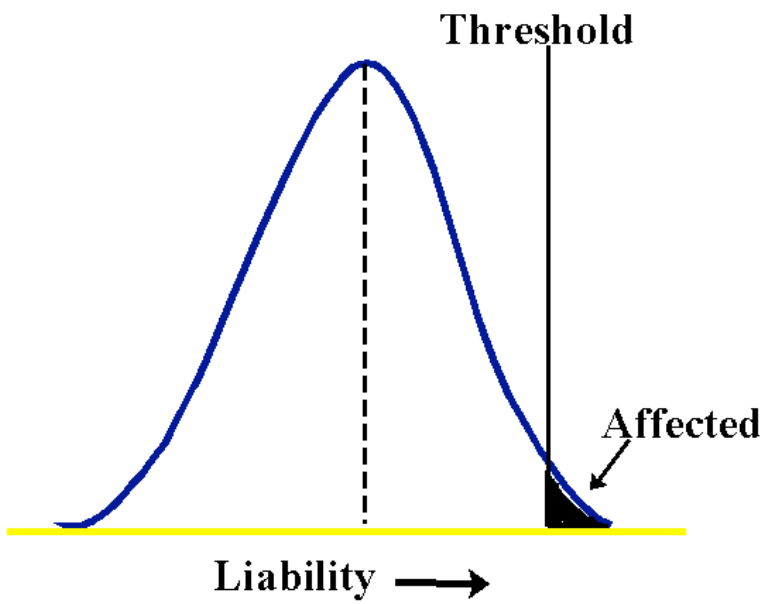

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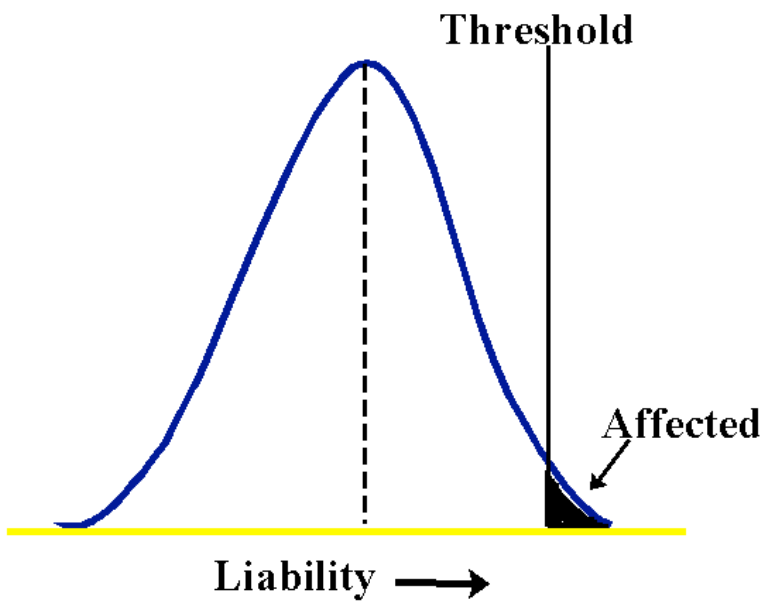

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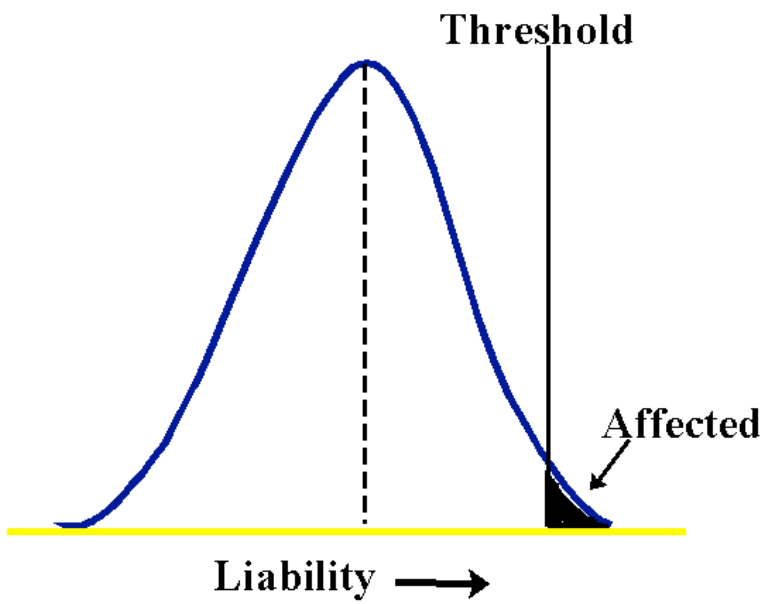

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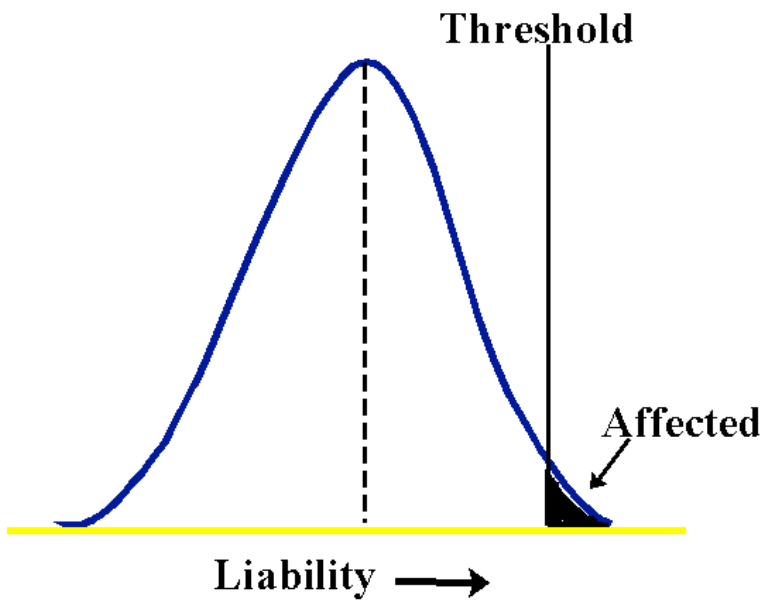

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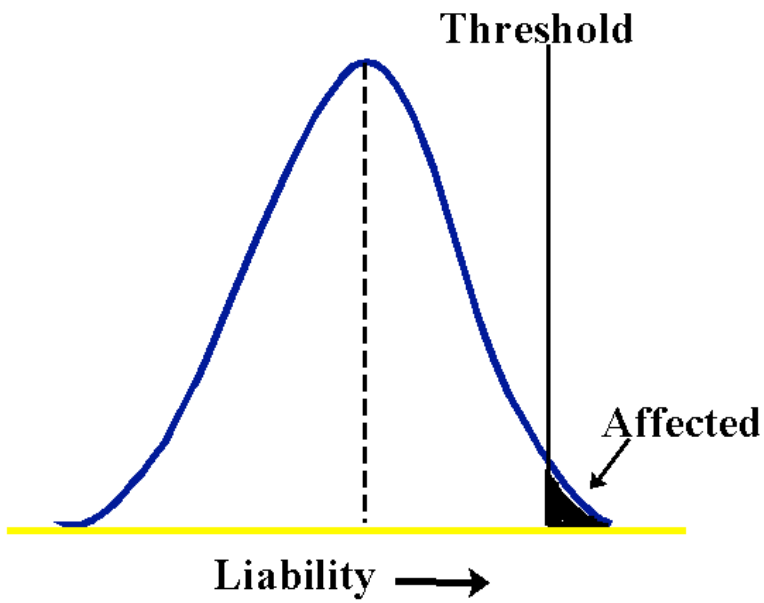

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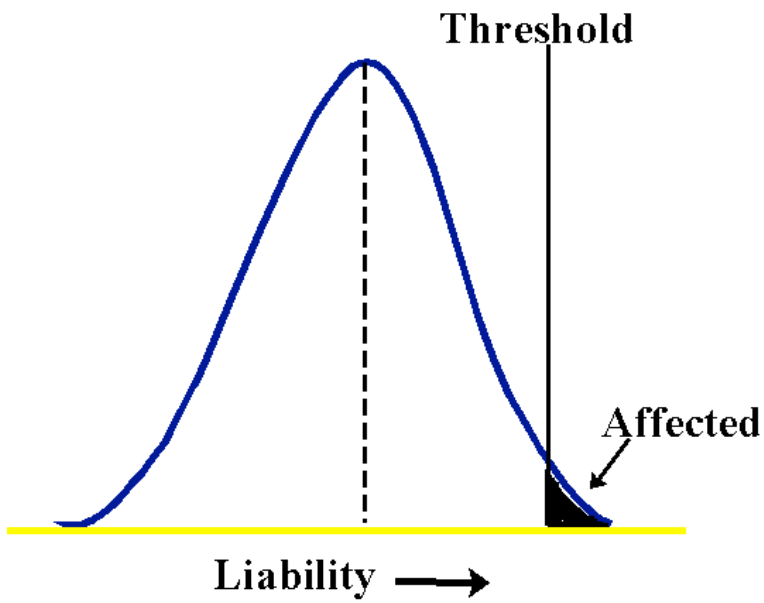

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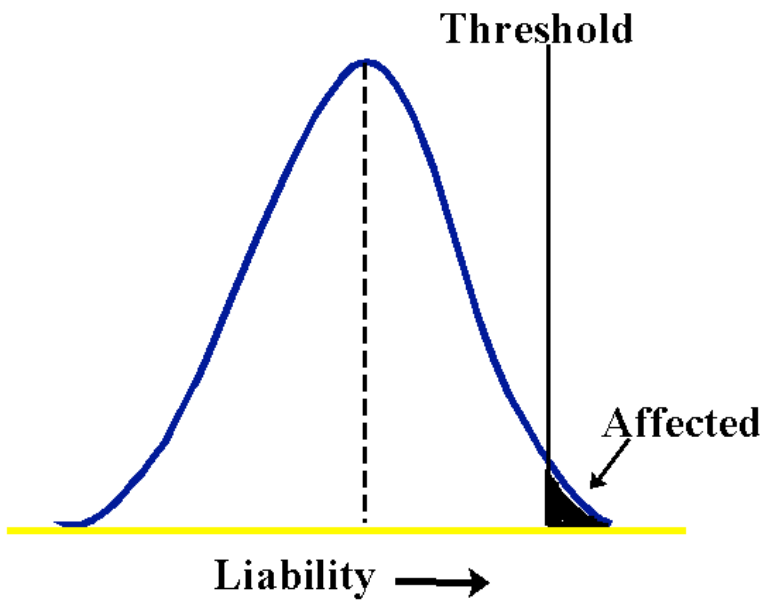

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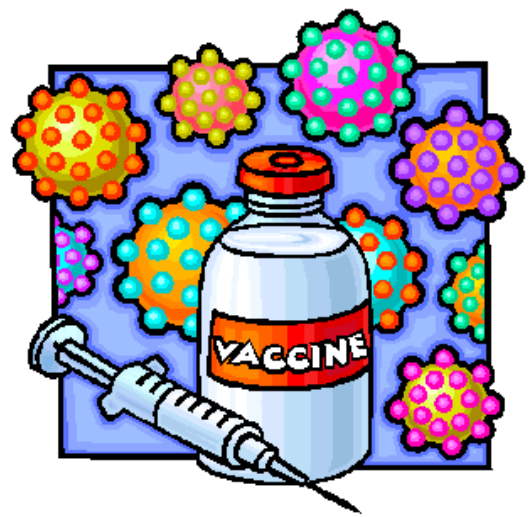

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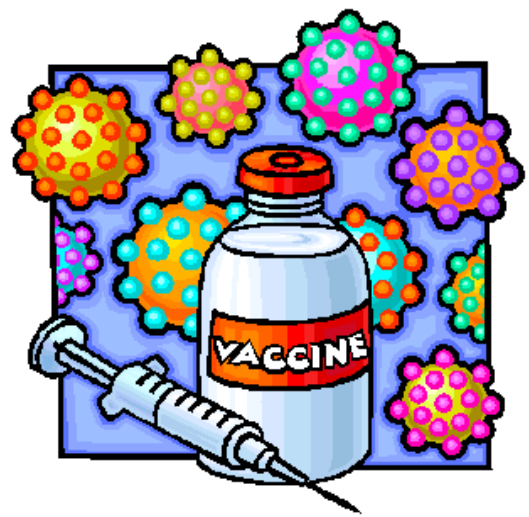

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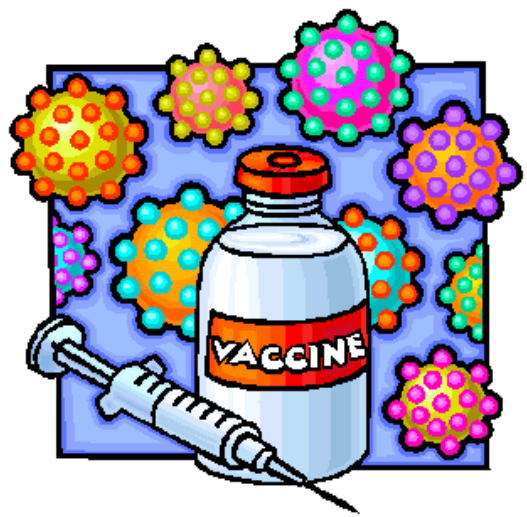

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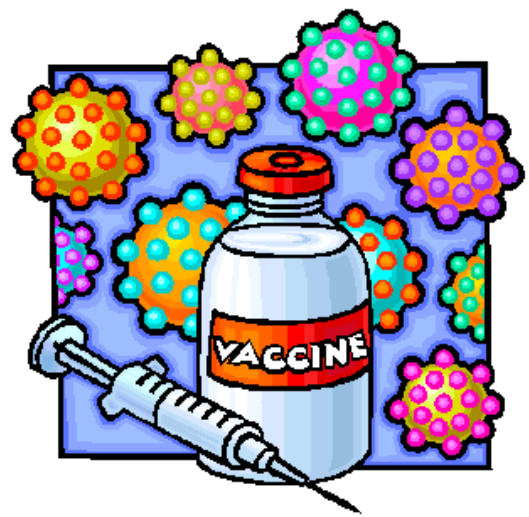

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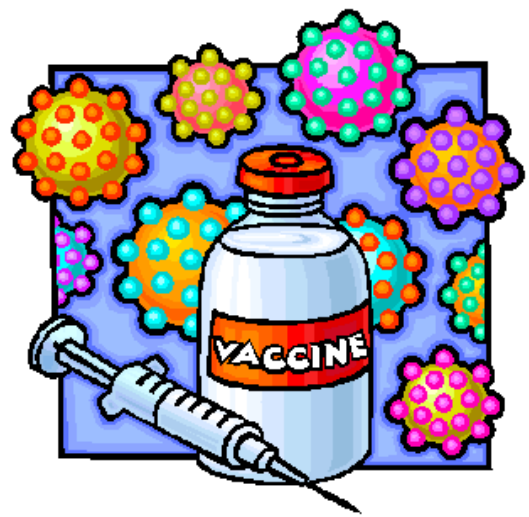

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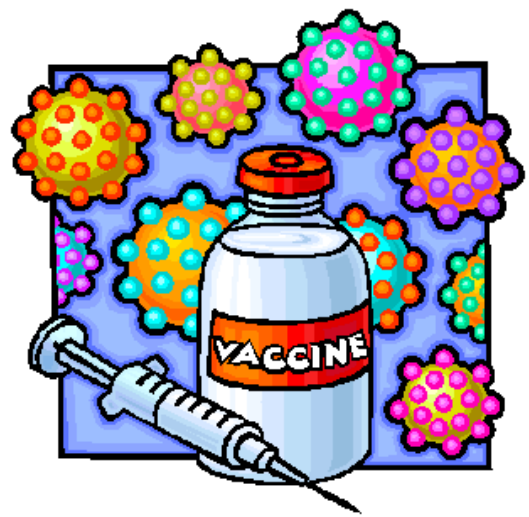

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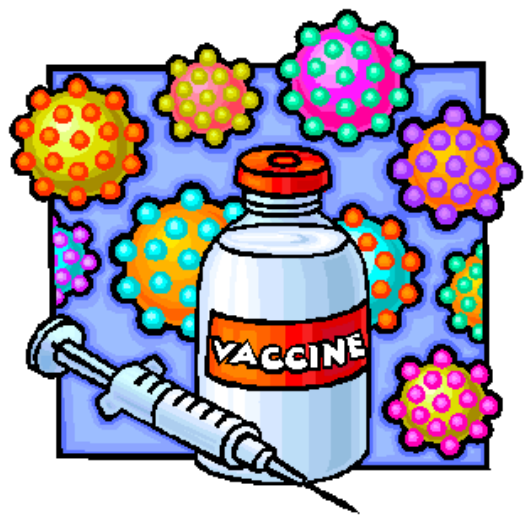

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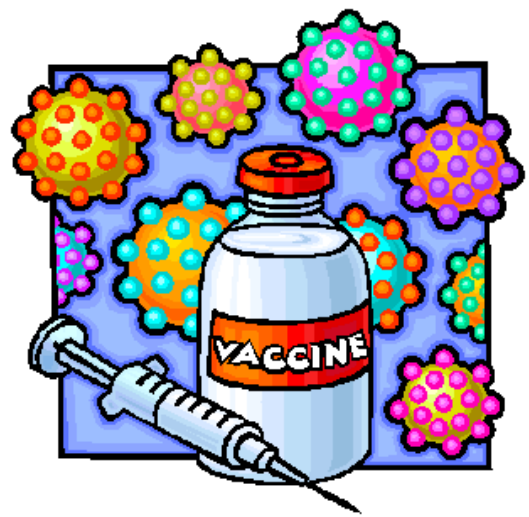

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- A great many problems could be solved, relatively easily, by harnessing the power of mathematical modelling
- The price — political and otherwise — for such a huge improvement in the quality of life for 1/6 of the world's population is tiny.

Key References

- P.J. Hotez (2008) Forgotten People, Forgotten Diseases: The Neglected Tropical Diseases and Their Impact on Global Health and Development, ASM press
- A.D. Kealey and R.J. Smith? (2010) Neglected Tropical Diseases: Infection, Modeling, and Control. Journal of Health Care for the Poor and Underserved 21, 53-69.

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