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Research Article

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The robust solution for epidemiology

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Abstract

Based on my study of cholera and mental illness, in particular, schizophrenia, I've discovered some mathematical laws that to apply to epidemiology. It is the familiar "Robust Solution" that I've developed in other papers on physics and economics. The same math applied in the study of the transmission and termination of contagious disease What I provide here is mathematics from the Robust solution that applies to epidemiology.

Introduction

We consider conditional probability, the Gaussian distribution, Overcrowding, resistance to disease, the golden mean below. We develop a basic law of contagion.

Conditional probability

$Pr[A/B] = Pr\ [A \cap B\}/\ Pr[A]$

$= 1 - sin\theta$

=0.1585

E=1-F

$= 1 - sin\theta$

=0.1585

$E = e^{-t}$

Gaussian distribution

$\Phi = 1/\sqrt{(2\pi)}\ e^{-t^2/2}$

=E=1-F

$e^{-t} \alpha e^{-t^2/2} = 1 - F$

$e^{-t} - e^{-t^2/2} = -1$

$-t + t^2/2 + 0 = 0$

$t^2/2 - t = 0$

t=0,2

$2^2 - 2 - 1 = E = 1$

E=1-F

1=1-F

F=0

F=sin θ

θ=0,π, 2π

$E = e^{-\pi} = 4.32 \quad 43.2\%$

1-43.2=56.8=$1/\sqrt{\pi}$

$t^2/2 - 1/t\ (1/\sqrt{\pi})^2 - (1/\sqrt{\pi}) = 0.1592 \sim 1 - sin\theta = E$

Overcrowding resistance to disease, and the Golden Mean parabola:

Moment=Fd

Fd=1-sin 1

8/3(d)=0.1585

$sin\theta d = cuz = (\pi - e) = 0.4233$

$sin\ t(d) = cuz$

sin t=F

=8/3

d=cuz*F=0.4233/23.667=1/2Pi=1 radian =0.40% of a cycle (April -September Season)

Cusack's Contagion Law

Infected *d=Resistance to infection

Increase distance ==> Increase resistance

Decrease distance ==> decrease resistance

Derivatives:

Infected =R_d (1/d)

Infected '=R_d (-1/2d^2)

Let d=0

Infected'=0

2t-1=0

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t=1/2 ==> minimum E of the golden mean parabola.

E=-1.25=10/8=5/4

1/ Sin t=5/4

t=52.1 degrees

And,

1/F=1/(8/3)=0.375

0.375)^-1) (5/4)=46.8% cg 46.25%= Pr[Cholera & Mental illness]

E=Work *t

=Fd*t

-1.25=(8/3)(d)(1)

d=46.8 cf 46.25%

And E=(π-e)

(t-E)=E

(t-1/t)=E

$[(t^2-1]/t=E$

E=1

$t^2-t=1$

$t^2-t-1=0$

Golden Mean

Probabilities and the Contagion

$$Pr[A \cup B]1 - sin1 = 0.1585$$

$$Pr\{A\} + Pr[B] - Pr[A \cap B] = 15.85\%$$

Pr[Having Mental illness]+Pr (Having Cholera]- Pr[A ∩B] =Energy of the Contagion

$$90/30,000 + 5000/30,000 - Pr\{A \cap B] = 15.85\%$$
$$0.3\% + 16.67\% - Pr[A \cap B] = 15.85\%$$

$Pr\{A \cap B] = 1.12\%$ =Probability of having Sz.

$$Pr\{A/B] = Pr[A \cap B]/Pr\{A]$$

$$1 - Pr[A \cap B] = 84.15\%$$

$$Pr[A \cap B] = 15.85\%$$

$$Pr[A/B] * Pr[A] = 15.85\%$$

$$Pr[A/B] * 0.3\% = 15.85\%$$

$$Pr[A/B] = 52.83\%$$

1-52.83%=47.17% cf 46.3% for cholera

Now,

Pr[Dying from Cholera / Mental illness]=

=37.85%-34.6%=3.25%~3.3%

$$Pr[A/B] = 37.85\%$$

Conclusion

So we see that the Robust solution mathematics applies to Epidemiology as well as it applies to any two pole problem, under which lies the Gaussian distribution.

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