PSA and Prostate Cancer

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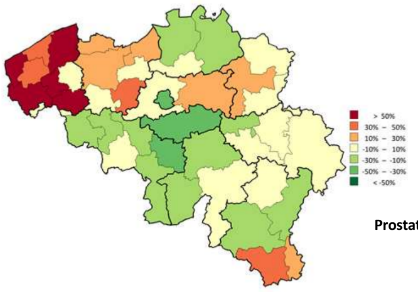
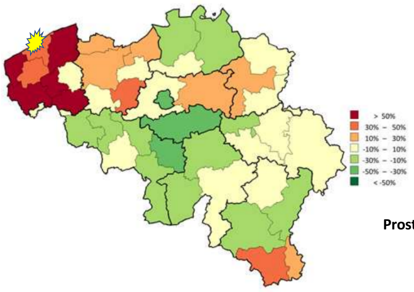
November 2019



Prostatectomy in Belgium



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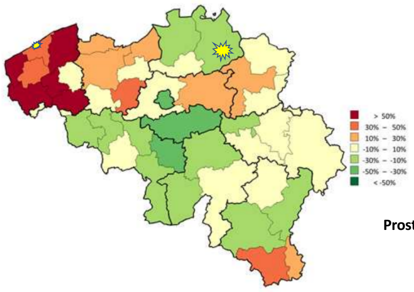

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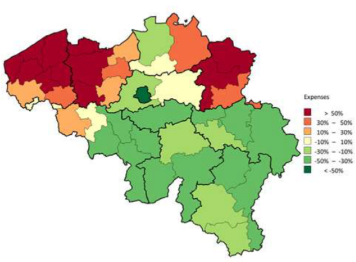


Transtympanale drains

Gustaaf, 64 j, routine consult for hypertension.
By the way, last blood analysis. 2015…. PSA: 3.66

History:

PSA tested by health control of his work:

4/2014: **4,89**; 10/2014: **3,90** 3/2015: **3.66**

Consult Urologist 2015:

Rectal toucher: smal benign prostate. No indurations

Echo: Volume: 26 gr; no suspect hyposonantions

Conclusion: no evidence for Prostate cancer. Reevaluation in 1 year!

Today: some prostatism. Test for PSA?

Robert, 74 years old

Hypertension
Active man, fervent gardner

Begin 2019 – routine checkup for hypertension with PSA blood test
Elevated PSA test

Referral local urologist
US negative, MRI scan negative, biopsy positive

July 2019 radical prostatectomy

25/11/2019

Consultation (in tears): doctor, I have no control whatsoever over my urine and it hasn't improved anything since this summer. Can you smell me from behind your desk?

Jan, 80 years old

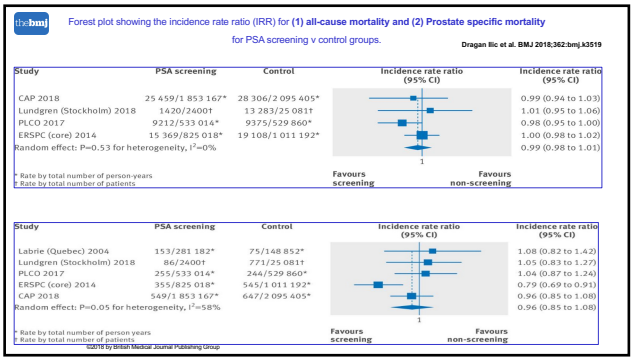
Active man, teacher

Early 2019 – checkup PSA blood test: **9,6**

Referral local urologist, exploration prostate ca
Didn't wanted R/ but Drs, family .....

Phoned me this week: got five RT, wants to stop now

Do we need organized screening for prostate cancer with PSA in primary care?



the bmj

Forest plot showing the incidence rate ratio (IRR) for **(1) all-cause mortality and (2) Prostate specific mortality** for PSA screening v control groups.

Dragan Ilic et al. BMJ 2018;362:bmj.k3519

Study	PSA screening	Control	Incidence rate ratio (95% CI)	Incidence rate ratio (95% CI)
CAP 2018	25 459/1 853 167*	28 306/2 095 405*		0.99 (0.94 to 1.03)
Lundgren (Stockholm) 2018	1420/24001†	13 283/25 081†		1.01 (0.95 to 1.06)
PLCO 2017	9212/533 014*	9375/529 860*		0.98 (0.95 to 1.00)
ERSPC (core) 2014	15 369/825 018*	19 108/1 011 192*		1.00 (0.98 to 1.02)
Random effect: P=0.53 for heterogeneity, I^2=0%				0.99 (0.98 to 1.01)

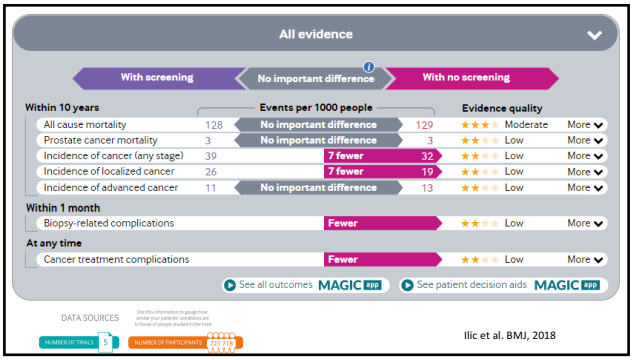
* Rate by total number of person-years
† Rate by total number of patients

Favours screening | Favours non-screening

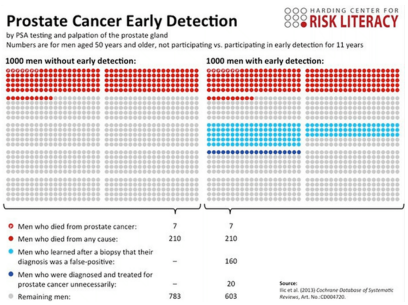
Study	PSA screening	Control	Incidence rate ratio (95% CI)	Incidence rate ratio (95% CI)
Labrie (Quebec) 2004	153/281 182*	75/148 852*		1.08 (0.82 to 1.42)
Lundgren (Stockholm) 2018	86/24001†	771/25 081†		1.05 (0.83 to 1.27)
PLCO 2017	255/533 014*	244/529 860*		1.04 (0.87 to 1.24)
ERSPC (core) 2014	355/825 018*	545/1 011 192*		0.79 (0.69 to 0.91)
CAP 2018	549/1 853 167*	647/2 095 405*		0.96 (0.85 to 1.08)
Random effect: P=0.05 for heterogeneity, I^2=58%				0.96 (0.85 to 1.08)

* Rate by total number of person years
† Rate by total number of patients

Favours screening | Favours non-screening



Ilic et al. BMJ, 2018



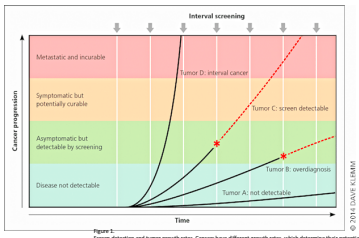


Figure 1.
Screen detection and tumor growth rates. Cancers have different growth rates, which determine their potential to be detected by screening. Tumor A remains microscopic and undetectable by current technology (although more sensitive tests in the future might render it detectable). Tumor B eventually becomes detectable by screening (*), but its growth rate is so slow that it will not cause symptoms during the life of the individual; its detection will result in overdiagnosis. Tumor C is capable of metastasizing, but it grows slowly enough that it can be detected by screening (*); for some, this early detection will result in survival. Tumor D grows very quickly and therefore is usually not detected by screening. This will present as an interval cancer (i.e., diagnosed clinically in the interval between screening examinations) and has a particularly poor prognosis. Note that of the four tumor types, only Tumor C has the potential to benefit from screening. Red dashed lines represent the natural history of a tumor in the absence of detection by screening. (ref 8)

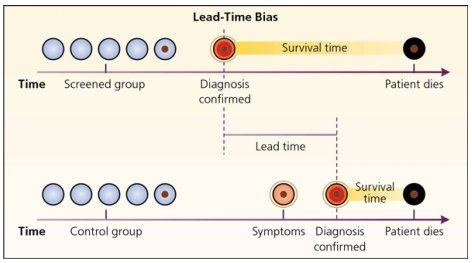


Figure 2. Lead-time bias. In the example shown, the diagnosis of disease is made earlier in the screened group, resulting in an apparent increase in survival time (lead-time bias), although the time of death is the same in both groups. (8)

Five Golden Rules for Transforming PSA Screening

1. Get consent
2. Don´t screen men who whon´t benefit
3. Don´t biopsy without compelling reason
4. Don´t treat low-risk disease
5. If you have to treat, do so at a high-volume center

Thanks

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Cebam
Belgian Centre for Evidence-Based Medicine • Cochrane Belgium