

GRELL & ENCR

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Are prostate cancer grade and initial prognosis socially patterned?

Data from the Tarn Cancer Registry over 2006-2021.

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Social disparities in prostate cancer incidence and survival in France

- Evidence support an 'inverse' association between socioeconomic position (neighbourhood social deprivation quintile) and cancer risk (*Bryere 2016, Lucre 2017*)
- This gap in standardized incidence ratio between extreme neighbourhood social deprivation quintiles increased over the 2006-2016 period (*Derette 2022*)
- Recent data using mortality tables by level of deprivation show no effect of neighbourhood social deprivation quintile on excess mortality hazard (*Wilson 2025*)

What about the social distribution of initial prognostic indicators?

Data & Method

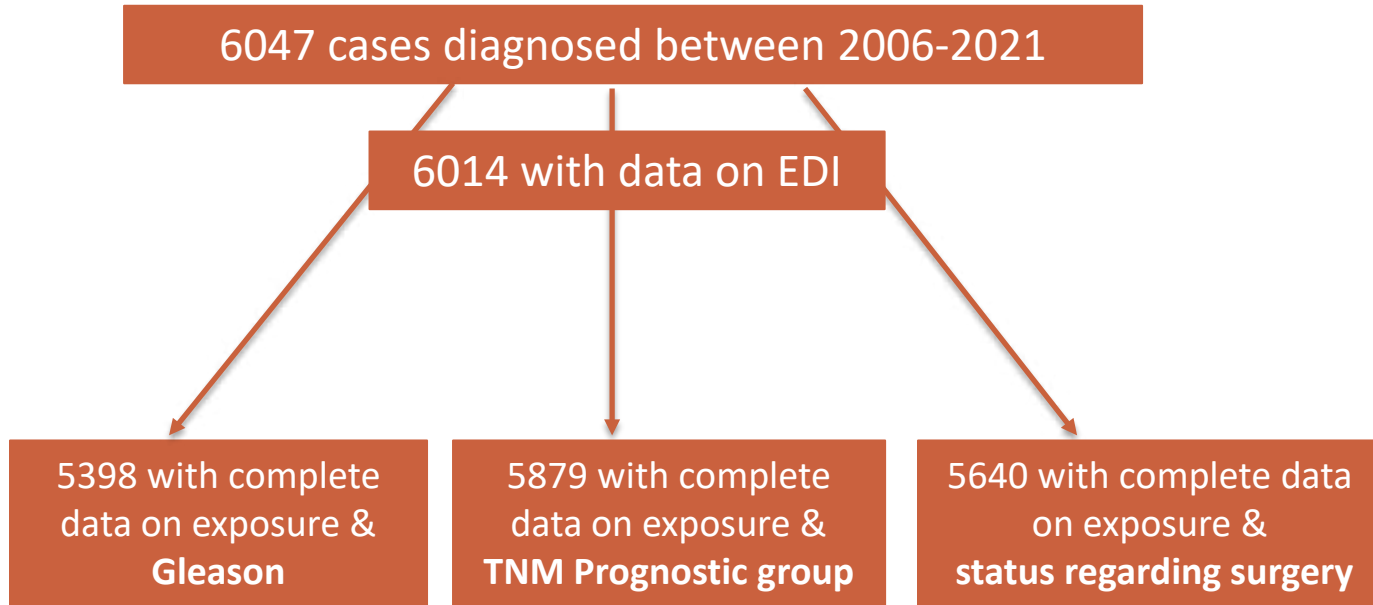
- Leveraging from the Tarn Cancer registry data in South-West France (~400,000 inhabitants)
- 6,047 cases of prostate cancer diagnosed between 2006 and 2021
- Data collected from medical files :
 - Demographic data (age + address at diagnosis)
 - Tumour initial characteristics (Gleason score, PSA level and TNM stage)
 - Year of diagnosis
 - Initial surgical treatment

Data & Method

Outcomes	○ Gleason grade = Gleason ≥ 8 (high risk) vs Gleason ≤ 7 (ref.) ○ Prognosis group TNM v7 = stage IV (high risk) vs stage $< IV$ (ref.) ○ Surgery = presence (more localized disease) vs absence (ref.)
Exposure	European deprivation index (EDI) = aggregate ecological measure of relative poverty (deprivation), available in France at the 'IRIS' level (~2,000 inhab.) EDI quintile defined from the EDI distribution in the Tarn population of cases for each year of diagnosis → Each case is compared to his/her counterparts diagnosed the same year
Adjustment set	Age, Year of diagnosis Prognosis group (analyses for surgery)

Logit models

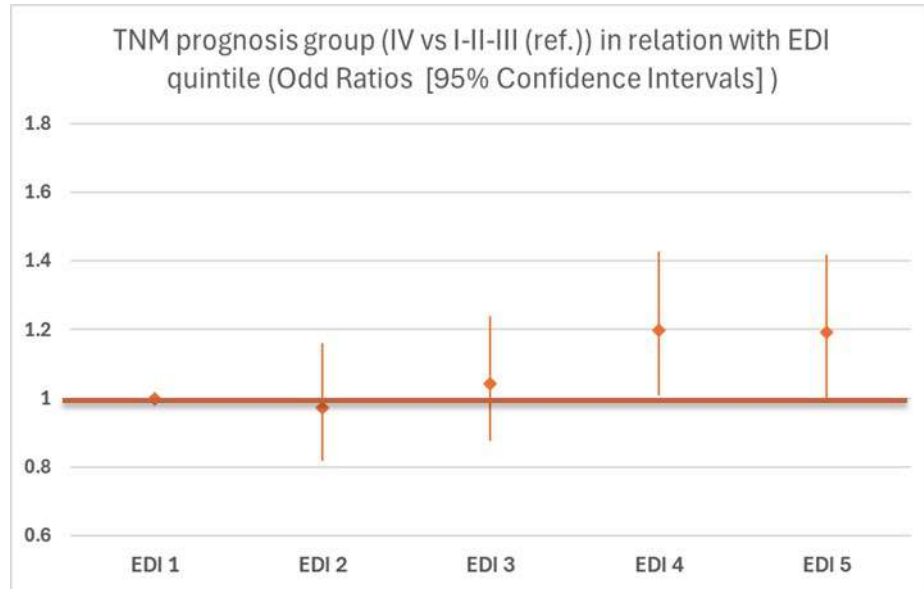
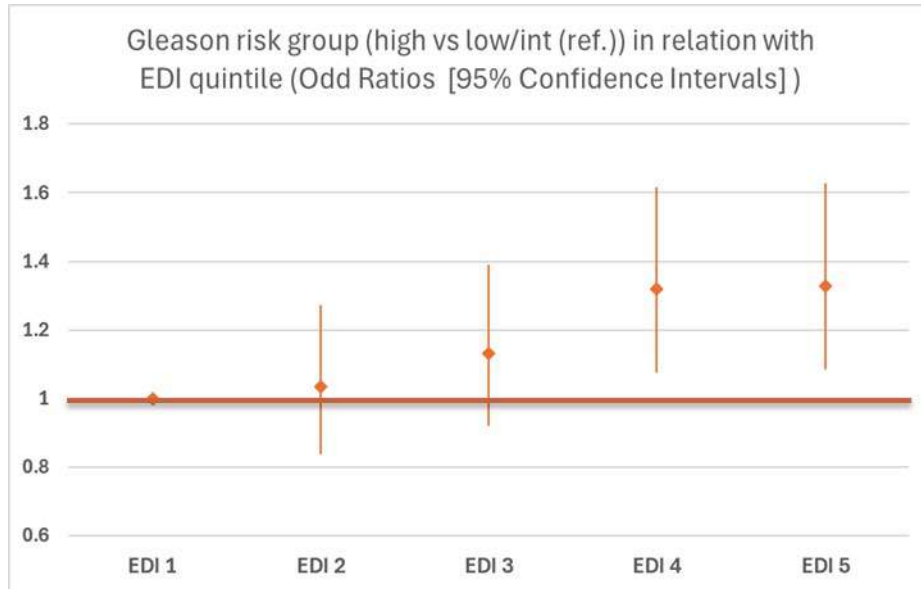
Results – Fig 1. Flowchart



Results – Table 1. Cases description by EDI quintile

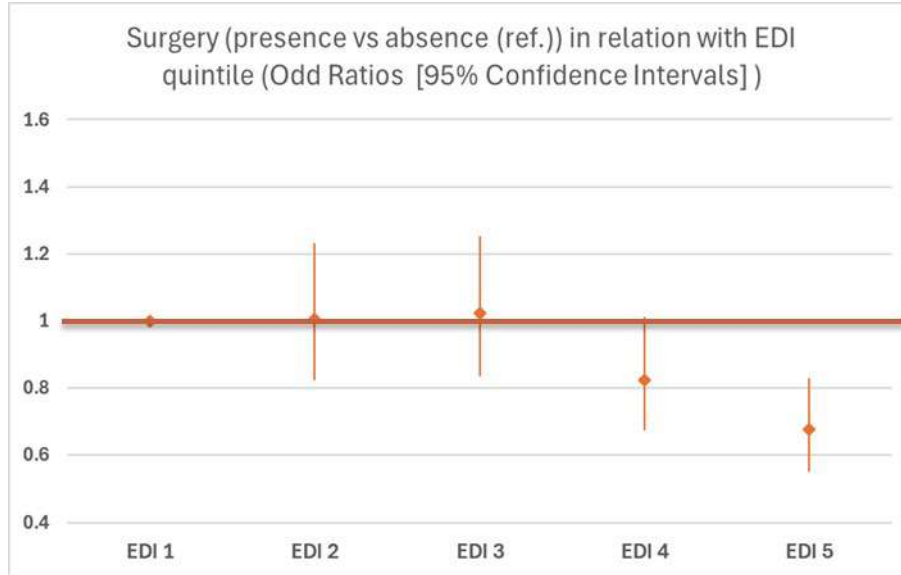
		EDI quintile 1		EDI quintile 2		EDI quintile 3		EDI quintile 4		EDI quintile 5		Total	
		(n=1231)		(n=1200)		(n=1204)		(n=1193)		(n=1186)		(n=6014)	
		n col %		n col %		n col %		n col %		n col %		n col %	
age	[min-65[	349	28.4	305	25.4	319	26.5	295	24.7	252	21.3	1520	25.3
	[65-75[	514	41.8	489	40.8	467	38.8	456	38.2	467	39.4	2393	39.8
	[75-85[	275	22.3	288	24.0	320	26.6	322	27.0	339	28.6	1544	25.7
	[85-max]	93	7.6	118	9.8	98	8.1	120	10.1	128	10.8	557	9.3
gleason	low risk	872	70.8	828	69.0	817	67.9	767	64.3	758	63.9	4042	67.2
	high risk	243	19.7	251	20.9	265	22.0	295	24.7	302	25.5	1356	22.6
	unknown	116	9.4	121	10.1	122	10.1	131	11.0	126	10.6	616	10.2
TNM prognosis	good	710	57.7	678	56.5	667	55.4	609	51.1	600	50.6	3264	54.3
	poor	497	40.4	496	41.3	510	42.4	550	46.1	562	47.4	2615	43.5
	unknown	24	2.0	26	2.2	27	2.2	34	2.9	24	2.0	135	2.2
surgery	absence	644	52.3	646	53.8	657	54.6	699	58.6	740	62.4	3386	56.3
	presence	520	42.2	475	39.6	480	39.9	418	35.0	361	30.4	2254	37.5
	unknown	67	5.4	79	6.6	67	5.6	76	6.4	85	7.2	374	6.2

Results – Fig 2 & 3. Multivariate analyses



Models adjusted for age and year of diagnosis

Results – Fig 4. Multivariate analyses



No change when additional adjustment for TNM prognosis group

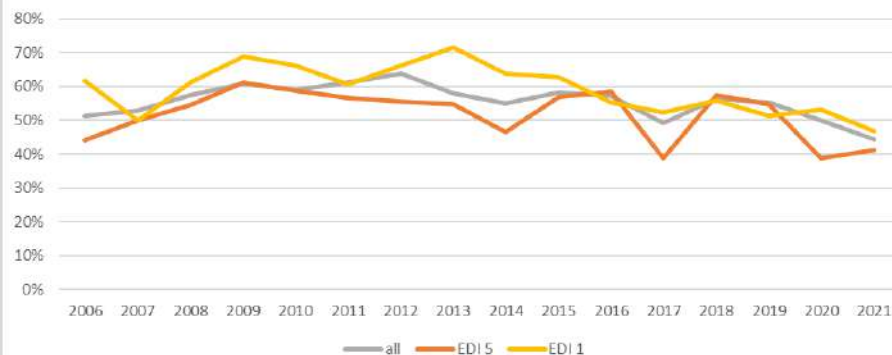
Model adjusted for age and year of diagnosis

DISCUSSION

Study limitations & our responses

- Absence of individual-level data on socioeconomic position and use of ecological index as proxy
- Results from population-based data although restricted to a single department
 - Different incidence
 - Different socioeconomic profile compared to the national level
- ➔ Use of EDI quintile from the distribution of the Tarn cases by year.

Fig. 5. evolution of the proportion of cases with good prognosis by EDI quintile



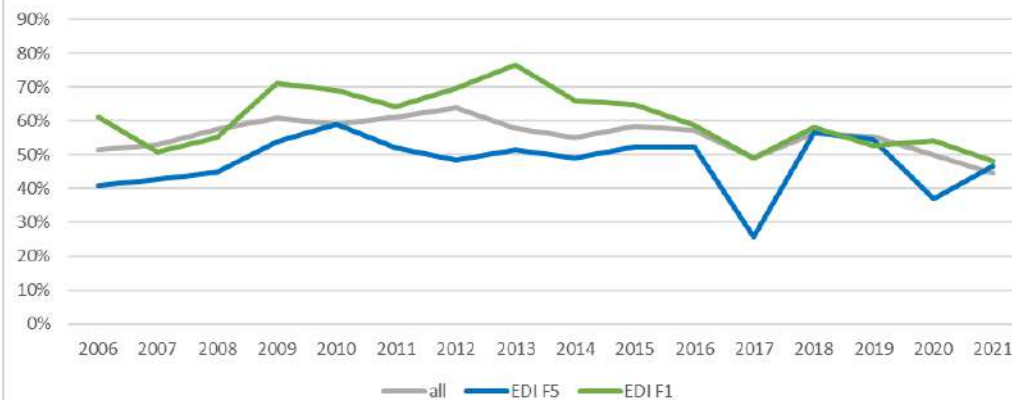
Using the EDI quintile from Tarn case distribution



Using the EDI quintile from the national distribution in France



Fig. 6. evolution of the proportion of case with good prognosis by EDI quintile



DISCUSSION

In Summary

Our results support a social patterning of grade and initial prognosis of prostate cancer (in south-west France) to the disadvantage of the most deprived groups.

Literature in France show higher incidence among population living in less deprived areas but no difference in excess mortality hazards

➔ **How can deprived populations have similar excess mortality hazards when they have poorer initial prognosis indicators ?**

DISCUSSION

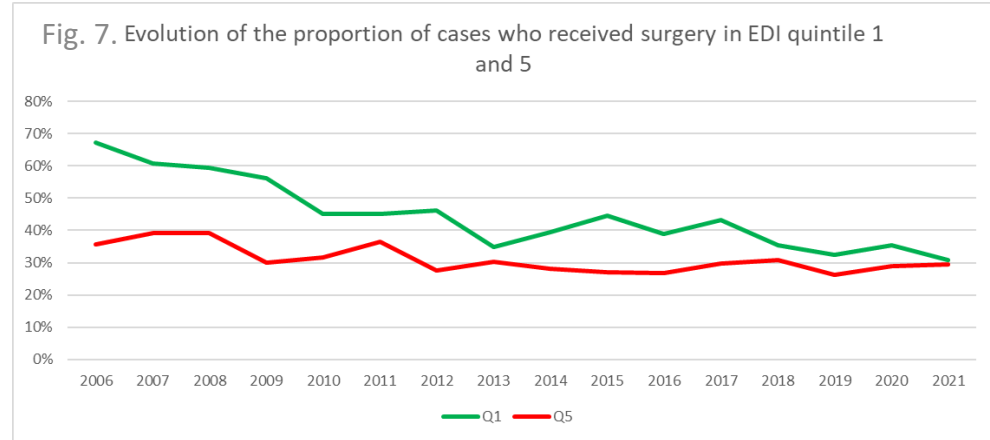
Several possibilities :

- Facilitation of access to healthcare among the most deprived ?
- Relative overuse of surgery among the less deprived and associated risk of side effect ?

DISCUSSION

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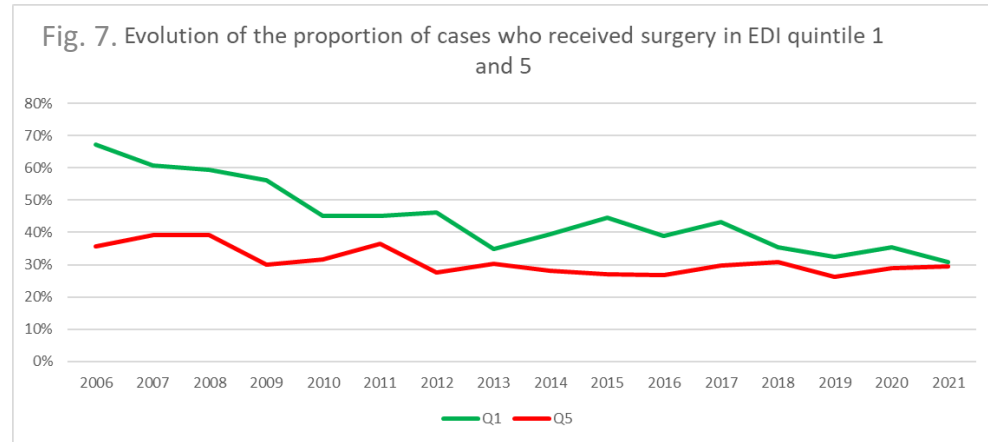
- Facilitation of access to healthcare among the most deprived ?
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DISCUSSION

Several possibilities :

- Facilitation of access to healthcare among the most deprived ?
- Relative overuse of surgery among the less deprived and associated risk of side effect ?
- Differences in types of treatment socially patterned ?





Thank you

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