

# Use case voor Mini-Hackathon

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## Doel van use case

- Klinische vraag beantwoorden op basis van gegevens uit samengebrachte medicatievoorschriften
- Hoe vaak komt hormonale uitval voor bij gebruik van bepaalde medicijnen (PD-1/PD-L1 remmers) die gebruikt worden bij behandeling van kanker?

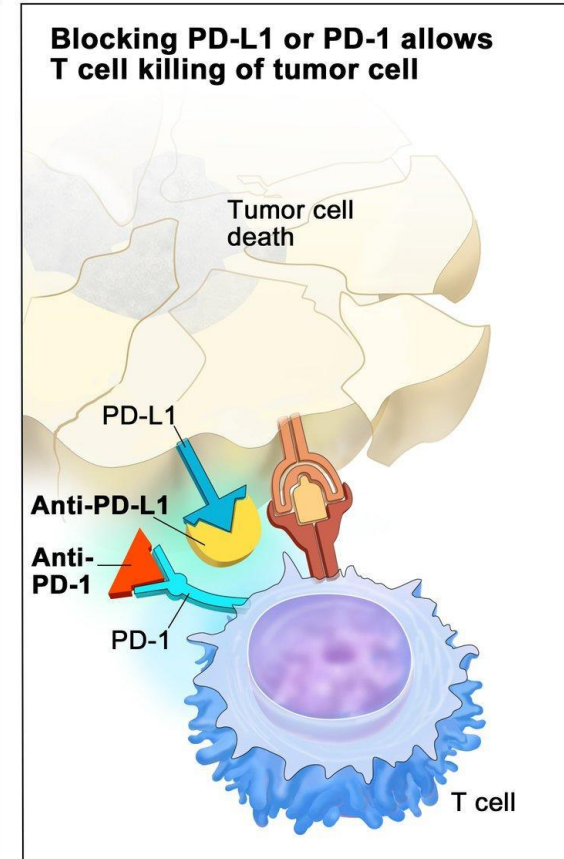
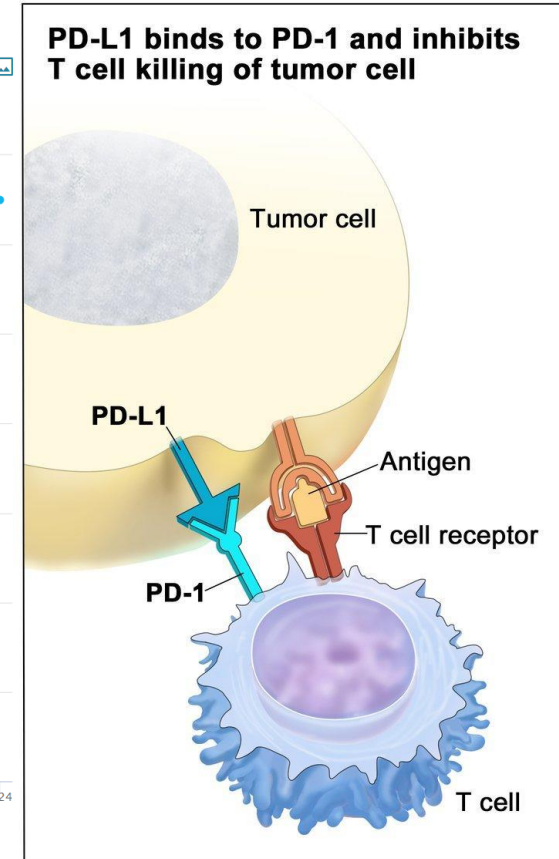
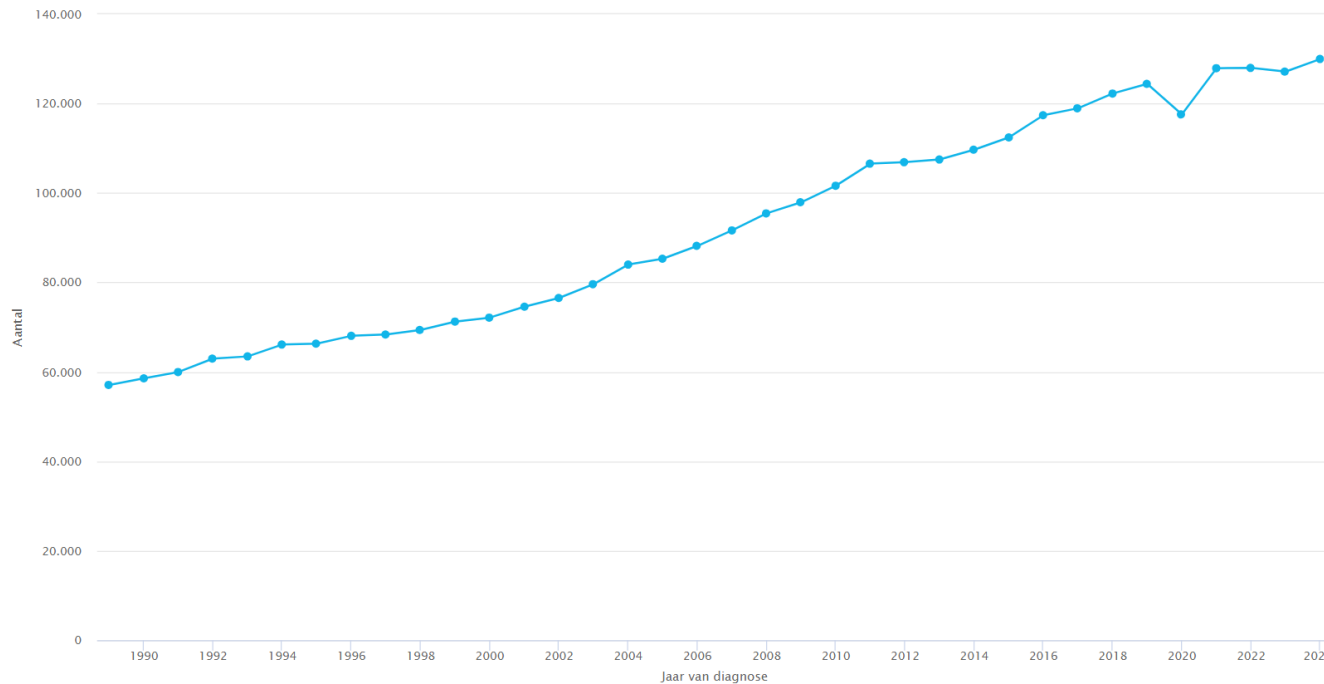


# Checkpointremmers

## Incidentie per jaar, Aantal

Alle kankersoorten

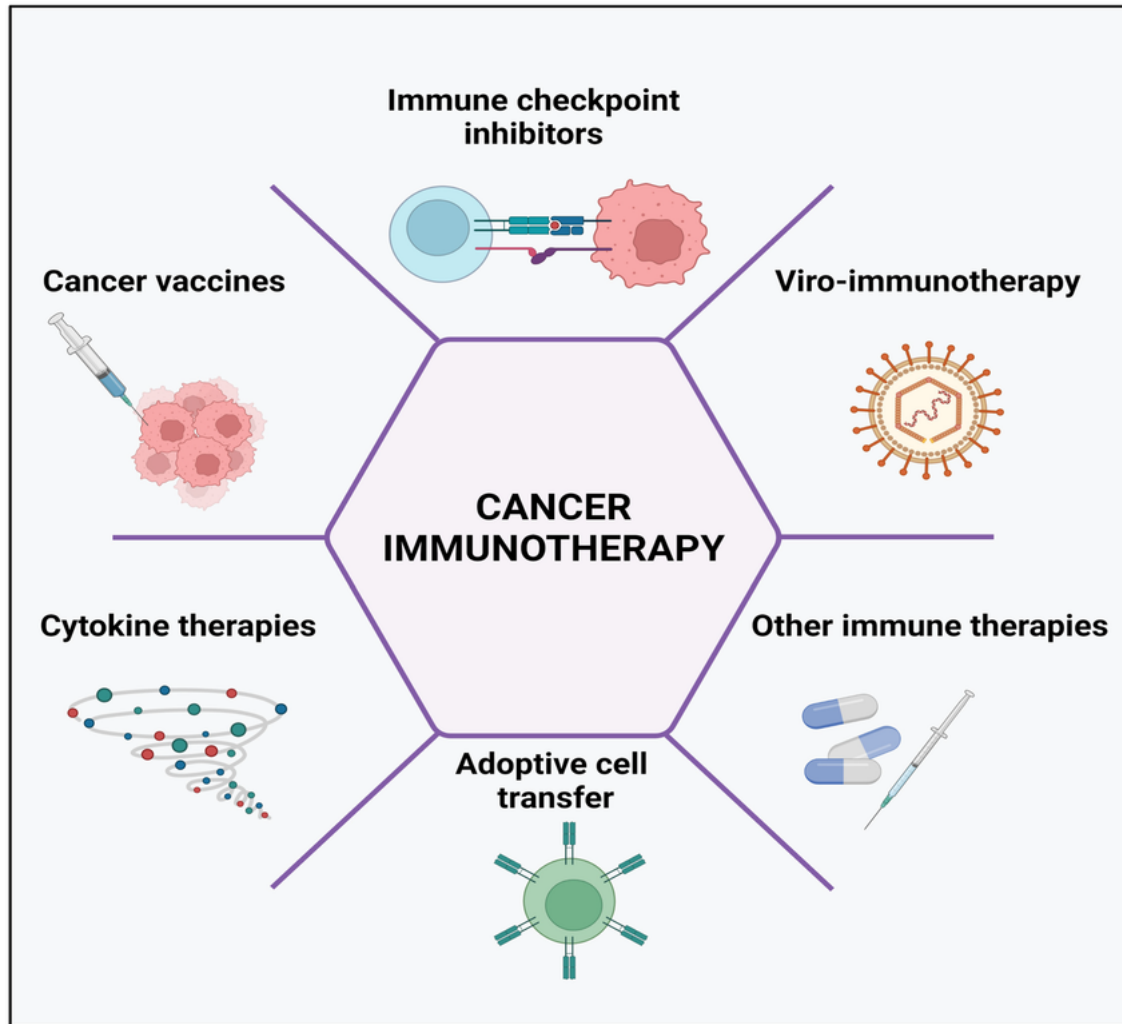
Geslacht: Man en vrouw | Leeftijdsgroep: Totaal | Regio: Nederland | Stadium: Totaal



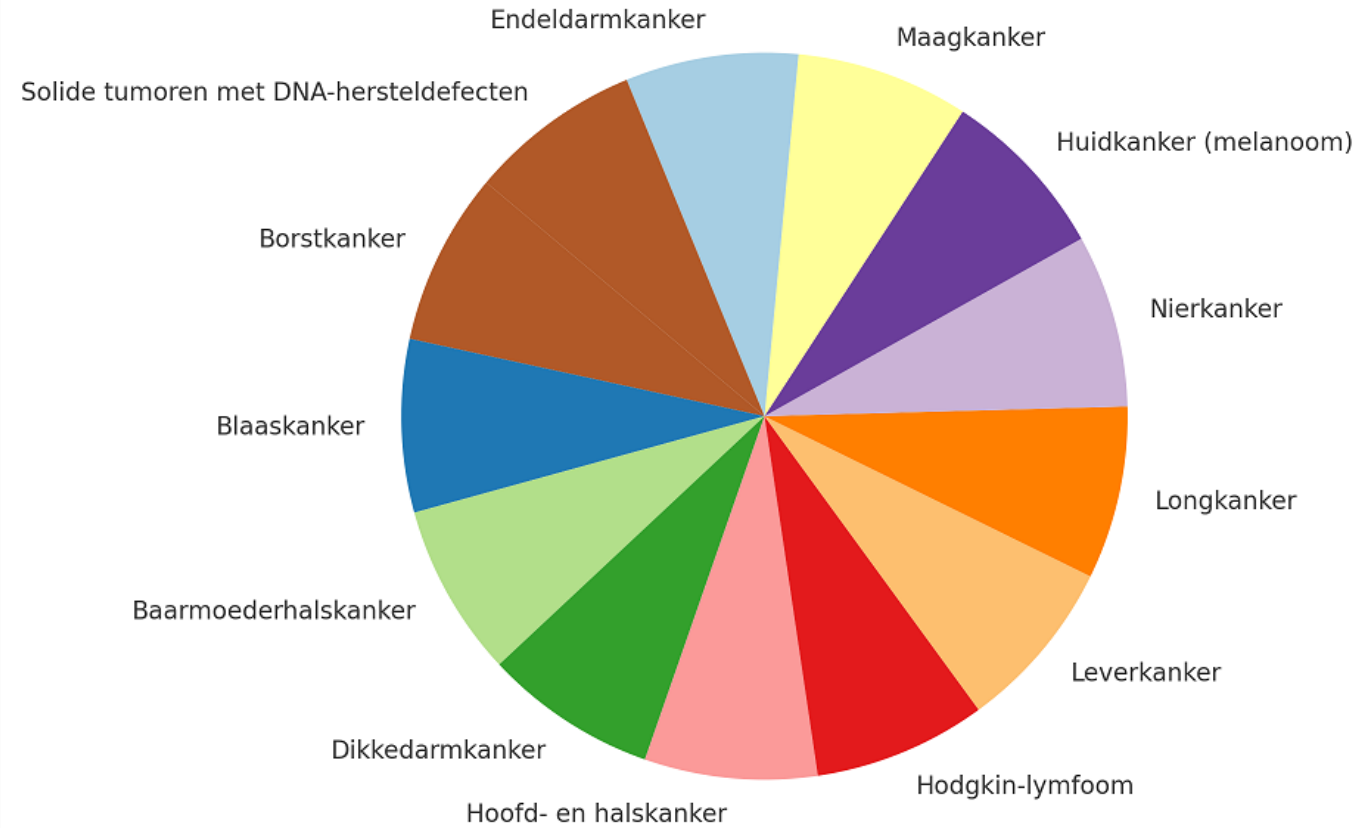
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NKR cijfers. (z.d.-b). <https://iknl.nl/nkr/nkr-cijfers>

Immune checkpoint inhibitors. (2022, 7 april). Cancer.gov. <https://www.cancer.gov/about-cancer/treatment/types/immunotherapy/checkpoint-inhibitors>

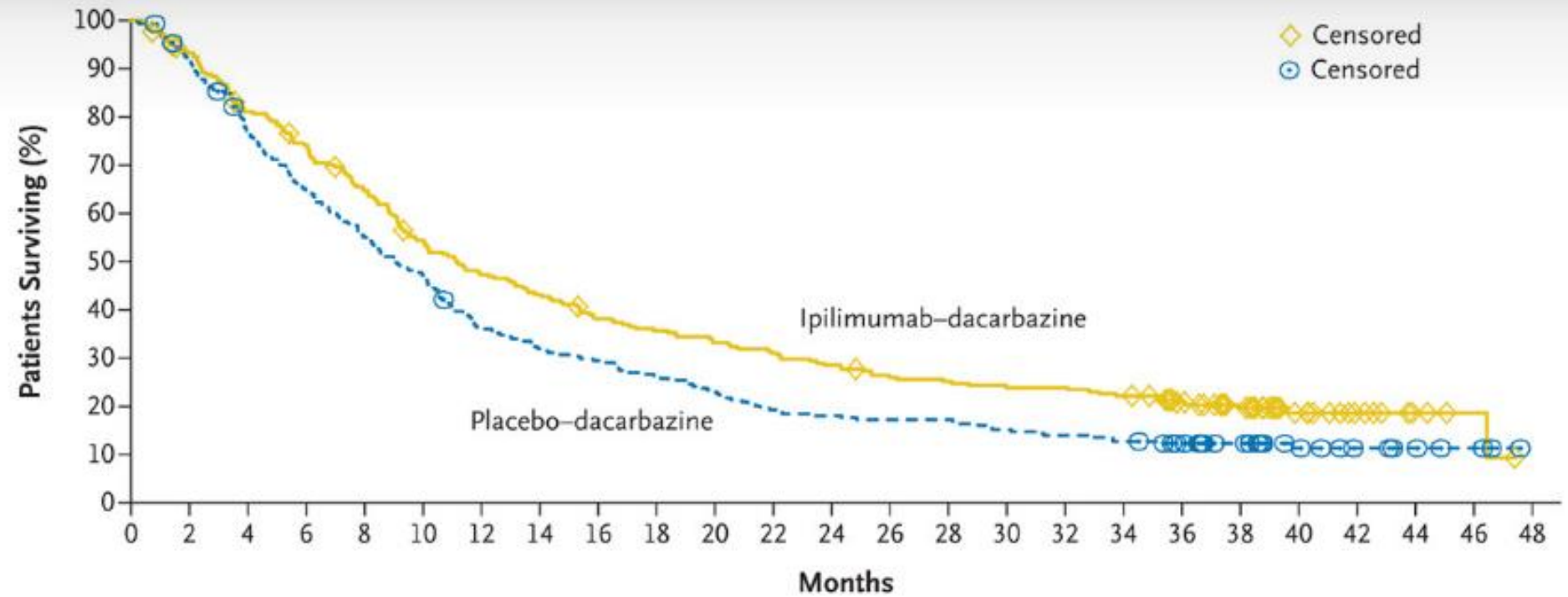


Kankersoorten behandeld met immune checkpoint inhibitors





A



**No. at Risk**

Ipilimumab-dacarbazine	250	230	199	181	157	131	114	104	91	85	79	74	68	61	59	56	56	52	41	31	17	10	4	2	0
Placebo-dacarbazine	252	229	190	160	136	116	89	78	72	64	56	47	44	42	42	37	34	31	26	19	11	7	5	3	0

**Table 1** Frequencies of treatment-related irAEs in selected cohortsFrom: [Adverse effects of immune-checkpoint inhibitors: epidemiology, management and surveillance](#)

Study details		Any-grade adverse events (grade ≥3 adverse events)							
Study	Dose (n)	Diarrhoea	Colitis	Pulmonary	Rash	Neurological	Endocrinopathy	Hepatic	Renal
<b><i>Ipilimumab</i></b>									
EORTC 18071 (ref. <sup>17</sup> )	10 mg/kg, 3-weekly (471)	41.2% (9.8%)	15.5% (8.2%)	–	34.2% (1.1%)	4.5% (1.9%)	37.8% (7.8%)	24.4% (10.9%)	–
Hodi et al. <sup>166</sup>	3 mg/kg, 3-weekly (131)	27.5% (4.6%)	7.6% (5.3%)	–	19.1% (0.8%)	–	7.6% (3.8%)	3.8% (0%)	–
<b><i>Nivolumab</i></b>									
CheckMate 066 (ref. <sup>21</sup> )	3 mg/kg, 2-weekly (206)	16% (1%)	1% (0.5%)	1.5% (0%)	15% (0.5%)	–	7.3% (1%)	3.4% (1.5%)	1.9% (0.5%)
CheckMate 057 (ref. <sup>167</sup> )	3 mg/kg, 2-weekly (287)	8% (1%)	1% (0.3%)	4.9% (1.4%)	9% (3.5%)	0.3% (0.3%) <sup>a</sup>	10.5% (0%)	10.8% (1.4%)	2% (0%)
<b><i>Pembrolizumab</i></b>									
KEYNOTE-010 (ref. <sup>146</sup> )	2 mg/kg, 3-weekly (339)	7% (1%)	1% (1%)	5% (2%)	9% (0.3%)	–	15% (1%)	0.3% (0.3%)	–
KEYNOTE-010 (ref. <sup>146</sup> )	10 mg/kg, 3-weekly (343)	6% (0%)	1% (0.3%)	4% (2%)	13% (0.3%)	–	16.5% (2%)	1% (0%)	–
KEYNOTE-054 (ref. <sup>99</sup> )	200 mg, 3-weekly (509)	19.1% (0.8%)	3.7% (2%)	4.7% <sup>b</sup> (0.8%)	16.1% (0.2%)	–	23.4% (1.8%)	1.8% (1.4%)	0.4% (0.4%)

# Bijwerkingen

- Behandeling positief in 15-20% van de patiënten (1)
- Meer dan 40% ontwikkelt bijwerkingen (2)

[1] Robert et al. (2011)

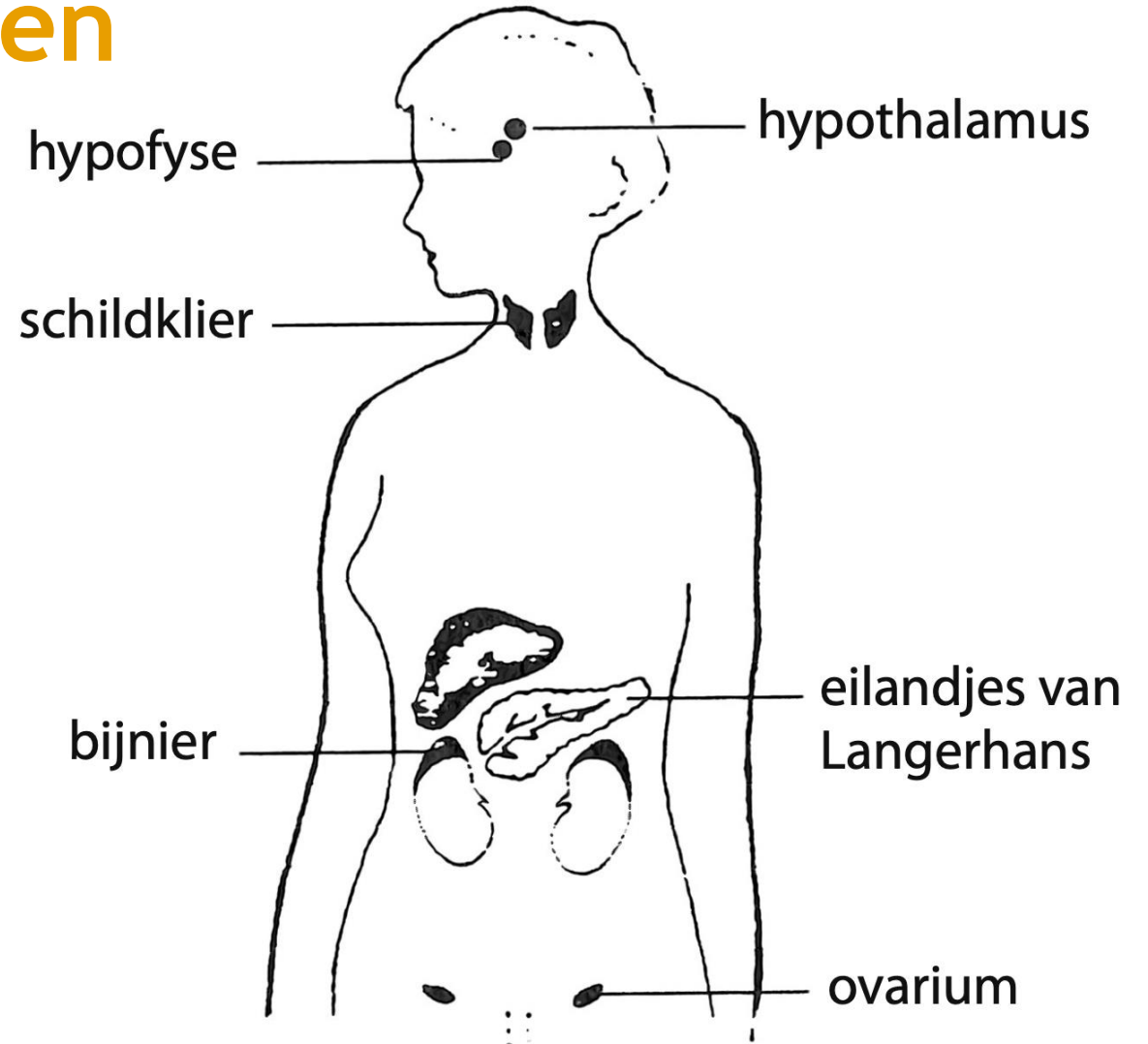
[2] Yin et al. (2023)





# Endocriene bijwerkingen

- Hypofyse
- Schildklier
- Bijnier
- Gonaden (geslachtsklier)
- Diabetes Type 1





# Vraagstelling op basis van hackathon gegevens

- Hoe vaak komt hormonale uitval voor bij gebruik van checkpointremmers die gebruikt worden bij behandeling van kanker?
- Incidentie van specifieke bijwerking
- Incidentie per checkpointremmer/medicijn en per categorie (PD-1, PD-L1 en CTLA-4)



