

The burden of serious fungal infections in the Netherlands



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Introduction:

Although the healthcare system in the Netherlands is advanced, the number of invasive (mucosal) fungal infections is unknown. By using numbers of patients at risk for fungal infections we have estimated the potential burden of serious fungal infections in the Netherlands.

Methods:

Population data and published papers from the Netherlands were extracted from the following websites:

www.cbs.nl (Centraalbureau voor de Statistiek)

www.nationaalkompas.nl

www.cijfersoverkanker.nl

www.ncfs.nl (Cystic Fibrosis Foundation)

www.hiv-monitoring.nl

www.transplantatiestichting.nl (National Transplant Registry)

www.peritonitis.nl

www.nivel.nl

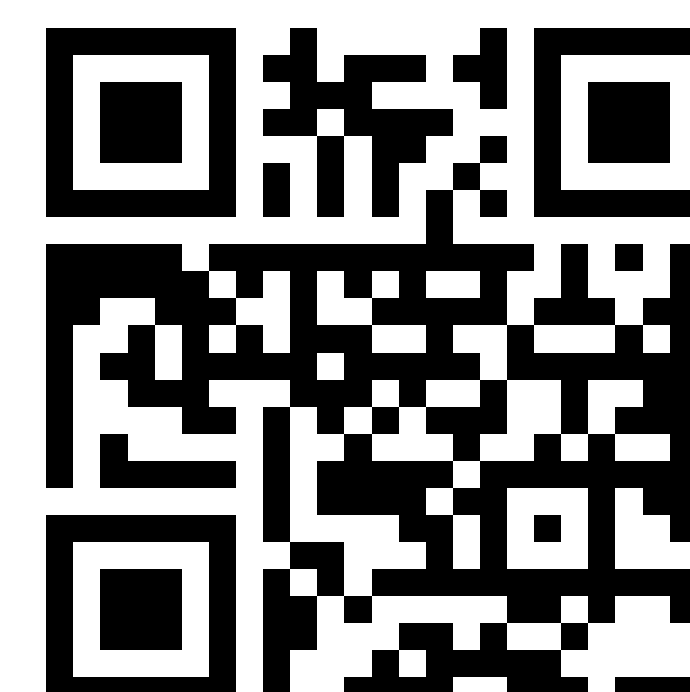
Results:

Amongst a population of 16.766M, 17.3% are children (0-14 years) and 21% of the population are ≥ 60 years old. **Recurrent vaginal thrush** (>4 times annually) affects 5% of women under 50, an estimated total of 219,588.

Of the 1073 cases of pulmonary TB in 2011, 96% HIV negative, 45 new cases of **chronic pulmonary aspergillosis** (CPA) cases are estimated, a 5-year period prevalence of 142 CPA cases, 25% of all cases (assuming 15% annual mortality). Asthma prevalence in adults is 7.2% (997,378 cases) although 2003 figures suggest 519,800. Assuming that 2.5% of the lower number have **ABPA**, 13,085 patients with ABPA are likely and 17,153 have **severe asthma with fungal sensitisation** (SAFS). Of the 16,555 estimated HIV positive patients, only 812 presented with AIDS in 2011 and none developed *Pneumocystis* pneumonia or cryptococcal meningitis. Estimating the annual incidence of *Pneumocystis* pneumonia or oesophageal candidosis in other patient groups was not possible.

The rate of **candidaemia** was estimated at 5/100,000 population consistent with 838 cases. *Candida* peritonitis is estimated at 50% of the ICU candidaemia rate, itself estimated to be 70% of all candidaemia. Among haematological/transplant and COPD patients, **invasive aspergillosis** is estimated at 336 and 240 respectively.

Infection	Number of infections per underlying disorder per year					Total burden	Rate /100K
	None	HIV/ AIDS	Respiratory	Cancer/Tx	ICU		
Oesophageal candidosis	-	1200	-	?	-	1200	7.2
Candidaemia	-	-	-	251	587	838	2.6
Candida peritonitis	-	-	-	-	235	235	0.9
Recurrent vaginal candidosis (> 4x/year)	219,588	-	-	-	-	219,588	2612
ABPA	-	-	13,085	-	-	13,085	78
SAFS	-	-	17,153	-	-	17,153	102
Invasive aspergillosis	-	-	-	336	241	577	3.4
Mucormycosis	-	-	-	34	-	34	0.2
Cryptococcal meningitis	-	0	-	-	-	0	0
Pneumocystis pneumonia	-	0	?	?	?	?	-
Total burden estimated	219,588	1200	30,808	2171	622	254,010	



Conclusion:

Serious fungal infections in the Netherlands occur in immunocompromised patients and those with underlying pulmonary diseases. Validation of estimates of numbers can be achieved with future surveillance studies.