

# Association between LTCF characteristics and incidence of infections

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## PURPOSE / OBJECTIVES

The Dutch SNIV network is an ongoing active sentinel surveillance network on infectious diseases in Long-Term Care Facilities (LTCF).

General LTCF characteristics (size, infrastructure, number of single rooms etc.) may affect the incidence of infections.

Our aim was to compare the incidence of infections in relation to the general LTCF characteristics.

## MATERIAL & METHODS

Elder-care physicians of participating LTCF report the weekly aggregated number of new cases of

- Gastroenteritis
- Influenza-like illness
- Low respiratory infections
- Urine tract infections

In addition, each LTCF was requested to complete an annual questionnaire on general characteristics of the LTCF.

## RESULTS

- 22 LTCFs participated for at least 4 consecutive years
- Median number of beds was 138 in 2015 and 139 in 2019
- Residents with single rooms increased from 67% to 83%
- Residents with private bathrooms increased from 8% to 22%
- The exchange of staff between wards remained the same
- LTCFs consulting an infection prevention specialist/practitioner increased from 0% in 2015 to 50% in 2019

LTCFs with fewer beds had a significantly higher incidence of urinary tract infections (UTI) ( $p=0.03$ ), for all other characteristics there was no significant association with the incidence.

	2015	2016	2017	2018	2019	Total						
Infections (N)	1451	1577	1660	1194	984	6866						
Client weeks	142928	161853	186659	140576	141394	773410						
Incidence UTI (Inc)/1000 Client weeks (CI 95%)	10.2 (9.6-10.7)	9.7 (9.3-10.2)	8.9 (8.5-9.3)	8.5 (8.0-9.0)	7.0 (6.5-7.4)	8.9 (8.7-9.1)						
Characteristics:	Inc UTI	LTCF N	Inc UTI	LTCF N	Inc UTI	LTCF N	Inc UTI	LTCF N	Inc UTI	LTCF N	Inc UTI	LTCF N
LTCF with no. beds < Median	13.9	6	13.0	11	12.0	11	11.5	11	8.1	10	11.5	49
LTCF with no. beds ≥ Median	7.4	6	9.0	11	8.5	11	7.2	11	7.1	11	7.8	50

## SUMMARY / CONCLUSION

Although general characteristics give insight into the developments in LTCFs practices and organization, it is difficult to associate them with incidence outcomes.

Client characteristics and process indicators may be more discriminating to interpret differences in incidence of infections between LTCFs.

## RESULTS

22 Unique LTCF	2015	2016	2017	2018	2019
Number of clients (N)	1539	2692	2527	2683	2518
Client-weeks (N)	142.928	161.853	186.659	140.576	141.394
Beds per LTCF (median) (range)	138 (40-199)	143 (31-185)	131 (28-200)	140 (31-210)	139 (31-210)
Characteristics LTCF	%	%	%	%	%
Private rooms (≥75% clients)	67	82	81	84	83
Private bathroom (≥50% clients)	25	36	48	47	50
Antibiotics committee	100	68	81	89	84
Antibiotic formulary	100	91	90	100	100
Infection prevention committee	90	91	86	90	94
Infection prevention Expert	0	32	48	47	50
Infection prevention nurses	NA	89	89	84	83
Exchange between departments	45	41	55	53	50
Service clothing	0	32	48	47	50
ILI Vaccination campaign	42	41	41	NA	NA