EFFECTIVE INFECTION PREVENTION MEASURES IN LONG-TERM CARE FACILITIES IN SWITZERLAND

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Agenda

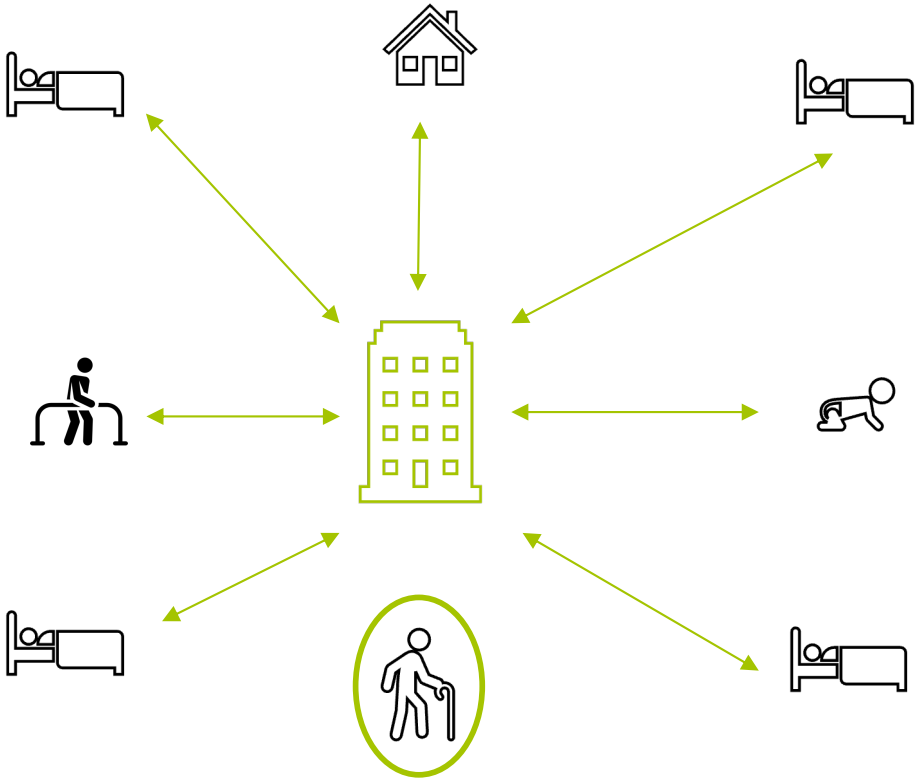
1. Introduction
2. LTCF in Switzerland
3. NOSO Strategy
4. Systematic Review
5. OSKAR
6. PPS
7. Conclusion

Introduction


Denmark
United Kingdom
Ireland
Belarus
Poland
Germany
Ukraine
Austria
France
Romania
Italy
Spain
Greece
Türkiye
Portugal
Tunisia
Syri

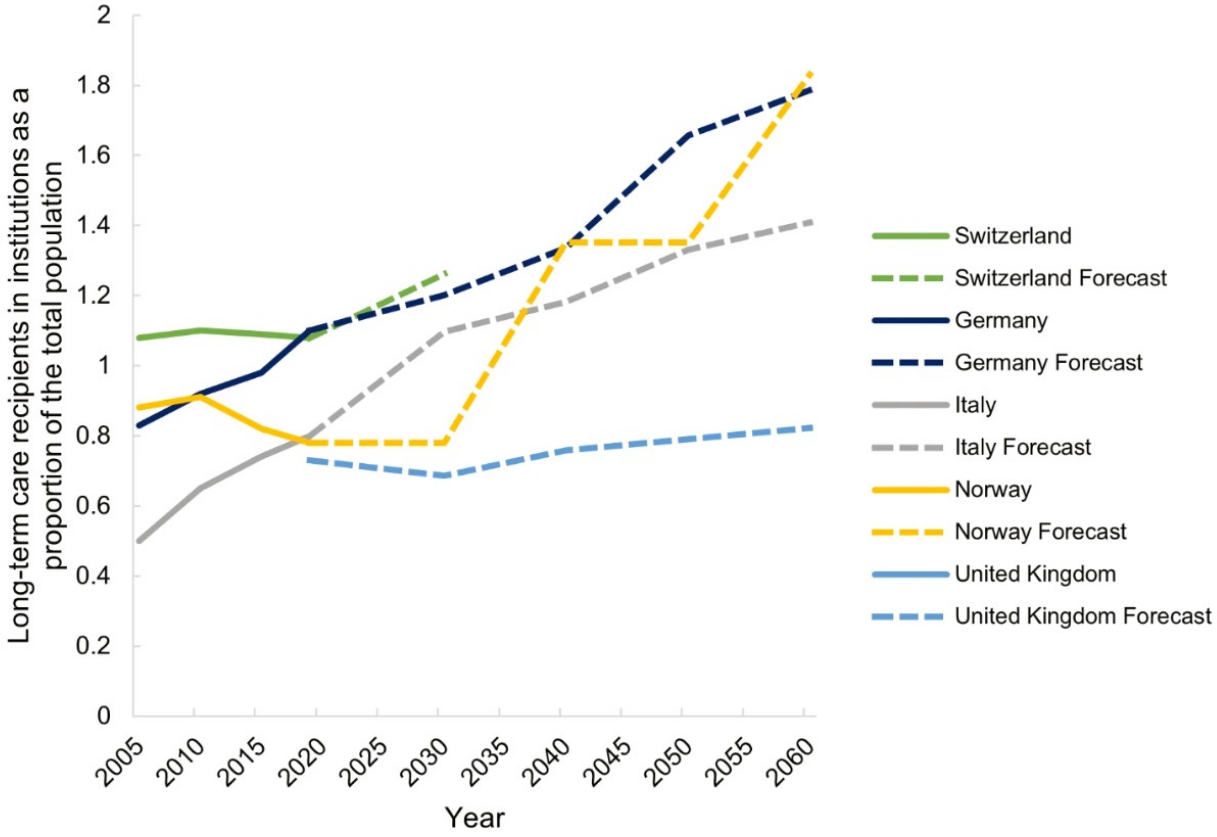

Mulhouse
Singen
Kempten
Schaffhausen
Konstanz
Vesoul
Belfort
Basel
Füssen
Winterthur
Bregenz
Baden
St Gallen
Oberstdorf
Aarau
Zürich
Olten
Besançon
Imst
Liechtenstein
Parc naturel régional Chasseral
Zug
Dole
Lucerne
Inn
Neuchâtel
Bern
Pontarlier
Chur
Fribourg
Davos
Yverdon-les-Bains
Thun
Interlaken
Lons-le-Saunier
Naturpark Beverin
Parc Ela
Parc naturel régional Jura vaudois
Lausanne
St Moritz
Parco Nazionale dello Stelvio
Montreux
Oyonnax
Sion
Parco Naturale Adamello Brenta Geoparco
Geneva
Bellinzona
Locarno
Sondrio
Martigny
Cluses
Matterhorn
Lugano
Parco regionale delle Orobie Bergamasche
Annecy
Mont-Blanc
Riva del Garda
Varese
Como
A36
E23
E25
E27
E62
A39
A410
A40
A41
6

Our network



Long-Term Care facilities in Switzerland

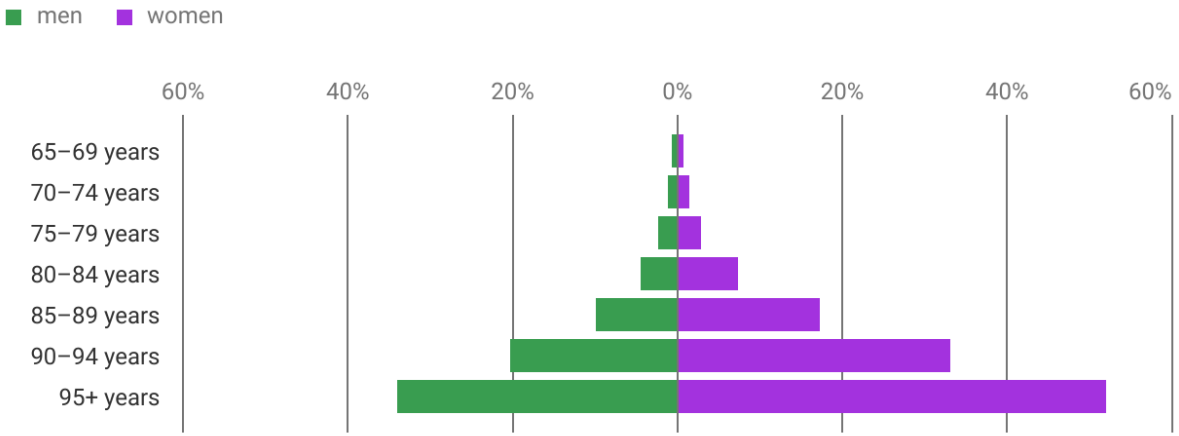
Proportion of residents in LTCF



Demographic data

Persons living in a nursing home, 2022

Rate by age group as at 31.12



Data as on: 31.01.2024
Source: FSO – Statistics on Medico-Social Institutions (SOMED), Population and Household Statistics (STATPOP)

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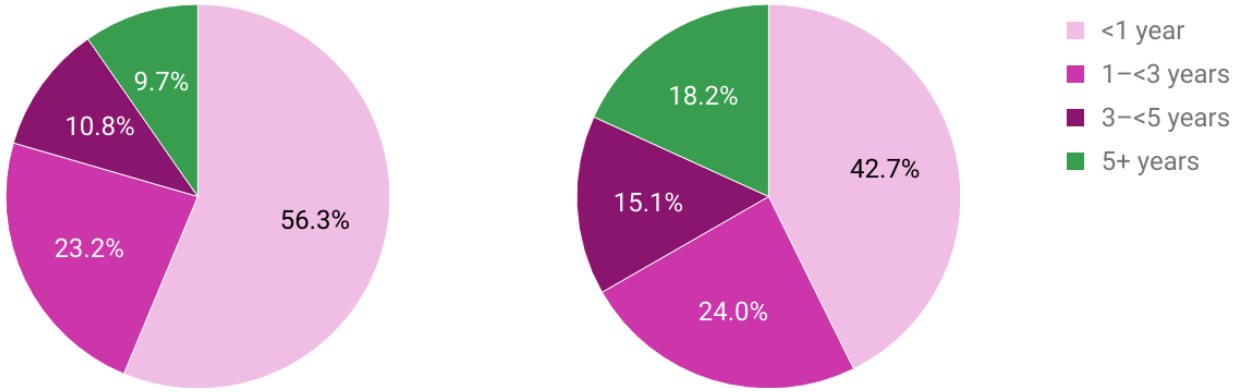
Length of stay

Length of stay in nursing homes, 2022

Persons discharged from nursing homes, 2022



Men
Total: 13 810

Women
Total: 23 610

Data as on: 31.01.2024
Source: FSO – Statistics on Medico-Social Institutions (SOMED)

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NOSO Strategy

National Strategy for the Monitoring, Prevention and Control of Healthcare-Associated Infections (NOSO Strategy)

NOSO Strategy

swissnoso

Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Federal Office of Public Health FOPH

Reducing the number of hospital and nursing home infections

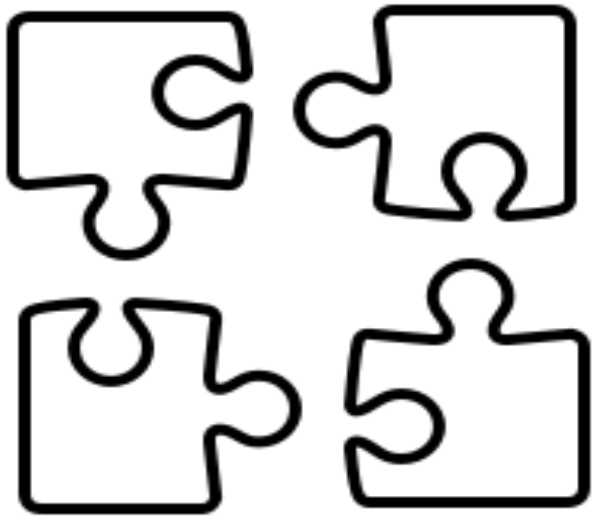
BUT

National system for monitoring the epidemiological situation and generally applicable
Evidence-based standards for preventing and combating HAIs

NOSO in nursing homes

NOSO Strategy

OSKAR pilot project



Effective measures in LTCFs

National point prevalence survey

Feasibility study on HAI prevalence

Feasibility study on HAI prevalence

Canton St.Gallen (SG) and Waadt (VD)

- HAI: Prevalence von Healthcare associated infections
- ANTIBIOTIC: Consumption
- RESISTENCE: Prevalence of multidrug-resistant Organism
  - ESBL, CPE, VRE?
  - Riskfactors?
  - ST131?

HAI PREVALENCE

Included residents: VD 586, SG 599

Overall 4.1% 3.9%

West 4.4%

P=0.82

East 4.0%

ANTIBIOTIC CONSUMPTION

Overall 2.9% 4.9%

West 3.9% *P=0.05* **East 1.8%**

23/586	TOTAL	11/599
3	Quinolones	3
9	Co-Amoxicillin	4
3	Macrolides	0
0	Co-Trimoxazole	4
3	Nitrofurantoin/Fosfomycin	0
5	Other	0

RESISTENCE-SCREENING

ESBL-Prevalence 11.2% (68/606) 18%

	West	East	
Gescreent	266	340	
ESBL-pos	13.6%	9.1%	*P=0.06*

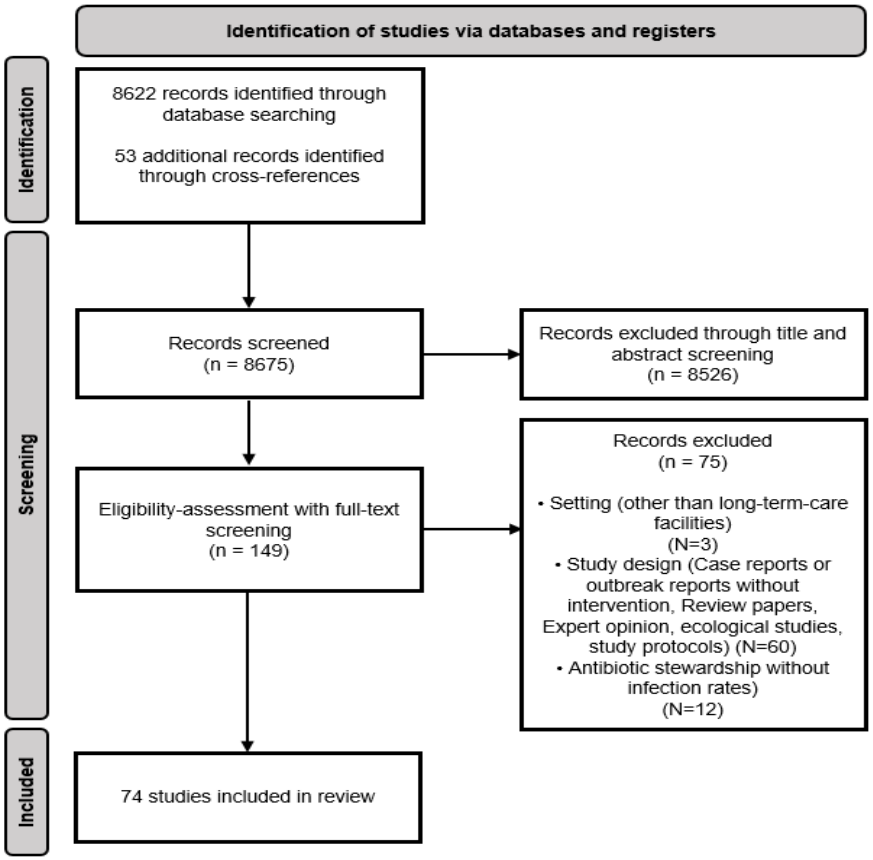
No CPE oder VRE

Effective measures in LTCFs

Which measures are effective in LTCF?

Systematic literature review

Results- Study characteristics



Results – Study quality

Randomised controlled trial

Author	Risk of bias arising from the randomization process	Risk of bias due to deviations from the intended interventions	Missing outcome data	Risk of bias in measurement of the outcome	Risk of bias in selection of the reported result	Overall quality assessment
Adachi et al. 2002 (36).	some	some	low	high	some	low
Yoneyama et al. 2002 (41)	low	low	low	some	low	medium
Mody et al. 2003 (15)	some	some	low	low	low	medium
Trick et al. 2004 (35)	low	low	low	low	low	high
Quagliarello et al. 2009 (40)	some	low	low	low	low	medium
Maruyama et al. 2010 (44)	low	low	low	low	low	high
Peterson et al. 2016 (28)	some	high	low	low	some	low
Koo et al. 2016 (30)	some	some	low	low	some	medium
Mody et al. 2015 (31)	low	low	low	low	low	high
Bellini et al. 2015 (29)	low	low	low	low	low	high
Baldwin et al. 2010 (16)	low	low	some	low	low	medium
Ho et al. 2012 (19)	low	some	low	high	low	low
Yeung et al. 2011 (25)	some	high	low	low	high	low
Nace et al. 2020 (13)	some	low	low	low	low	medium
Teesing et al. 2021 (23)	low	low	some	low	low	medium
McConeghy et al. 2017 (32)	some	some	low	low	some	medium
Mody et al. 2021 (33)	low	low	some	low	some	medium
Temime et al. 2018 (24)	some	some	low	some	low	medium

Results – Study quality

Randomised controlled trial

Author	Risk of bias arising from the	Risk of bias due to deviations from the	Missing outcome	Risk of bias in measurement of the	Risk of bias in selection of the	Overall quality
AYMTQMPKMBBHYNTM						
Mody et al. 2021 (33)	low	low	some	low	some	medium
Temime et al. 2018 (24)	some	some	low	some	low	medium

Cohort

Author	Selection	Comparability	Outcome	Overall quality assessment
Fendler et al. 2002(18)	4*	1*	3*	medium
Mody et al. 2003(21)	3*	1*	2*	medium
Ishikawa et al. 2008(37)	2*	0*	2*	low
Maeda and Akagi 2014(39)	4*	1*	2*	medium
Dominguez- Berjo´n et al. 2007(51)	3*	1*	2*	medium
Giddings et al. 2021(80)	3*	1*	2*	medium
Patel et al. 2020(75)	3*	0*	3*	low
Ben-David et al. 2019(34)	3*	0*	2*	low
Cabezas et al. 2021(42)	4*	0*	3*	low
Banks et al. 2021(26)	2*	0*	1*	low

Results – Study quality

Randomised controlled trial

Author	Risk of bias arising from the	Risk of bias due to deviations from the	Missing outcome	Risk of bias in measurement of the	Risk of bias in selection of the	Overall quality
Mody et al. 2021 (33)	low	low	some	low	some	medium
Temime et al. 2018 (24)	some	some	low	some	low	medium

Cohort

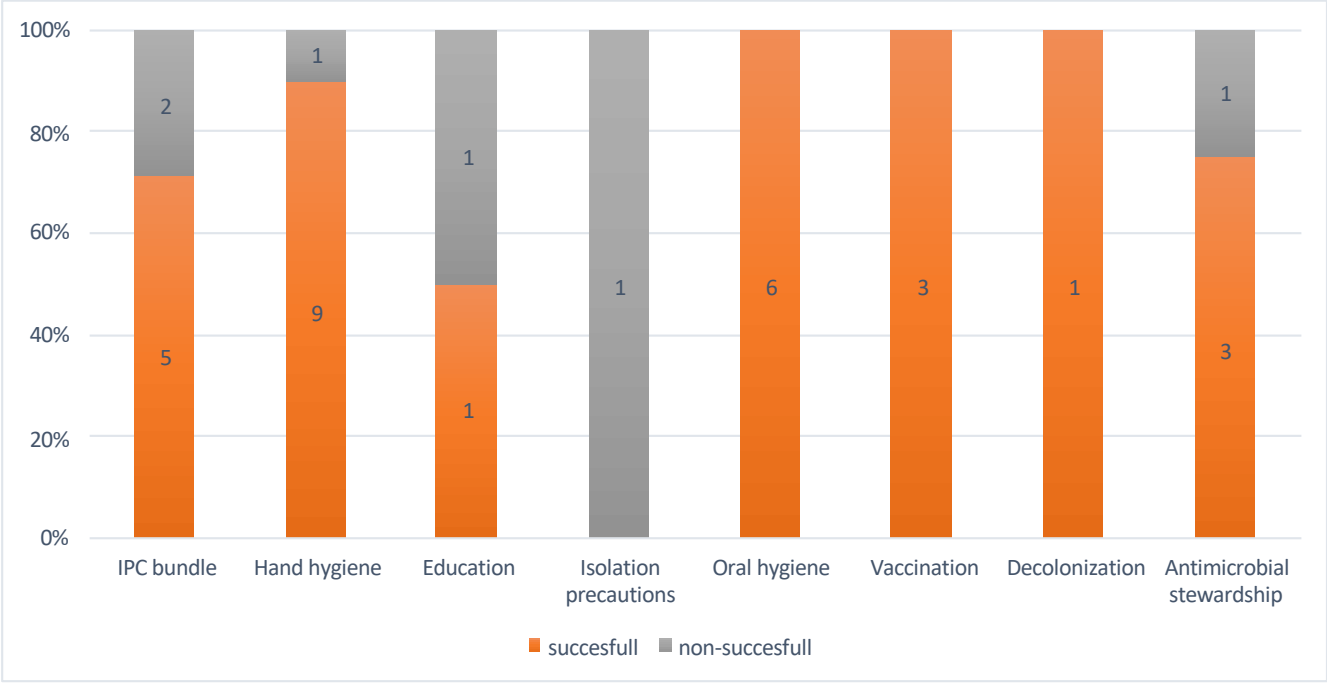
Author	Selection	Comparability	Outcome	Overall quality assessment
Fendler et al. 2002(18)	4*	1*	3*	medium

Case control

Author	Selection	Comparability	Exposure	Overall quality assessment
Dooling et al. 2013 (52)	4*	2*	2*	medium
Ahmed et al. 2018 (45)	2*	1*	3*	medium
Calles et al. 2017 (50)	2*	1*	3*	medium
Van Dort et al. 2007 (66)	3*	1*	3*	medium
Kanayama et al. 2016 (55)	3*	2*	0*	low
Van Esch et al. 2015 (67)	2*	1*	2*	low

Results – Type of intervention and setting

Non-outbreak setting, divided in successful and non-successful intervention by type of intervention



IPC bundle infection and prevention control bundle

Conclusion

- Good amount of data on IPC measures in the LTCF setting
  →interpretability and generalizability of these data remains difficult

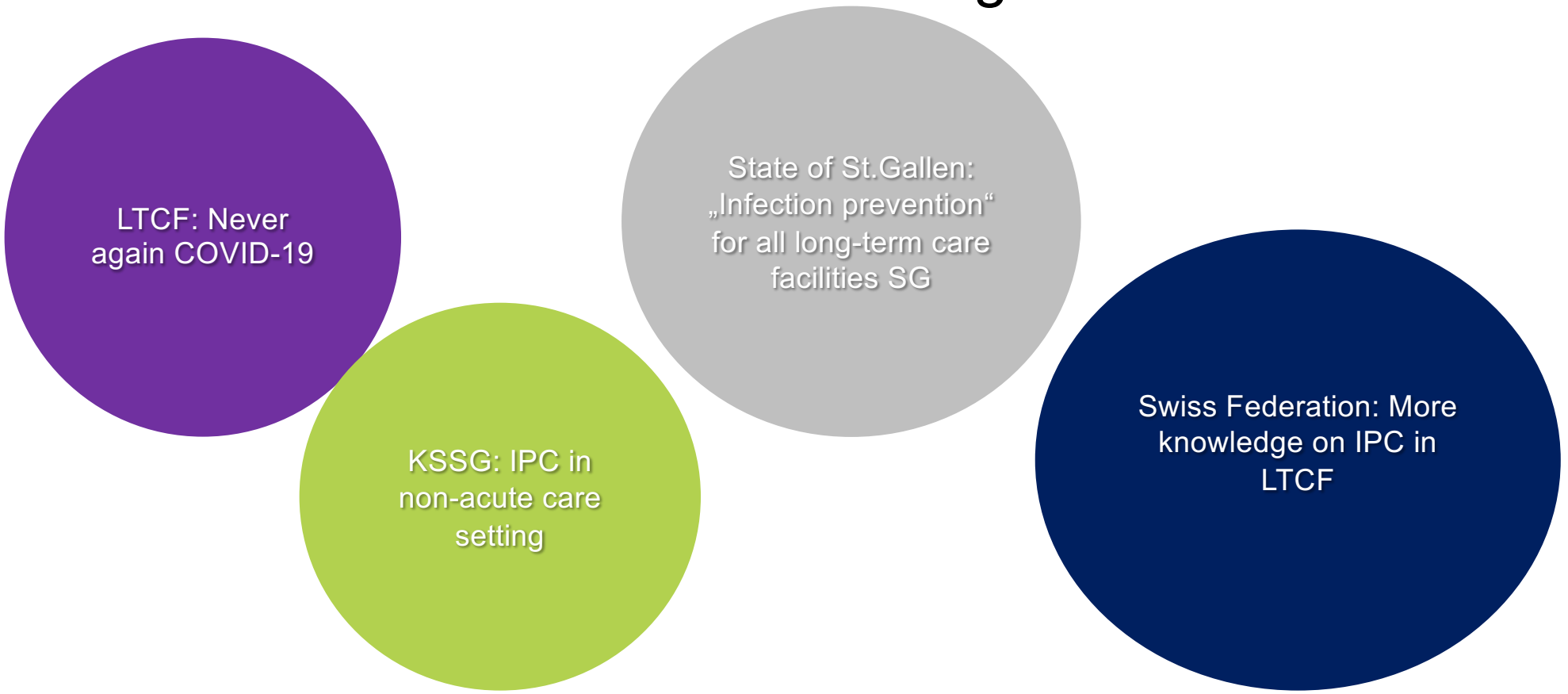
- Well executed studies on this topic are desperately needed
  - not only HAIs, but also other measures such as quality of life, which sometimes might be favored over restrictive measures for infection prevention
  - Data on the influence of IPC measures on quality of life in long-term-care facilities are scarce or non-existing

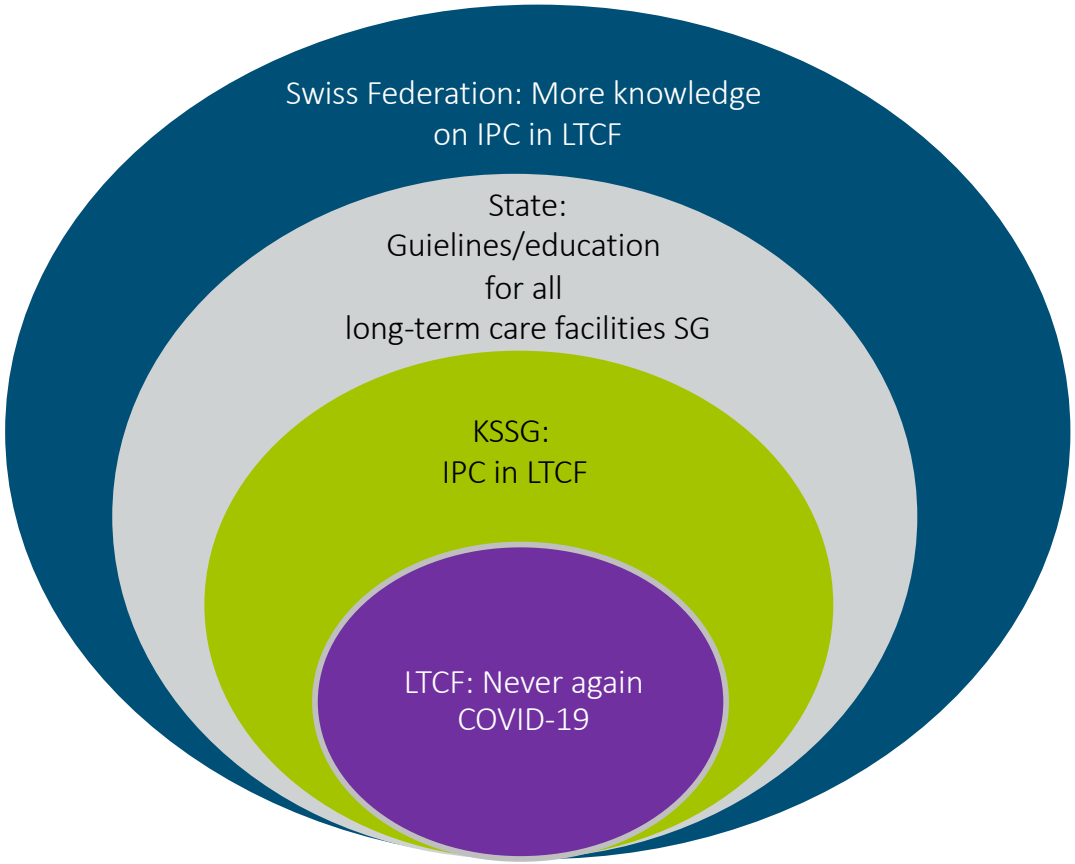
- In the meantime, using the available low-quality evidence and extrapolating infection prevention and control measures from acute to long-term care with some common sense seem to be useful approaches

OSKAR pilot project

Competence centre for infection prevention and control in longterm care facilities in Eastern Switzerland

What is OSKAR and how has it originated?





2022

OSKAR

Competence centre for Infection prevention and control in long-term care facilities in Eastern Switzerland

AIMS

- Every resident of LTCF is protected of Health-care associated infections (HAI) with maximum precervation of quality of life
- Health-care workers feel safe of infections and work resource-efficiently
- Gain of knowledge: How can infection prevention be built-up in LTCFs.

METHODS

- Creation of a network
- Preparation and planning
- Pilot project with a group of interested LTCFs from the Kanton St. Gallen

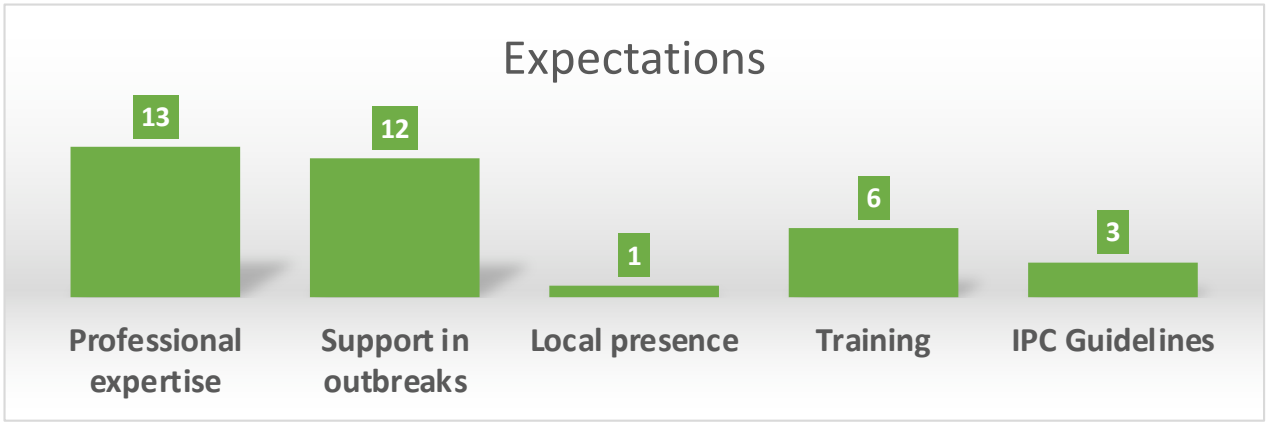
RESULTS

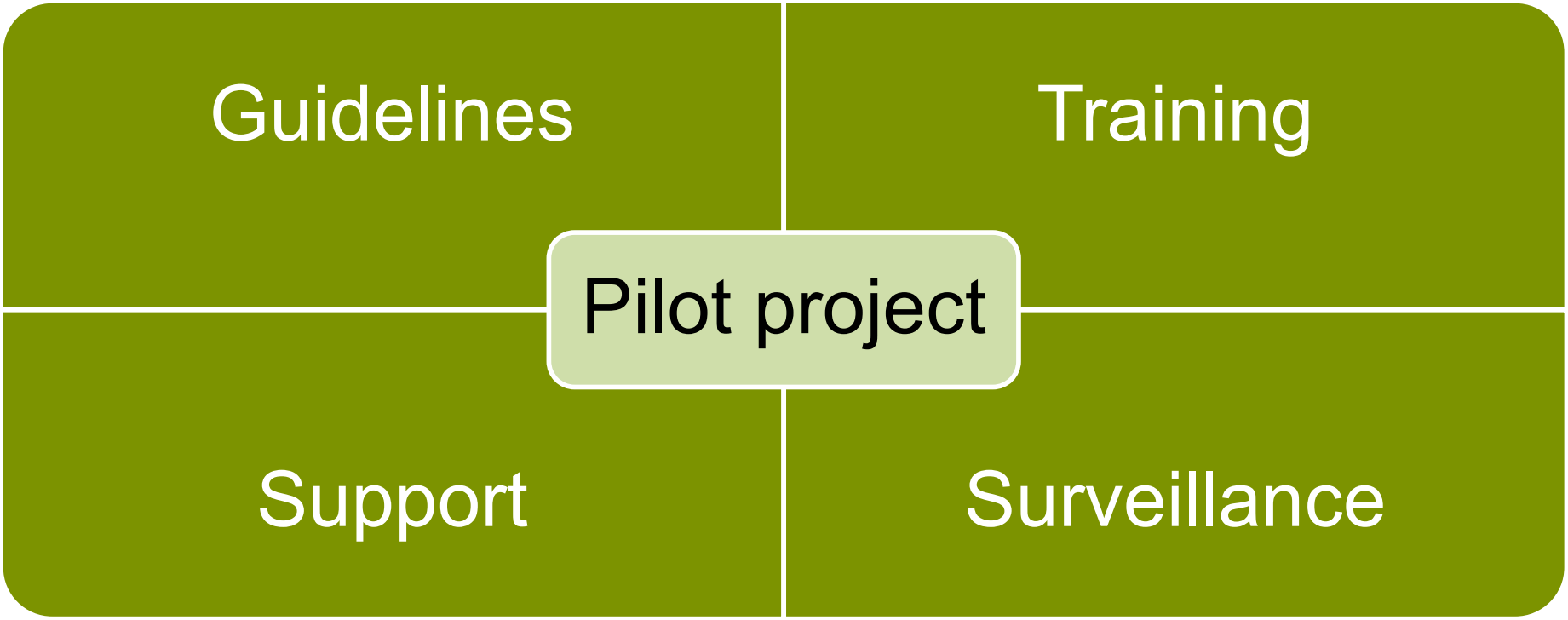
Systematic literature review

- good data sparse
  (Non-Outbreak-Setting: Hand hygiene, oral hygiene,
  Outbreak-Setting: intervention bundles)

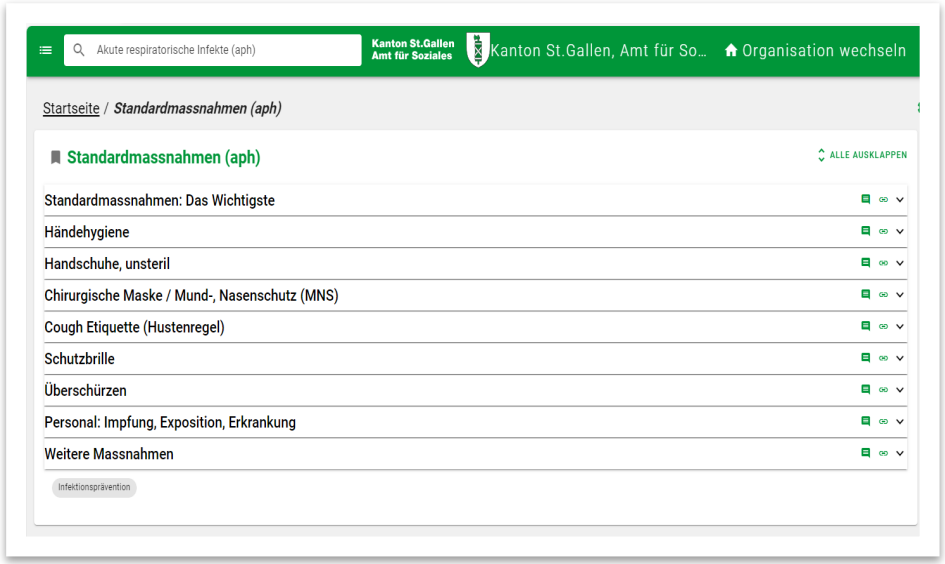
Pilot project

- Group of interested LTCFs Canton St. Gallen (7 Institutions, 920 residents 1214 employees)
  - Baseline: IPC little/heterogeneous developed




Guidelines
Training
Pilot project
Support
Surveillance

GUIDELINES



- Standard hygiene measures
- Acute respiratory tract infections
- Hand hygiene
- Measures in contact transmission diseases
- Norovirus
- …

Approx. 500 visits/month

TRAINING

- 2/year with IPC subjects, mini-curriculum over 3 years
- Teach-the teacher: Training of Link-Nurses
- Training documents (presentations, short clips): simple wording, real-life examples for different occupational groups

SUPPORT

- Free direct support via telephone or email

SURVEILLANCE

- Outbreaks of acute respiratory infections
  → Season 22/23: 5 outbreaks with different viruses (49 residents, 12 HCW)

  → Season 23/24: no outbreaks

- Multi drug resistant organisms (MDRO)
  → sporadic cases

  - Reporting bias
  - Participation upgradable

AFTER 1 YEAR

Structure

- Only a minority had a link-nurse (same as before)
- Hand hygiene audits still in 5/7 institution
- Hygiene commision only in half of the institutions (same as before)

Surveillance

- Surveillance of HAI or MDRO non-existent (same as before)

Guidelines

- Every institution had guidelines

CONCLUSION

- Interprofessional, interdisciplinary cooperation highly appreciated ✓
- Training ✓
- Guidelines ✓
- Direct support in IPC questions ✓
- Surveillance (✓)
- Structure:
  - IPC-comission/Link-Nurse (--)
  - When structure was available (Link-Nurse with defined workload, function)→ cooperation and IPC better

CONCLUSION

- Every resident and employee of LTCFs is optimally protected of HAI with maximum preservation of quality of life.
  - → No surveillance of HAI
  - → Reduction of outbreaks with resp. viruses (Schulungen/Guidelines/einheitliche Massnahmen), Cave: Reporting Bias, Epidemiology → Surveillance is challenging (necessary?)
  - → Support/Training/Guidelines are used and appreciated
  - → Implementation (Training of HCW, Implementation of IPC-measures/Guidelines)→ Evaluation/audits necessary

National point prevalence survey

SPOT

National point-prevalence study on healthcare-associated infections and antibiotic consumption in Swiss long-term care facilities

Background

- Surveillance of healthcare-associated infections (and antibiotic consumption) inexistent in most longterm-care facilities
  - Essential to estimate the burden of disease and to inform health professions on the nedd for infections control and antibiotic stewardship interventions

- First national point-prevalence study (PPS) on HAI and antibiotic consumption in residents of Swiss LTCFs.

Methods

- State-Authorities invited all Swiss LTCFs to participate in this PPS
- ECDC HALT-4 protocol
- Conducted in September 2024
- Proportion of residents with HAI and antibiotic use was calculated by Swiss language region

Results

- Results available next year

CONCLUSION

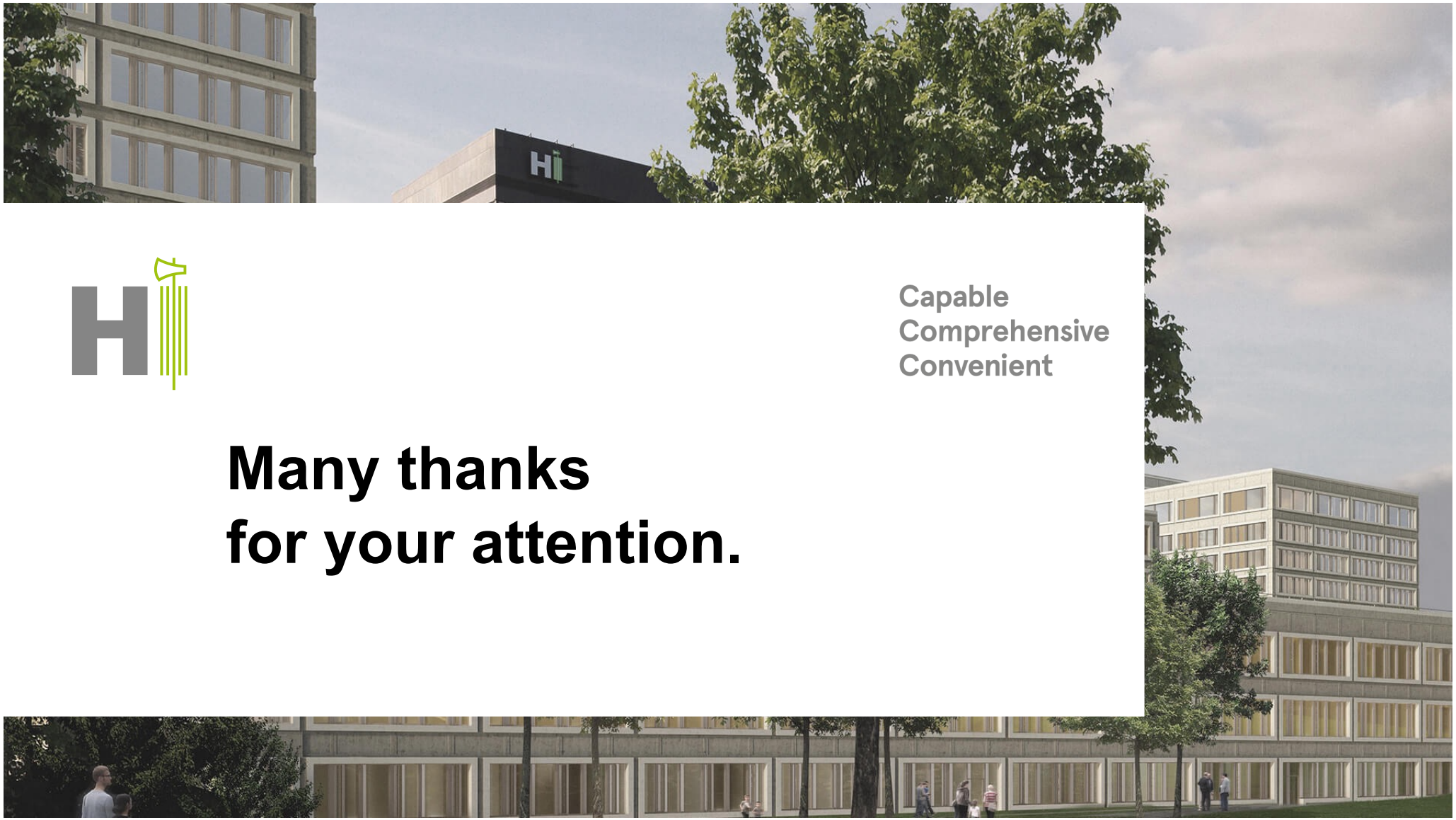
Conclusion

- Infection prevention and control in (Swiss) longterm-care facilities potentially expandable
  - Structural requirements
  - Binding guidelines
  - Training

  - Evidence of single effective measurements are scarce
    - Standard measures probably most important
    - More quality data are desperately needed

- Do we need a classic infection prevention and control? Or maybe more diagnostic/antibiotic stewardship?
- Quality of life sometimes more important than oppressive isolation measures

Do you have any questions?



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