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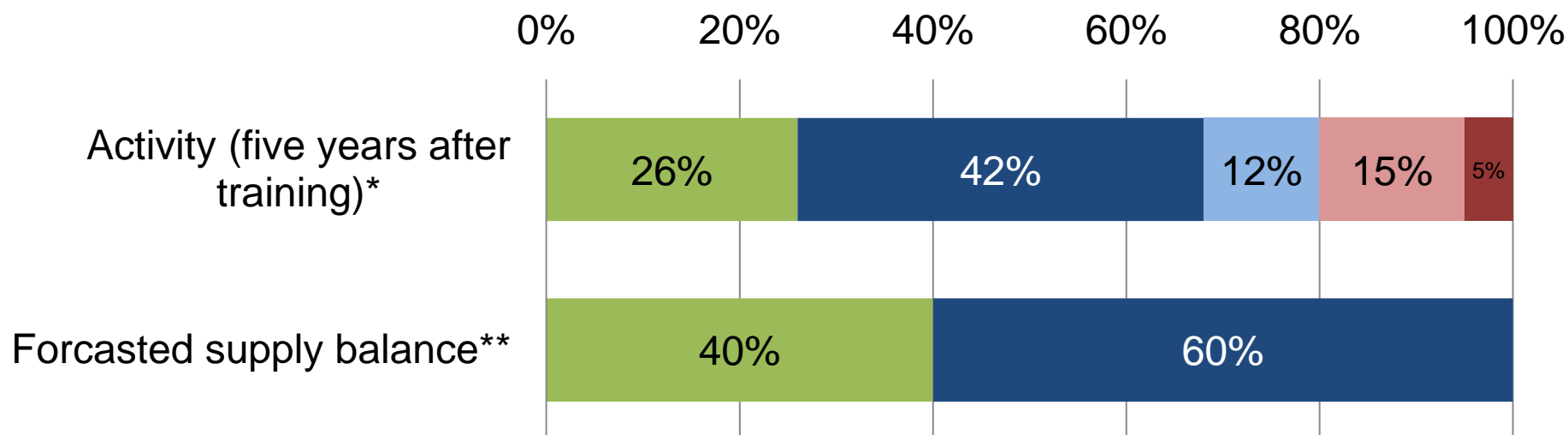
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DOES IT MATTER WHERE THEY TRAIN? HEALTHCARE ASSISTANT'S TRANSITION INTO HIGHER EDUCATION

Miriam Grønning, Damiano Pregaldini, Ines Trede & Irene Kriesi
Swiss Federal Institute for Vocational Education and Training

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Background I



- Employed healthcare assistants
- Employed with tertiary-level healthcare training
- In training within healthcare
- Changed sector (employed/in training)
- Other (neither employed nor in training)

*Source: Trede et. al., 2017

**Source: Dolder & Grünig, 2016

Background II

1. Limited Research on the transition between upper secondary VET and tertiary VET
 - Importance of individual characteristics (CH: Buchmann et. al., 2007; Schmid & Gonon, 2016; D: Hillmert & Kröhnert, 2003; Trautwein et. al., 2008)
 2. Training firm characteristics impact skill development and labour market entry (Kalleberg, 2003; Menze, 2017; Mohrenweiser & Zwick, 2015; Büchel & Neubäumer, 2001)
- Transitions might be affected by training firm characteristics

Research Question

How do **training firm characteristics** in the healthcare sector affect apprentices' decision to enroll in a **tertiary-level education**?

Theoretical Strands

Career decisions after IVET

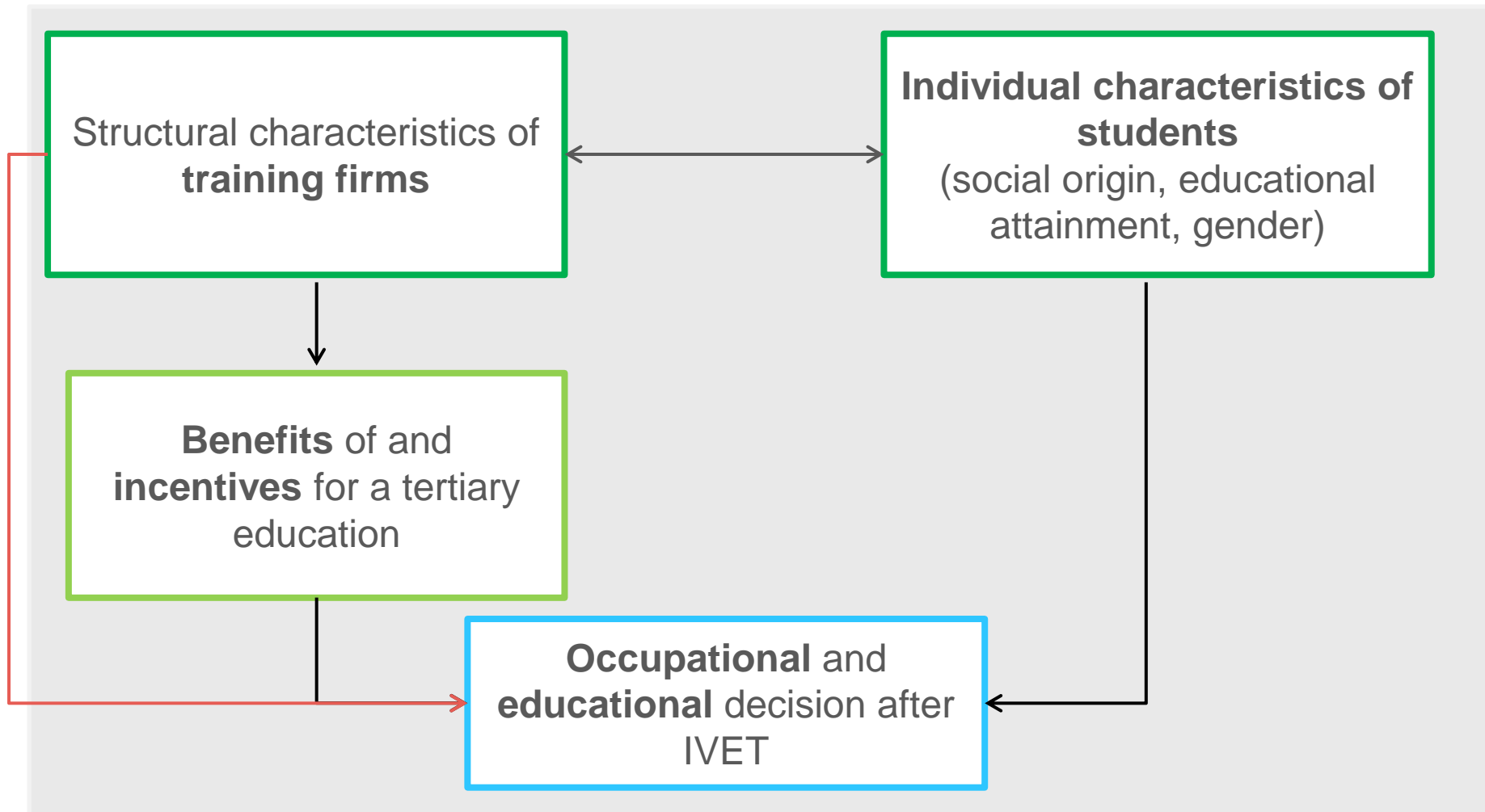
Institutional perspective (training firm)

1. *Segmentation of labour market*: structural differences of firms (financial and technical resources, qualification level of the staff) impact working conditions (Sengenberger, 1987; Kalleberg, 2003).
 - Work satisfaction (Aiken et al., 2011)
 - Individual opportunities for advancement/further education (Preisendörfer, 1987; Tolbert et al., 1980)



Individual perspective

1. *Human Capital theory*: lower returns of education for women and for people with lower social / financial resources causes lower participation in education (Becker 1982)
2. *Rational Choice Theory*: Cost and benefits of education are different according to gender and class position (Boudon 1974)

Theoretical Model



Focus: Healthcare sector

- Healthcare assistant: 3rd most frequently chosen (upper-secondary level) training occupation in Switzerland
 - Segmentation:
 -  acute care institutions (hospitals)
 -  long-term care institutions (nursing homes)
- The two segments differ in terms of structural characteristics (Stevens, 2001; Jaccard et al., 2009)
- Qualification level of the staff
 - Possible career paths
 - Financial and technical resources
 - Satisfaction with training

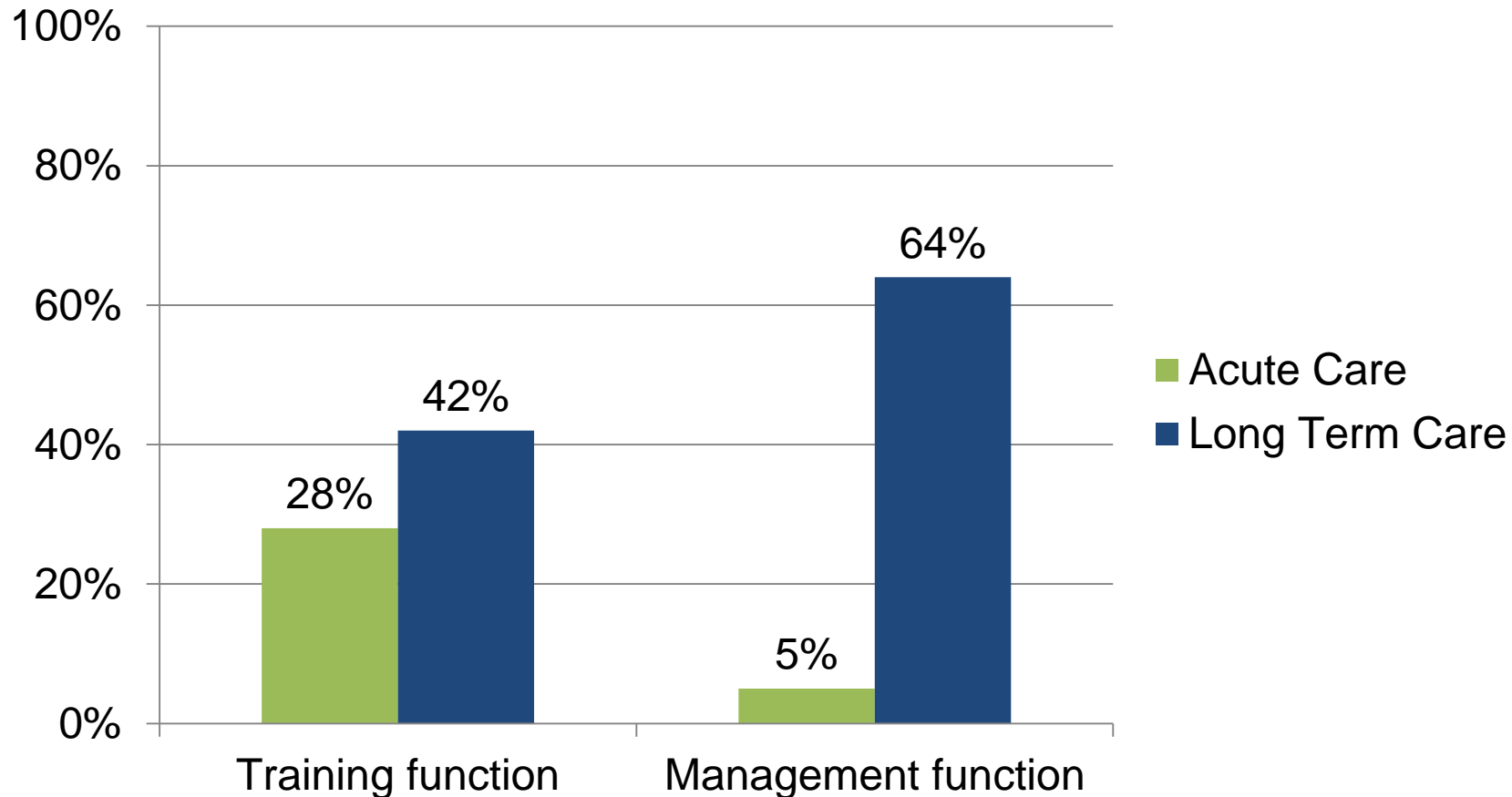
Working conditions during training



Healthcare Assistants' working conditions in their last year of training

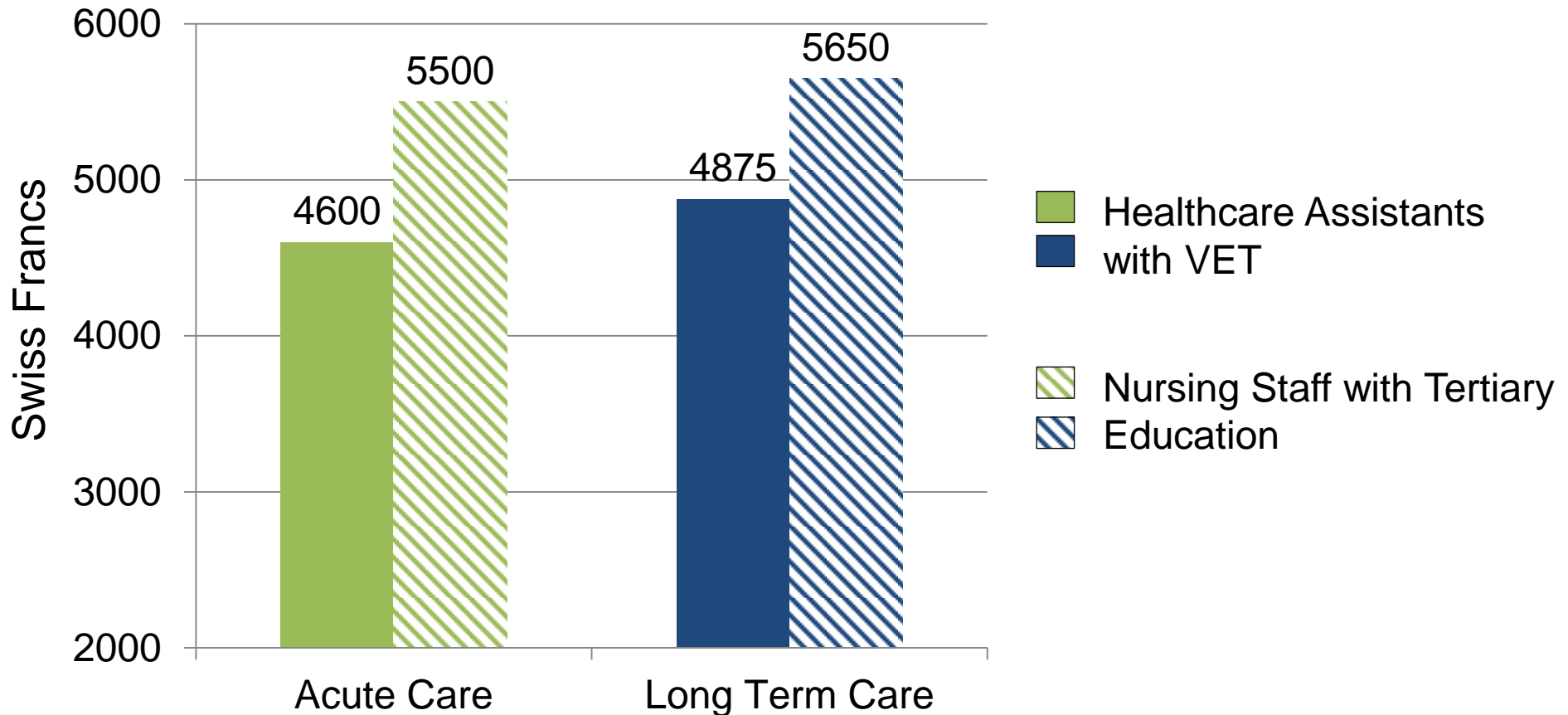
N = 1 325; Scale: 1 = Not at all agree, 6 = Fully agree; Source: Trede & Schweri 2012

Responsibilities of employed healthcare assistants





Responsibilities of healthcare assistants with VET in acute and longterm care five years after training
N = 144; Source: Trede, et al., 2017

Salaries in acute and long term care



Salaries of healthcare assistants with a VET degree and nursing staff with a higher education degree in acute and longterm care five years after training. N = 411; Source: Trede, et al., 2017

Overview - Healthcare sector

Structural Characteristics		
Financial resources, technology	+	-
Educational level of the staff	+	-
Career possibilities	+	-
Demand for tertiary qualified nurses	+	-
Hierarchical structure of positions	+	-
Responsibilities as a healthcare assistant	-	+
Wage as a healthcare assistant	-	+
Wage difference between secondary and tertiary education	+	-

Structural influences on individual decisions

- Working and training conditions offered by hospitals lead to
 - Higher satisfaction and less stress during training
 - more possibilities for career advancement, more responsibilities and higher salary gains with tertiary level training (i.e. higher benefits of tertiary education)
- As a result, incentives and motivation for transition into higher education will be higher in **hospitals** compared to **nursing homes**

Hypothesis

Young people who trained in hospitals enter tertiary education more often than young people who trained in nursing homes



Data



- **Longitudinal survey**
 - Population: Healthcare assistant apprentices who completed their 3 years training in 2011 (only regular apprenticeship)
 - 2010: one year before completion of apprenticeship training (n=2089)
 - 2012: one year after completion (n=1043)
 - 2016: five year after completion (n=920)
- Allows observing **transition into tertiary education**
 - *Short-term*: within **one year** after completion of the apprenticeship
 - *Medium term*: within **five years** after completion of the apprenticeship
- **Sample restrictions**
 - Age: 15-18 at start of VET
 - Training in acute (n = 416) or long-term care (n= 443)

Identification and Methods

- Assignment of apprentices to training firms is **non-random**
 - Possible **selection bias**
 - Logistische Regression und Matching
- **Propensity score matching [PSM]**
 - Compare outcomes of treated individuals with outcomes of similar individuals in the pool of non-treated
 - **Treatment** = training in acute care institutions (hospitals)
 - **Controls, non-treated** = training in long term institutions (nursing homes)
 - Similarity based on the **propensity of score** = probability of training in a acute care institutions given observable characteristics

Selection into treatment?

		
Age	16.4	16.7*
Born in CH	93%	91%
Female	94%	94%
Romandie	7%	13%*
Compulsory school type		
Lower level ("Realschule")	22%	36%*
Middle level ("Sekundarschule")	70%	58%*
Higher level ("Gymnasium")	7%	5%
Gap Year (Schooling)	17%	28%*
Gap Year (Internship)	13%	25%*
Number of books at home (more than 5 shelves)	30%	29%

		
Parents' education level		
Compulsory school	3%	6%
Basic VET	45%	54%*
Baccalaureate	13%	9%
Higher VET (Höhere Fachschule)	20%	17%
University	19%	14%
Parents' professional position		
Unemployed	2%	4%
Employed	27%	34%*
Employed with management functions	49%	40%
Independent without employees	10%	12%
Independent with employees	12%	10%
N (full information)	416	443

Note: Short-term sample, restricted to 15-18 y.o. * t-test $p < 0.05$

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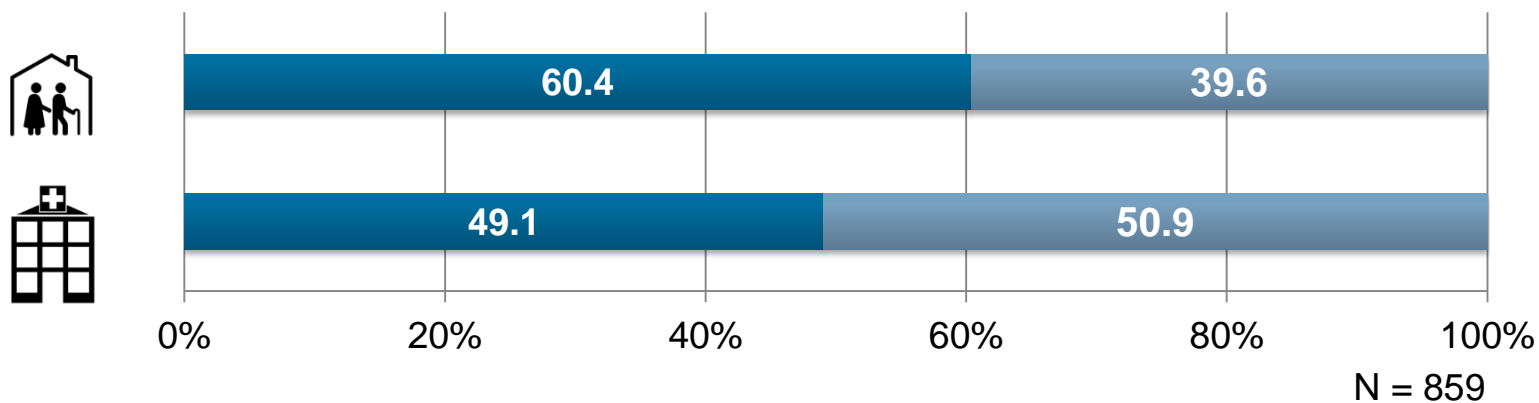
Estimation of the propensity score

- Logit model
- Dependent variable: training in acute care institution
- Independent variables:
 - Variables that simultaneously influence treatment and outcome (CIA)
 - Variables that are unaffected by treatment

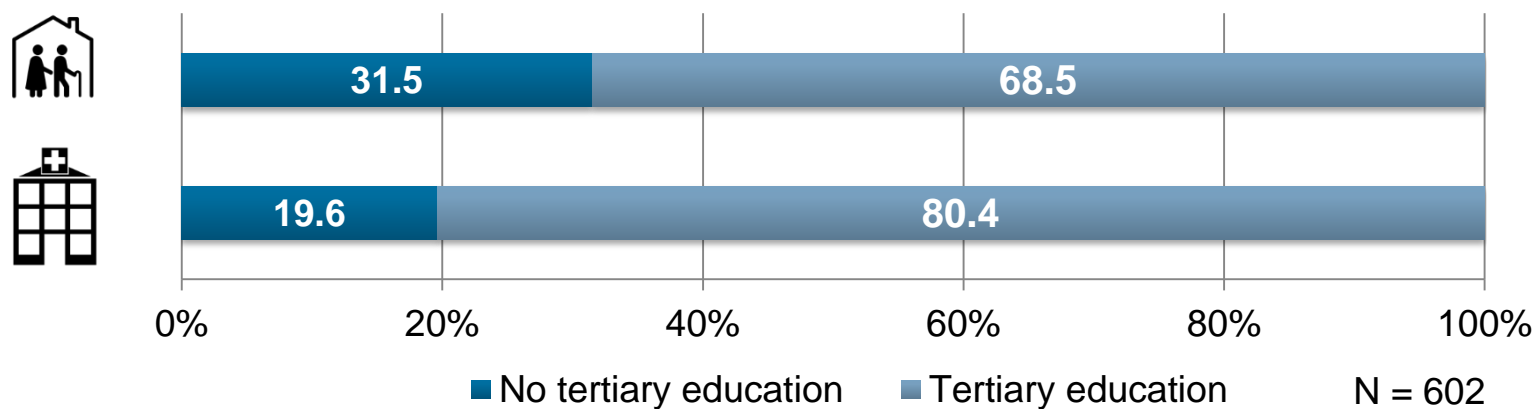
Age, born in CH, gender, level of compulsory school, region (Romandie), Socio-economic variables (Number of books at home, parent's education and professional position), activity prior to VET diploma, if any (10th year of school, practical year)

Descriptive Results

Short-Term (Within 1 year after VET)



Mid-term (Within 5 years after VET)



Multivariat Results: Average Treatment Effect

Nearest neighbour matching with 1 Observation

	Short Term		Mid Term	
	Logit	PSM	Logit	PSM
ATE (Acute vs Long Term Care)	0.092**	0.121**	0.056	0.071+
	(0.041)	(0.041)	(0.043)	(0.038)
Overlap Violation (N. Obs)	-	43	-	26

Standard errors in parentheses

*** p<0.001, ** p<0.01, * p<0.05, + p<0.1

Summary

- Short term (within 1 year): apprentices trained in acute care institutions face a **12.1 percentage points** higher probability of transition into higher education
- In the long run (within 5 years) the effect is weaker (7.1 percentage points) but still significant
- This supports our basic assumption:






- Overall, covariates are well balanced

Conclusion & Further Research

- Allocation to a nursing home or a hospital during training matters: it influences subsequent career choices
- Risks
 1. Allocation can reinforce individual disadvantages due to differences in socio-economic background
 2. The strong differentiation between acute and long-term care can hinder career development and lead to dropouts.
- Further research
 - Given the existing and forecasted shortage of nurses (Mercay et al. 2016), future research should pay more attention to structural characteristics of training firms and their significance for further education

Implications for Practice

Countering Staff Shortage

- Increase **permeability** between the different healthcare sectors for healthcare assistants during (and after) training
 - without neglecting the clarity of professional roles.
- *Challenges*
 -  ➤ Present an attractive image of long-term care
 -  ➤ Provide greater incentives for staff trained at the tertiary level
 -  ➤ Create attractive career and working conditions, not only for the staff at the tertiary level but also for healthcare assistants.