

REFORMING LONG-TERM CARE IN GERMANY: PRELIMINARY FINDINGS FROM A SOCIAL EXPERIMENT WITH MATCHING TRANSFERS

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1. LTC in Germany

- 2. Theoretical Foundation
- 3. Social Experiment
- 4. Conclusions

Number of care recipients







Receipts and costs 1995-2003

Growing deficit 2003-2010



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Prevalent: home care



70% home care	30% nursing home care

Problem: nursing home care grows fast





Benefit structure



Levels of benefits for home care

- Level I: considerable need for care min. 90 min/day, once daily
- Level II : serious need for care min. 180 min/day, three times daily
- Level III: most serious need for care min. 300 min/day, day and night available



Home care arrangement



The actual home care arrangement depends on:



Problem analysis



- (1) demographic change
- (2) loss of personal networks
- ⇒ high cost pressure



goal 1: make home care arrangements more flexible

goal 2: stabilizing home care

open question: dynamically cost efficient?

Matching Transfer



(1) "in-kind element"

- exclusively for home care services
- exclusively for legal providers (no black market!)
- no reimbursement for family members
- same expenditure level like in-kind transfer

Matching Transfer

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(2) "lump-sum element"

- cash benefit paid to frail elderly
- not restricted to the legally defined items that are granted as in-kind transfers
- benefit recipients pay their care providers

Matching Transfer



(3) Case Manager

- organizes home care arrangement
- monitors care quality by RAI-HC

 \rightarrow output monitoring instead of input controlling

2. Theoretical Foundation

 PEZZIN/ SCHONE type model: non-cooperative game

two individuals: Formal care F Elderly parent p daughter d

three types of home care:

Informal care / (family members)

D^RG

Soft care Q (purchased in the market, provided by legal carers such as friends, neighbors, but not family members) 17



Elderly parent's utility function:
 (1) U^p(C^p)+V^p(G)

• daughter's utility function:

(2) $U^{d}(C^{d}) + V^{d}(G)$



- Health *G* is a family public good
- Health technology:

$$(3) G = A \cdot H(F, Q, I)$$

with *A* = efficiency parameter



 Mother maximizes (1) via *F* and *Q* under her budget restriction:

(4)
$$Y^{p} + T^{g,p} = C^{p} + P^{F}F + P^{Q}Q$$

Daughter maximizes (2) via / under her time restriction:

(5)
$$(M-I)W + T^{g,d} = C^d$$



• First order conditions:

(6)
$$F: P^{F}U'^{p} = V'^{p} \cdot AH_{F}$$

(7) $Q: P^{Q}U'^{p} = V'^{p} \cdot AH_{Q}$
(8) $I: W \cdot U'^{d} = V'^{d} \cdot AH_{I}$



- three ways to finance home care:
 - Cash Transfer T^c \square
 - In-kind Transfer T^k
 - Matching Transfer T^m
- six equations with six unknowns:

 F,Q,I,G,C^p,C^d

Main Hypotheses

- Recipients of in-kind transfers switch to matching 1. transfer
 - \Rightarrow demand for formal care $F \Psi$
 - \Rightarrow demand for soft care $Q \uparrow$
- 2. Demand for F and Q and supply of I are substitutes (externalities of health as a family public good)
- 3. If the daughter decides on the use of the lump-sum transfer, then informal care $/ \uparrow$ \Rightarrow home care arrangements stabilized by / \uparrow ⇒ nursing home entrance delayed

3. Social experiment

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Basic Information:

- 7 sites in East and West Germany
- goal: 2000 participants; 1000 in the program and 1000 in the control group
- duration: 2005-2008
- scientific evaluation by EFH, ZEW, FIFAS
- funding: employee association of LTC insurers



Treatment:

Matching transfer plus case management

Outcome:

- Duration in home care
- Life satisfaction
- Quality of care
- Home Care arrangements



Identification:

Fundamental evaluation problem:

No observable counterfactual situation

Treatment effect

(1) $\Delta_i = Y_{1i} - Y_{0i}$

Average treatment effect on the treated (ATT)

(2)
$$ATT = E(Y_1 - Y_0 | D = 1) = E(Y_1 | D = 1) - E(Y_0 | D = 1)$$



Selection bias

(3) $E(Y_0|D=1) \neq E(Y_0|D=0)$

Identification strategy

Social experiment

Missing counterfactual is produced by random assignment



First results from the intake period 2005

Remark: We cannot test hypotheses so far

(1) Reasons for participation

- individually-tailored care arrangements
- in-kind transfer too restrictive
- support by case manager
- development of new care arrangements by professional carers

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(2) Reasons for non-participation

- uncertainty of the randomization process
- no payments within family possible
- higher transaction costs



(3) Randomization bias negligible

 \rightarrow Checked by survey among interested frail elderly

(4) According to survey data, program and control group are comparable

184 program group

participants: 261 <

77 control group

Percentage of program group participants receiving help in different

Service	Child- ren	Spouse	Other relatives	Profes- sional carers	Other Carers
House work	25	16	13*	29	33
Shopping	29	13	19*	17	26
Telephoning	10	7	7	2	6
Preparing meals	24	19	9	18	30
Eating and drinking	9	9	7	7	6

* indicates significant differences between program and control group 32

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Average provision of hours and expenditures by type of carer in the program group in a typical week

Group of carers	Care services in hours	Expenses in €	€ per hour
Children	12	9	0.75
Spouse	10	2	0.20
Other relatives	7	14	2.00
Professional carers	6	245	40.83
Other carers	16	159	9.94

 \rightarrow no significant differences between program and control group

(5) Reasons for low case numbers

- Information about treatment
- Heterogeneity among LTC insurers
- Reluctant participation by formal carers

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<u>Hypothesis 1</u>: Recipients of in-kind transfers switch to matching transfer

We observe only a partial switch to matching transfers due to ...

... high transaction costs

... existence of combined in-kind and lump-sum transfers

... loss of privacy



<u>Hypothesis 2</u>: Demand for *F* and *Q* and supply of *I* are substitutes

Empirical evaluation necessitates follow-up survey
→ Future research

<u>Hypothesis 3</u>: If the daughter decides on the use of the $\mathbf{\underline{5}}_{\mathbf{\underline{4}}}^{\mathbf{\underline{3}}}$ lump-sum transfer, then informal care / $\mathbf{\underline{1}}$

- \Rightarrow home care arrangements stabilized by / \uparrow
- ⇒ nursing home entrance delayed

Empirical evidence:

Anecdotal evidence that matching transfers stabilize home care arrangements and prevent nursing home entrance