



Santiago, 28jan15

Risk equalization in competitive health insurance markets: an international perspective

*Seminar organized by
the Asociación de ISAPREs*

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Agenda

1. Relevance of risk equalization (RE)
2. 25 years of experience in the Netherlands
3. RE in Europe
4. RE in the US
5. RE in Colombia and Chile
6. RE in practice: complex!
7. Risk selection
8. Risk sharing
9. Relevance of RE for provider payments
10. Lessons from international experience.



1. Relevance of RE

- ‘Risk equalization’ (RE) **equalizes the insurers’ risks** in a competitive insurance market.
- Other terms: risk compensation, or risk adjustment (because of *risk-adjusted* equalization payments or *risk-adjusted* compensations).
- Risk adjustment: also used for e.g. risk-adjusted outcomes.



Competitive health insurance market

- **Chile** not the only country with a competitive health insurance market;
- Also **Australia, Belgium, Colombia, Czech Republic, Germany, Israel, Ireland, the Netherlands, Poland, Russia, Slovakia, South-Africa, Switzerland, USA.**
- **Global challenge:** How to regulate such healthcare system?



Why not a free market?

Without any government intervention health insurance markets with a ‘consumer choice of health insurer’ result in:

- Risk-adjusted premiums (‘*risk rating*’): the premium differences can go up to a factor 1,000;
- Refusal to accept high risk individuals (‘*risk selection*’).



Affordability problem

In a free health insurance market with ‘consumer choice of health insurer’ and without any external intervention health insurance may be **unaffordable** for **the (low-income) high risks** because unrestricted competition minimizes the predictable profit per contract.

.



Unrealistic expectations

It is **unrealistic** to expect that a **free** health insurance market without any external intervention results in **risk-solidarity** (i.e. cross-subsidies from the low-risk consumers to the high-risk consumers).

Solidarity requires external intervention, e.g. regulation.



Major challenge

- A major challenge for all countries with a competitive health insurance market:

How can we organize **risk-solidarity** (i.e. cross-subsidies from the healthy to the unhealthy people) on a **competitive** health insurance market?

- Answer: **Risk equalization** (the financial heart of regulated competition in health care).



Why competitive insurance market?

A competitive health insurance market:

- risk-rating and risk-selection;
- health insurance is a complex product, with a lot of small print →
→ intransparent market;
- complex regulations;
- high administrative costs.

What is the rationale of having a *competitive* health insurance market?



Rationale of competitive HI market?

The insurer being a prudent purchaser of care on behalf of their insured.

Alternative purchasers:

- Consumer / patient?
 - Insufficient information and market power;
 - Due to insurance: no incentive for efficiency;
- Government (Federal, state, local).



Regulated competition

Many ideas / proposals for competition in health care inspired by professor **Alain Enthoven** (Stanford University).

Enthoven, A.C., 1978, Consumer-Choice Health Plan; **a national-health-insurance proposal based on regulated competition in the private sector.**

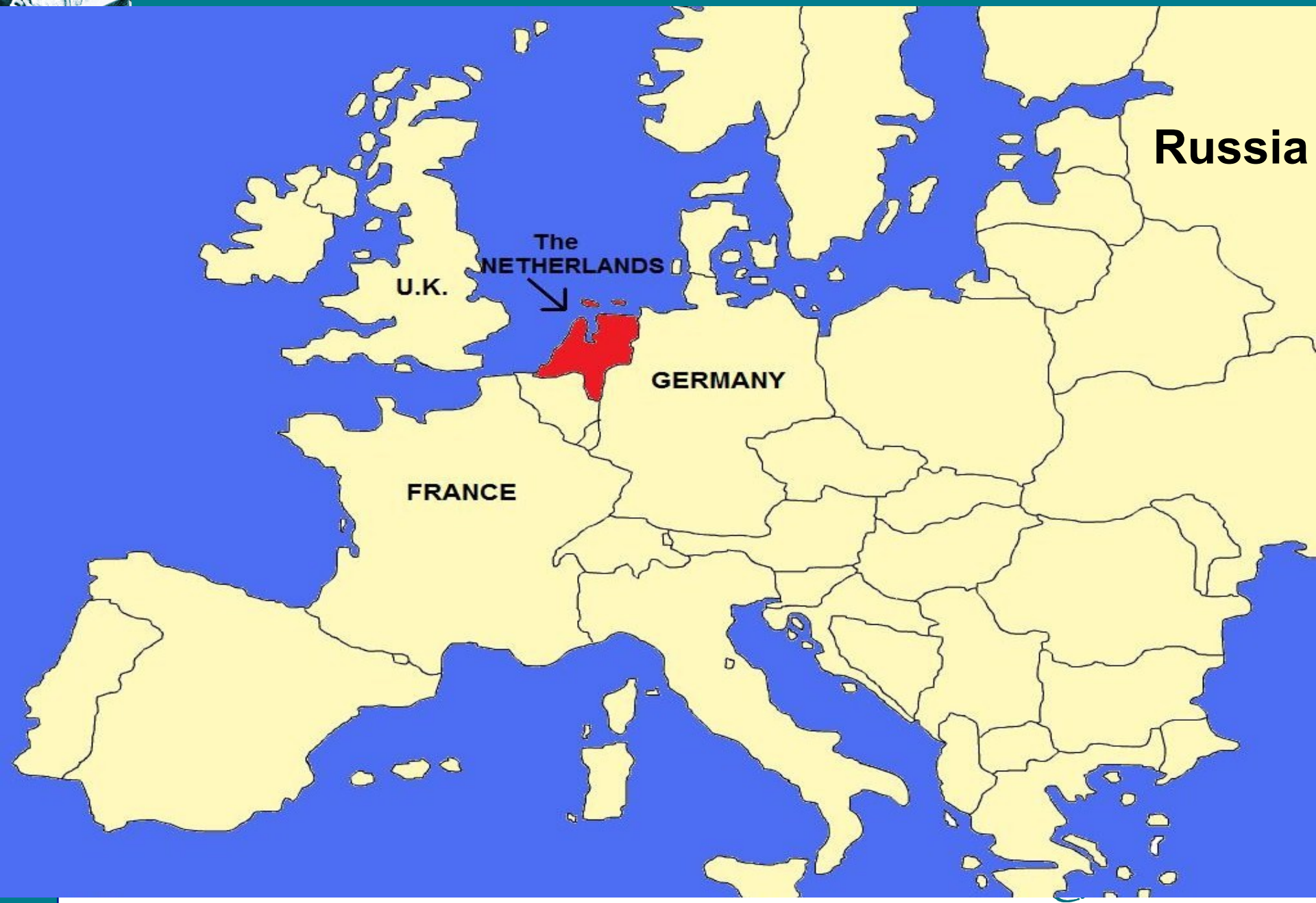
New England Journal of Medicine 298 (13), 709-720.



Regulated competition

Competition among health insurers and among providers of care, **regulated** by government to achieve society's goals: efficiency and affordability.

Affordability: everyone has access to affordable insurance covering a basic package of *good quality* care, accessible within reasonable *travel time* and without undue *waiting time*.





2. Dutch health care system

- From 1970 / 1980 increasingly more more-detailed government regulation with respect to prices, budgets, volume, capacity, etc.;
- Health insurance before 2006 a mixture:
 - **mandatory** public insurance (67%),
 - voluntary **private** insurance (33%).
- Health insurance from 2006:
 - **mandatory private** insurance (100%).



Dutch health care reforms

Proposals Dekker Committee (1987):
(in late 80s translated into Russian)

1. Regulated competition:
 - among health insurers;
 - among healthcare providers;
2. Mandatory health insurance for everyone.



Reforms since the early 1990s

Step-by-step reforms in the 1990s (a ‘silent revolution 1990 - 2006’):

➤ **Risk-bearing insurers should become the purchasers of care on behalf on their members;**

➤ Government should deregulate existing price- and capacity-controls;

➤ Government should set the ‘rules of the game’) to achieve public goals.



Tools for improving efficiency

Government: mostly legislation and other regulations with respect to prices, budgets, hospital planning, manpower planning, investments, certificate of need, etc.

Insurers: private contracts with the providers, selective contracting, negotiations about price and quality, etc.



Health Insurance Act (2006)

- *Mandate* for everyone in the Netherlands to buy individual *private* health insurance;
- Standard benefits package, with broad coverage: described in terms of functions of care (much flexibility!);
- Fixed (not a minimum) benefits package;
- Mandatory deductible: €375 (in 2015) per adult (18+).



Health Insurance Act (2)

- Selective contracting allowed;
- Since 2000 insurers and providers increasingly free to negotiate prices;
- Open enrolment & ‘community rating per insurer’ for each type of health insurance contract;
- Risk equalization.

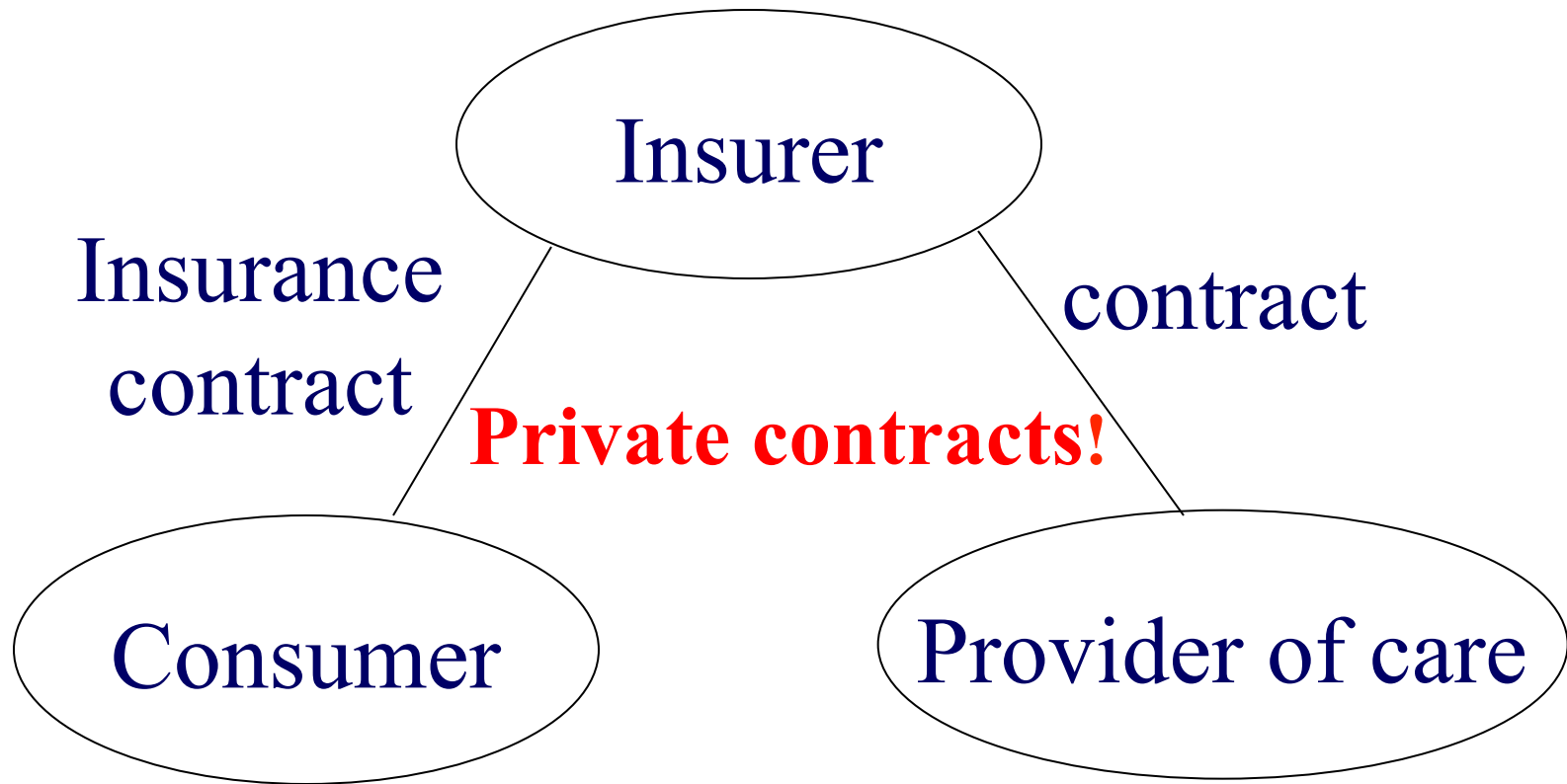


Consumer choice

- Annual consumer choice of insurer and choice of insurance contract:
 - in kind, or reimbursement, or a combination;
 - preferred provider arrangement;
 - voluntary higher deductible: at most ‘plus €500’ per person (18+) per year;
 - premium rebate ($<10\%$) for groups.
- Voluntary supplementary insurance.



Insurer as purchaser of care





Risk Equalization Fund (REF)

Gov't contribution

(18-)

(5%)

REF

(50%)

**Income-related
contribution**

**REF-payment based
on risk adjusters**

Insured

(45%)

Insurer

premium (18+)

**Two thirds of all households receive an income-related care allowance
(at most € 1788 per household per year, in 2015)**



Annual-premium range

Average premium-2014: €1098

Minimum premium-2014 : €905

Maximum premium-2014: €1249

The annual-premium range, i.e. the maximum premium minus the minimum premium for basic health insurance without a voluntary deductible:

- in 2014: €344;
- 2008-2013: between €249 and €312.



Insurers' duty of care

- Insurers have a so-called 'duty of care', i.e. they must guarantee the delivery of care;
- The care must be delivered within acceptable maximum waiting times ('national norms');
- Insurers compete (also) on waiting times.
- If an insurer does not fulfill its contractual obligations, the insured can go to court.



Regulated Competition

- Competition among health insurers: consumers have a periodic choice among health insurers and health insurance products;
- Competition among providers of care: insurers and providers may selectively contract, and may negotiate prices;
- Not a free market; regulation to achieve society's goals.



3. Risk equalization in Europe

From the mid-1990s citizens in Belgium, Germany, Israel, the Netherlands and Switzerland have a guaranteed periodic choice among risk-bearing social health insurers, who are responsible for purchasing their care or providing them with medical care.



Rationale

The rationale for a competitive health insurance market is to stimulate the social health insurers to improve efficiency in health care production and to respond to consumers' preferences.

For the full background paper see:

Van de Ven et al. 'Risk adjustment and risk selection in Europe: 6 years later'

Health Policy 83 (2007) 162-179.



Risk Equalization (RE) in 2006

	Belgium	Germany	Israel	Netherlands	Switzerland
Risk adjusters	Age/gender, Disability, Invalidity, Chronic illness, Mortality, Employment status, Social status, Income, Urbanization.	Age/gender, Disability, Registration in a certified Disease Management Programme, Entitlement for sick leave payments, Income.	Age.	Age/gender, Disability, Pharmacy-based Cost Groups, Diagnostic Cost Groups, Self-employed, Urbanization.	Age/gender, Region.
Quality of RE	Moderate / fair	Moderate	Low	Fair / good	Low



Premium rate restrictions

To make health insurance affordable government in each of the 5 countries imposed restrictions on the variation of the premium contributions, together with open enrolment requirement.

Given insufficient risk equalization these restrictions create incentives for selection.



Is selection a problem? (2006)

	Belgium	Germany	Israel	Netherlands	Switzerland
Quality of RE	Moderate / fair	Moderate	Low	Fair / good	Low
Number of health insurers	6	275	4	33	93
Is selection a problem?	increasing	YES	increasing	increasing	YES



Forms of selection (despite OE)

- Design of benefits package;
- selective contracting;
- selected managed care techniques;
- selective advertising;
- the design of supplementary health insurance;
- internet health plans;
- via brokers & health plan agents, ...



Risk selection in Israel

Local availability of physicians as a tool for risk selection in Israel:

- **High** availability of services in **healthier**-than-average towns,
- **Low** availability of services in **sicker**-than-average towns.

Source: Amir Shmueli and Esti Nissan-Engelcin, Local availability of physicians as a tool for implicit risk selection, *Social Science & medicine* 84 (2013) 53-60.



Russia: 20 years later

- 20 years after Russia implemented legislation to stimulate regulated competition in healthcare, effective competition is still lacking among both insurers and providers.
- Not surprising since most, if not all necessary preconditions for regulated competition are not fulfilled in Russia.

(Source: Igor Sheiman et al., in *Health Policy and Planning*, 3 September 2010; 1-11)



4. *Risk equalization in the US*

- Medicare
- Affordable Care Act (ACA)
(‘Obamacare’ & ‘Health Insurance Exchanges’)



Medicare in the US

- Medicare is the social health insurance system for the elderly: all persons aged 65 and over are eligible for Medicare.
- Since 1972 Medicare enrollees have a choice between the traditional fee-for-service (FFS) Medicare and a so-called 'Medicare Advantage plan' (e.g. an HMO).
- The Medicare Advantage plans are paid 95 percent of the risk-adjusted predicted per capita costs in the FFS-sector (RE-system).



Medicare in the US (cnt.)

- Medicare Advantage plans must offer a minimum benefits package.
- From 1972-2000 the RE-system in Medicare was based on age/gender, region, institutional status and welfare status.
- From 2000 the RE-payments are also based on prior diagnostic information.
- Each insurer is free to set its own premium. Many HMOs do not ask a premium.



Risk selection in Medicare

- In a report to Congress the Medicare Payment Advisory Commission (1998) highlights that:
- **new** enrollees in Medicare managed care plans cost about **35 percent less** than the Medicare fee-for-service average in the six months prior to enrollment;
- Medicare expenditures on persons **disenrolling** from HMOs averaged **60 percent above** average in the six months following disenrollment.



Affordable Care Act (ACA)

The ACA ('Obamacare') regulates the individual and small group health insurance market:

- Restrictions on the premium rates, which may be conditioned on age (1:3), smoking (1:1.5), family size and geography, but not on other risk characteristics.
- Risk equalization based on similar risk factors as in Medicare.
- In the transition period 2014-16 temporary provisions ('risk sharing') reduce the insurers' risk.



5. *Risk equalization in Colombia*

- Since 1994 every Colombian has a choice among insurers (called ‘EPS’), formal workers in the ‘contributory regime’ and people working in the informal sector in the ‘subsidized regime’;
- The regulation requires open enrolment and premium rate restrictions;
- There is risk equalization based on age/ gender and region;



6. *The complexity of RE in practice*

- What is the desired level of solidarity?
- Which costs should be equalized?
- Criteria to choose among risk equalization models;
- Insufficient data;
- Complex tradeoffs to be made;
-,,
- In addition to technical complexity: political complexity.



Acceptable costs

Ideally: only medically necessary and cost-effective care.

Because the cost level of such a benefits package is hard to determine, in practice subsidies are based on **observed** expenses rather than needs-based costs.



Observed expenses

1. Which benefits package?
2. For which risk factors should the equalization payment be adjusted?

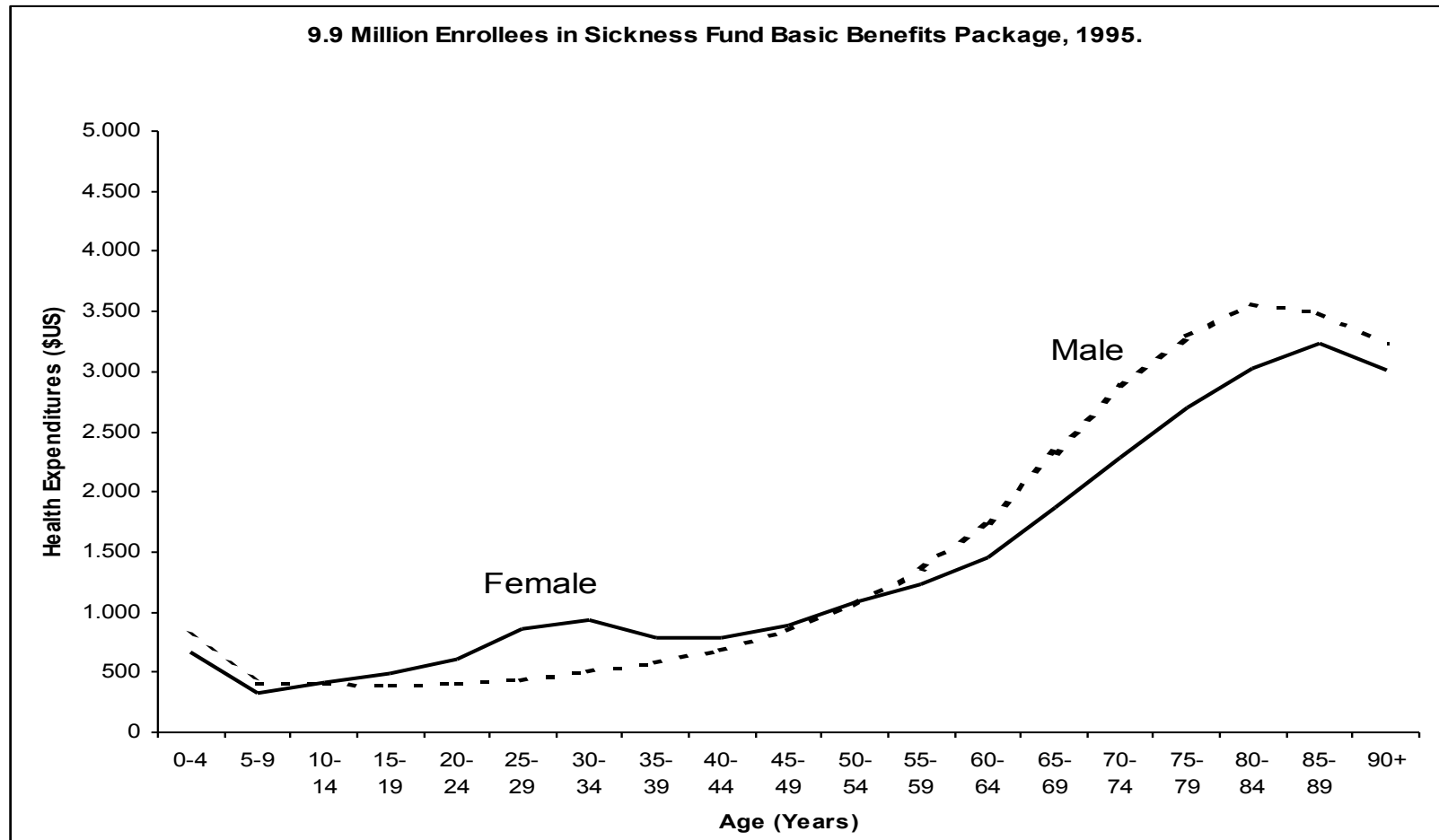


Criteria for equalization-models

- ***Appropriateness of incentives:***
 - No incentives for risk selection;
 - Incentives for efficiency;
 - Incentives for health-improving activities;
 - No incentives to distort RA-information;
- ***Fairness:***
 - No compensation for N-type risk factors;
 - No compensation for risk factors which reflect underutilization;
 - Predictive value.
- ***Feasibility.***



Health Spending by Gender and Age in the Netherlands





Are age and gender sufficient?

NO.

If the equalization payments are based on only age and gender, then a health insurer will, roughly speaking:

- be undercompensated by about 50% for the 10% of the population with the worst health status;
- be overcompensated by about 50% for the healthiest half of the population.



Potential risk adjusters

- Demographic models;
- Prior-year expenditures;
- Diagnosis-based risk adjustment;
- Information derived from prescription drugs;
- Self-reported health information;
- Mortality;
- Disability status;
- Geography.



S-type and N-type risk factors

Assume that the full set of risk factors that predict variations in health spending across individuals can be divided into two subsets:

1. Those factors for which solidarity is desired, the S-type risk factors;
2. And those factors for which solidarity is not desired, the N-type risk factors.



Risk adjusters in the Dutch REF

<i>Year</i>	<i>New risk adjuster</i>
1992	Age/gender
1995	Region, yes/no employee, disability
1997	Age/disability
2002	Pharmacy-based Cost Groups (PCGs) (13 PCGs and about 7% of population)
2004	Diagnostic Cost Groups (DCGs) (2% pop) yes/no self-employed
2007	Multiple PCGs allowed (co-morbidity); (20 PCGs and about 16% of population)
2008	Indicator of Socio-Economic Status



Risk adjusters in the Dutch REF

<i>Year</i>	<i>New risk adjuster</i>
2012	Multi-prior-year high expenses (MHE); 2 new PCGs;
2013	outpatient-based DCGs, i.e. diagnostic information not only from prior hospitalization, but also from other prior medical encounters with a medical specialist.
2014	Cost groups based on the prior use of medical devices (MDCG)
2015	Interaction term between age (65+) and DCG, PCG and MHE.

Risk equalization, excl. costs for mental health care



Undercompensation Dutch RE-2014

Average undercompensation per person in year t

Selected groups based on year t-1	% of population	Undercompensation (-) in year t	Reduction compared with no RE
Worst score physical health (SF-12)	18.9%	- €670	-75%
Visit a medical specialist in the last 12 months	37.8%	- €326	-75%
Use of physiotherapy in the last 12 months	21.8%	- €328	-71%
At least one chronic condition	31.5%	- €331	-80%
Use of outpatient nursing care	1.9%	- €1,034	-84%



Overcompensation Dutch RE-2014

Average overcompensation* per person in year t

Selected groups based on year t-1	% of population	Overcompensation in year t	Reduction compared with no RE
No chronic condition	68.5%	+ €152	-66%
Best score physical health (SF-12)	19.2%	+ €291	-71%
No healthcare utilization in the last 12 months	19.5%	+ €298	-75%
Highest education levels	22.8%	+ €142	-61%



Premium rate restrictions

- Currently used risk equalization formulae contain substantial undercompensations for high-risk high-cost patients.
- Therefore, in all countries premium rate restrictions (PRR).
- **Goal** of PRR: implicit cross-subsidies;
- **Effect** of PRR: predictable profits and losses → incentives for risk selection.



7. *Adverse effects of risk selection*

1. A disincentive to be responsive to the preferences of high-risk consumers;
→ selection may **threaten good quality care** for the chronically ill;
2. Risk selection is more attractive than improving efficiency;
→ selection may **threaten efficiency**;
3. Market segmentation;
→ selection may **threaten solidarity**.
4. **Bankruptcy** of health plans.



How can we prevent selection?

- Risk equalization;
- Less severe premium rate restrictions:
→ tradeoff **selection - affordability**;
- Risk sharing between the regulator and the insurers (e.g. excess loss compensations to insurers):
→ tradeoff **selection - efficiency**.



8. *Risk sharing*

An imperfect risk equalization system may be complemented with a system of risk sharing between the REF and the insurers.

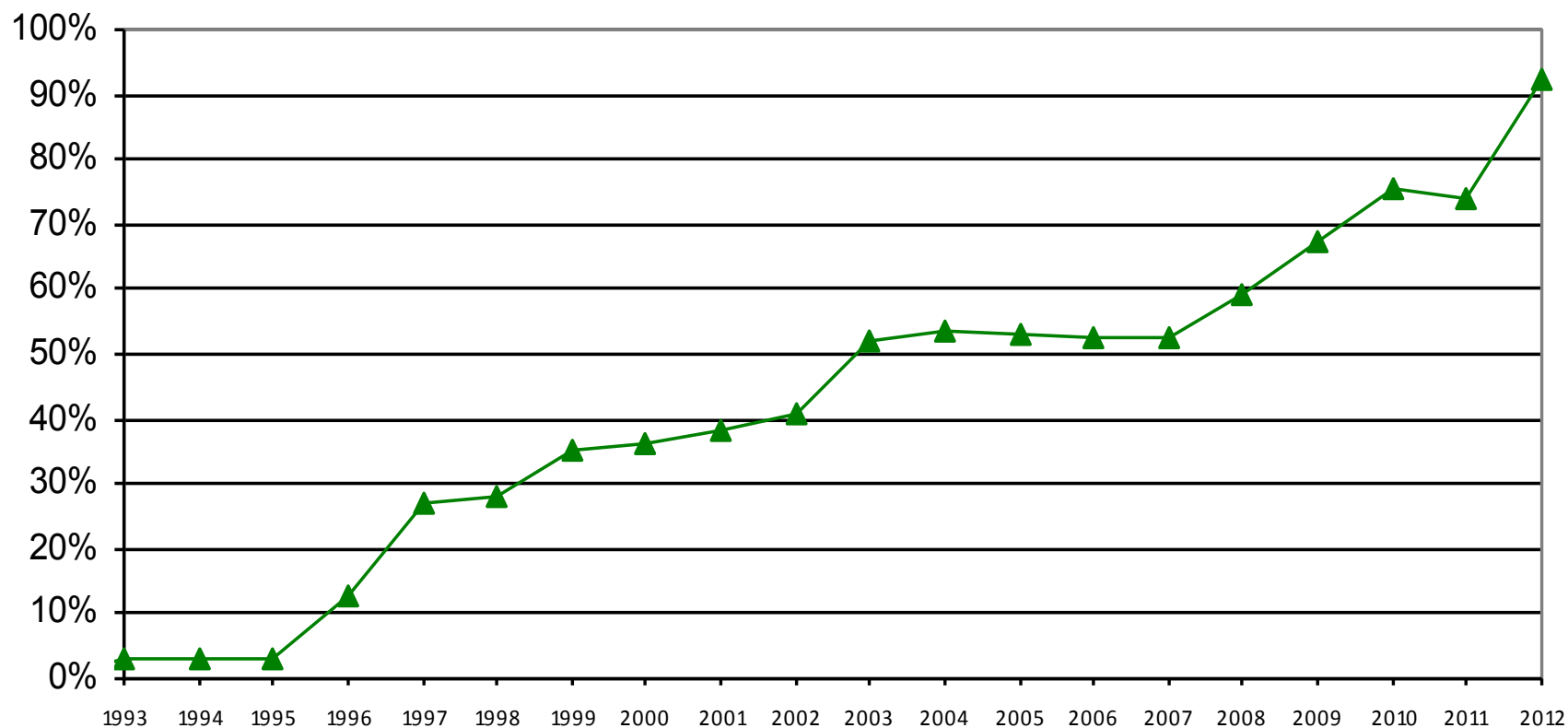
Risk sharing implies that the insurers are retrospectively reimbursed by the sponsor for some of the acceptable costs of some of their members.

→ Tradeoff **selection - efficiency.**



Risk sharing in the Netherlands 1993-2012

**Gemiddeld financieel risico van zorgverzekeraars (exclusief
macronacalculatie en bandbreedteregeling)**





Risk sharing in Europe (2006)

	Belgium	Germany	Israel	Netherlands	Switzerland
Financial risk sponsor /REF	92.5%	4%	6%	47%	0%
Financial risk insurers	7.5%	96%	94%	53%	100%

- In **Israel**: informal ex-post compensations to the health insurers;
- In **Belgium, Germany and Switzerland**: health insurers pay only a part of the hospitals expenses.



9. *Relevance of RE for provider payments*

- Insurers may try to transfer their financial risk to the providers of care, e.g. by paying them according to a **risk-adjusted capitation**.
- A *capitation* is an ex-ante determined payment for providing/purchasing a specified set of services to/for a specified individual for a specified length of time, regardless of the actual number or nature of services provided.



Risk adjusted capitation

- For each patient on his list a provider receives an ex-ante determined budget ('capitation') which is based on the RE-formula and the risk characteristics of that person.
- This budget equals the predicted next year's expenses for that person.



Examples

Risk-adjusted capitation payments to:

- Insurers;
- Sickness funds;
- Health Maintenance Organizations (HMOs);
- Primary care physicians: GP-Fundholder;
- Polyclinic-Fundholder.



GP- / Polyclinic-Fundholder

Providers of primary care who receive a an ex-ante budget for a broad ‘benefits package’ which include:

- The health care they deliver themselves;
- The health care services prescribed by them and/or delivered by other providers (e.g. prescription drugs, lab test, specialist care, hospital care).



Four ways to reduce costs

Four ways for a capitated insurer/
provider to reduce its costs:

- Improving efficiency;
- preferred risk selection;
- Reducing quality;
- Cost shifting.



Risk selection by providers

- Consequently the providers of care will be confronted with incentives for risk selection.
- The providers of care have much more subtle tools for risk selection, e.g. Newhouse's famous example of the 'mother with an asthmatic child'.

Newhouse, J.P., 1982, Is competition the answer?, *Journal of Health Economics*, 1, pp. 109-115.



10. Lessons from international experience

- Risk equalization in practice is very complex! There is no easy solution.
- A major problem often is the lack of good data.
- Invest in appropriate multiyear data with a unique identifier per individual!
- In the last decades good progress has been made in health-based risk equalization.



Tradeoffs

Given insufficient risk equalization policymakers may decide to apply

- **premium rate restrictions**, resulting in a *trade-off between affordability and (the effects of) selection*;
- **risk sharing** between the risk equalization fund and the health plans, resulting in a *trade-off between efficiency and selection*.



Most worrisome form of risk selection

- The most worrisome form of selection is that insurers skimp the quality of care that is particularly used by the undercompensated high-cost insured.
- They may give poor service to them and choose not to contract with providers who have the best reputations for treating them.
- This in turn can discourage physicians and hospitals from acquiring such a reputation. That would be an undesirable outcome of a competitive healthcare system.



Regulation-induced risk selection

- Policy makers must understand that most of the risk selection is regulation-induced!
- Policy makers requiring premium rate restrictions (PRR), often confuse the goal and the tool:
- **Goal** of PRR: implicit cross-subsidies;
- **Effect** of PRR: predictable profits and losses → incentives for risk selection;
- **Ideal tool:** good risk equalization!



The only effective strategy

Good risk equalization is the only effective strategy to resolve the tradeoff between affordability, efficiency and selection in a competitive health plan market.

Source: WPMU van de Ven , FT Schut, Guaranteed access to affordable coverage in individual health insurance markets, Chapter 17 in *the Oxford Handbook of Health Economics* (eds. Sherry Glied and Peter Smit), Oxford University Press, 2011



Good risk equalization is critical

- **Good risk equalization is critical**, although it is not the only precondition for reaping the benefits of a regulated competitive insurance market.
- Without good risk equalization the **disadvantages** of a competitive market, due to risk selection, may **outweigh the advantages of a competitive market**.



Must risk adjustment be perfect?

A workable formula need not be ‘perfect’:

1. Transaction costs of selection, including the loss of reputation;
2. Periodic improvements of the formula reduce the predictable losses and profits;
3. By refining the formula the uncertainty about the profits of selection increases.

Unknown how much imperfection is acceptable.



The proof of the pudding...

The Risk Equalization system is OK if the health insurers advertise:

“Chronically ill, please come to us. We have contracted the best doctors specialized in your disease!”

So far I haven't seen these advertisements in any country with risk equalization...