

The French health care system

Health care expenditures projections

Prague Workshop on Financial Sustainability and Health Sector Reforms

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Franck von Lennep – franck.vonlennep@cnamts.fr

Outline of the presentation

- 1- Presentation of the French health care system**
- 2- Health care spending projections through 2015**
- 3- Focus on health care spending for diabetics**
- 4- How to ensure sustainability of the system : financing issues and avenues of research**

1- The French health care system – General figures (1)

Health care expenditures amount to 11% of GDP in France

- **3rd or 4th highest rate amongst the OECD countries**

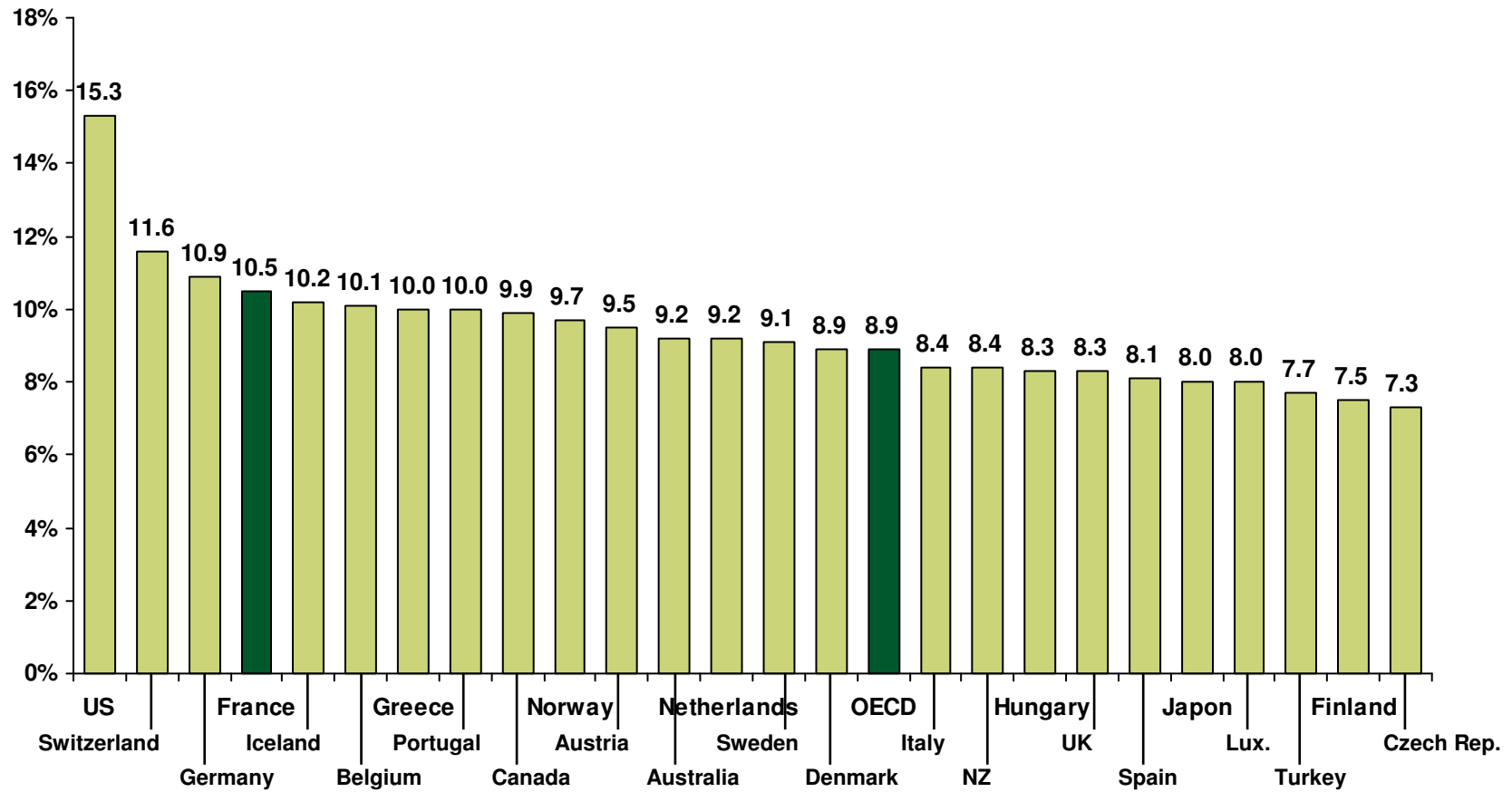
French system ranked first in 2000 WHO report for best overall health care provision

Quite expensive system (155 Bn€ in 2006) but the population is very attached to it

- **~2 500 € average health expenditures per person**

1- The French health care system – General figures (2)

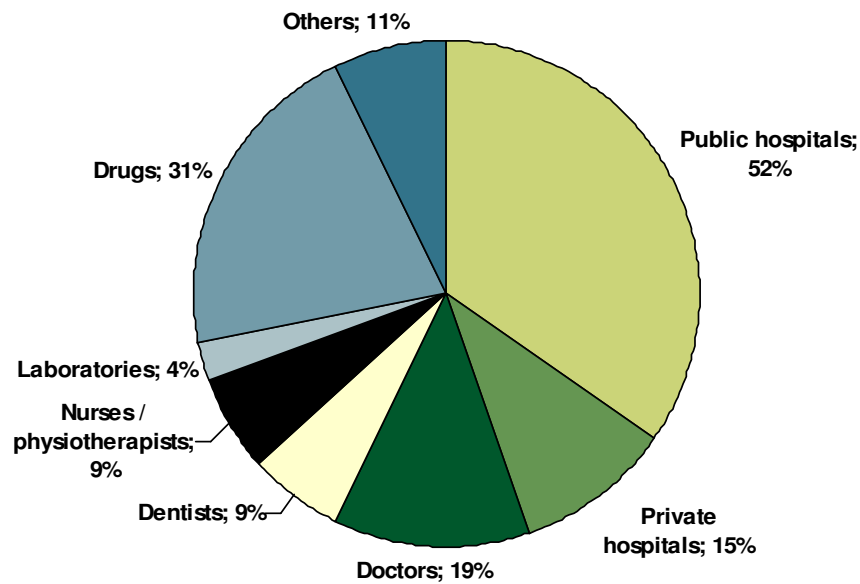
Health expenditures in percentage of the GDP per OECD country (2004)



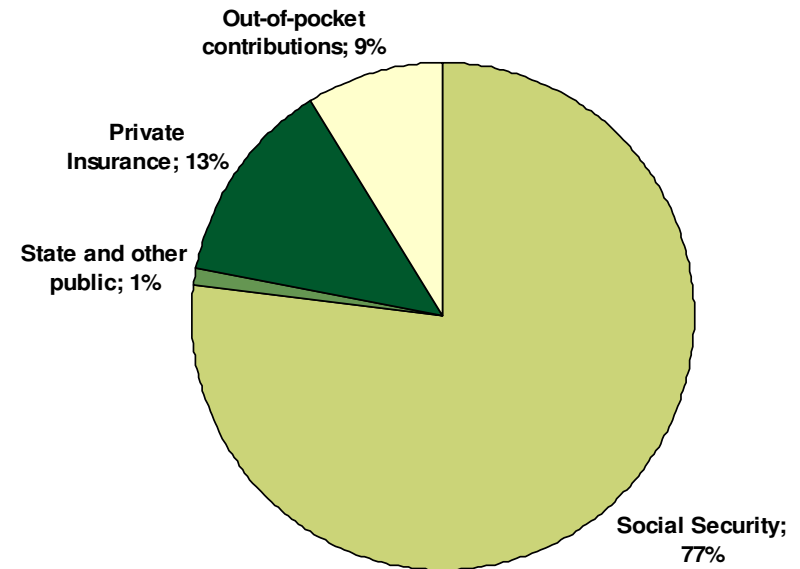
1- The French health care system – General figures (3)

Spending and funding breakdown

155 Bn€ spending in 2006



Health funding in 2006



~6 Bn€ deficit in 2006

1- The French health care system

FRANCE PROVIDES A UNIVERSAL MANDATORY COVERAGE

Private insurances exist to cover co-payments

Universal mandatory insurance covers around 70% of walk-in ambulatory care (GP's, specialists, paramedics, most drugs) and 95% of hospital care, whether public or private

- **National insurance also covers sickness, maternity and work injury leaves**

Occupation-based scheme due to a social protection originally provided by employers' and workers' by sector (bismarkian system)

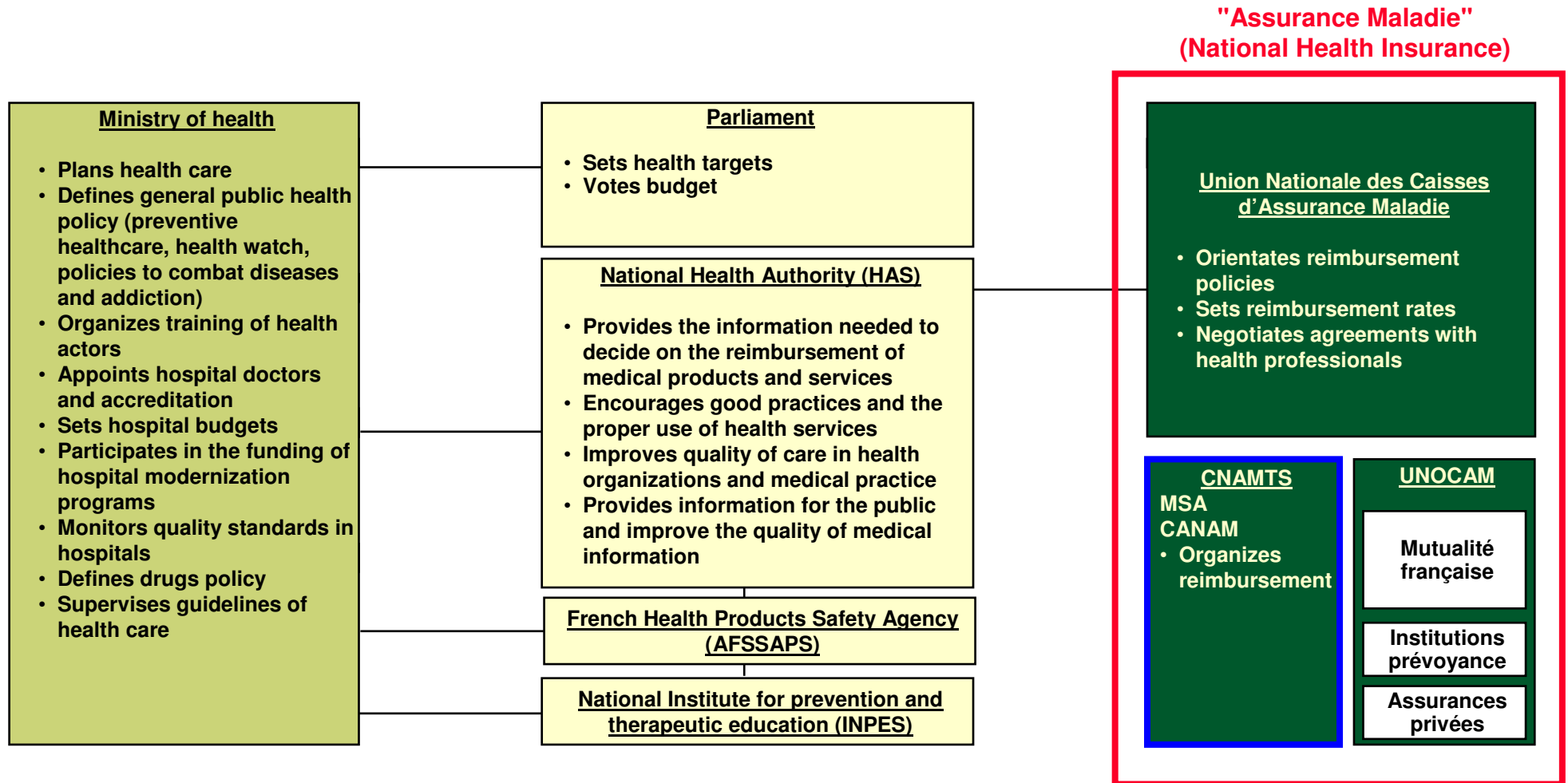
- **« General scheme » for salaried workers (CNAMTS, 85% of the population)**
 - **2000 € average reimbursements per person**
- **Agricultural scheme (6%)**
- **Self-employed workers (5%)**
- **Other industry-specific funds (4%)**

92% of the population has a private insurance that covers co-payments

- **Fees, drugs, hospital per diem stays can be covered by non-mandatory private insurance and/or out-of-pocket contributions**

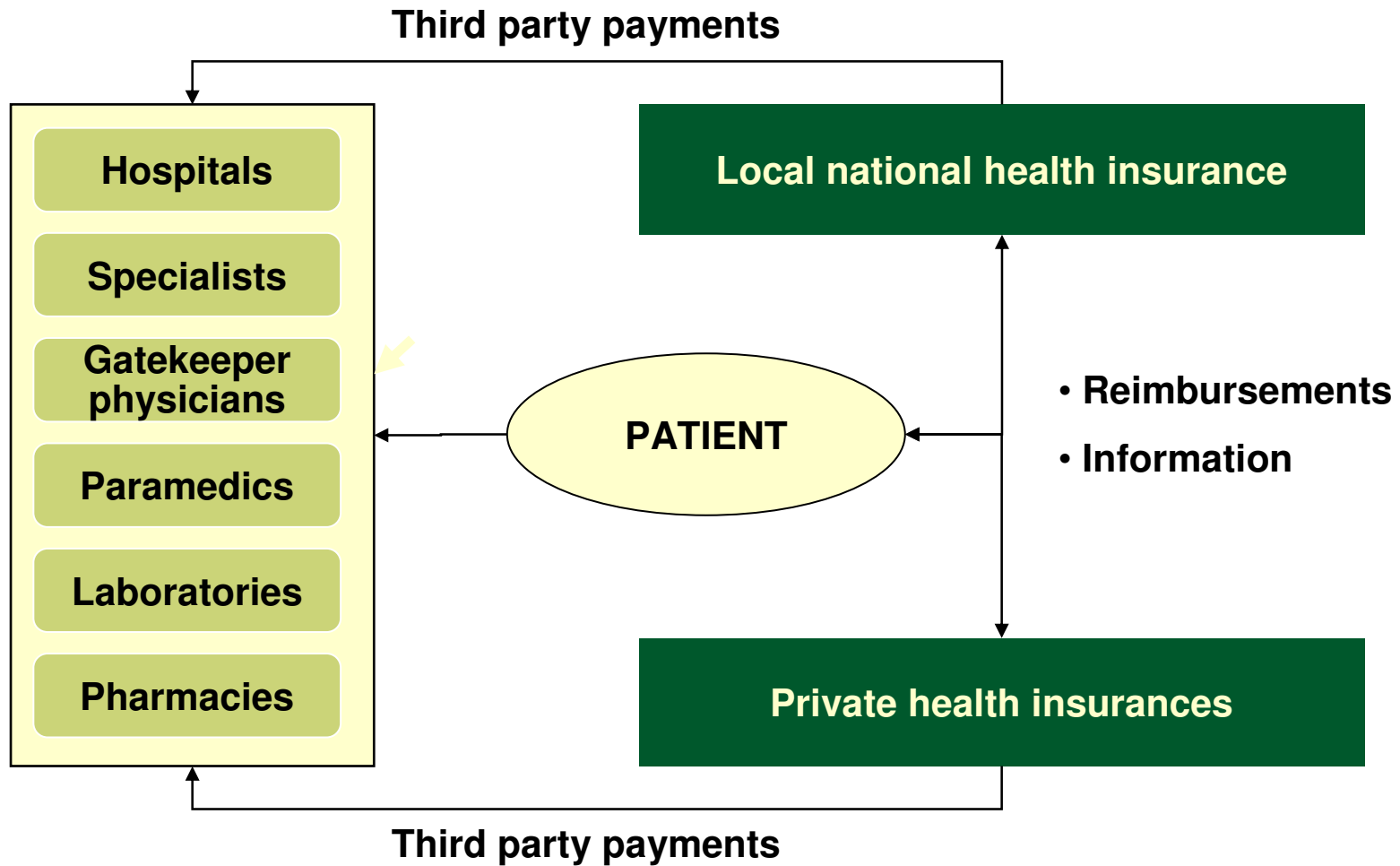
1- The French health care system

OVERVIEW OF ACTORS' ROLE WITHIN THE HEALTH SYSTEM



1- The French health care system

FRENCH SYSTEM VIEWED FROM THE PATIENT



1- The French health care system

THE NATIONAL HEALTH INSURANCE NETWORK

107 700 people employed in the whole network

- **2 600 physicians (including dentists, pharmacists...), fully integrated in the administrative decision making processes**
- **2750 computer specialists managing IT systems**

The CNAMTS (+2000 workers) is the main national health insurance fund with a central coordination and implementation role for the whole system

128 local funds manage day to day relations with the insured population

Regional health entities (URCAM) ensure harmonization of the various sector-specific regimes actions

1- The French health care system AT THE HEAD OF THE VAST NETWORK, THE CNAMTS PLAYS VARIOUS ROLES

Management of ambulatory walk-in care

- **Public and private hospitals managed by State structures**

Vast media campaigns towards the whole population

- **E.g. on the limited efficiency of antibiotics for flu**

Individually targeted communication

- **E.g. personal mailings on generics, medical check-ups...**

Individually targeted relations with medical practitioners

- **E.g. regular visits by representatives, personal account via Internet...**

1- The French health care system

HOSPITAL AND AMBULATORY CARES

Hospital cares

3 types of hospitals

- 995 public hospitals
- 760 non profit private institutions
- 1130 profit making hospitals

Non profit private care is essentially nursing homes and long-term care

Total hospital budget amounts to 60 Bn€

Ambulatory cares

System based upon the ex post reimbursement of direct payments

- But recent development of third-party payments

Self employed physicians on a fee for-service basis

Patients can choose practitioner, practitioner can choose location

Official reimbursed tariffs negotiated and contracted between national insurance funds and each healthcare profession

1- The French health care system

THE GENERAL PRACTITIONER (GP) HAS A KEY ROLE IN THE CARE SYSTEM

60 000 GPs in France

- **Average medical density is quite high : 1.7 GPs/1000 inhabitants (vs 0.7 in UK, 1 in US and Germany)**
- **Geographically uneven**

Mostly self employed, individual (53% alone), community-based and not assisted by a nurse

- **Visit tariff : 22€**
- **65 k€ net annual earnings**

“Soft gate keeping” system since the 2004 reform : patients (+16 years) reimbursed less if they do not have a reference from their official doctor

- **80% of the population have chosen their referral doctor (a GP in most cases)**

In this context, fixed per capita payments (40 €/patient/year) have been introduced for patients with chronic diseases

Only 2,1 nurses per GP vs. 4,1 in UK and 4,7 in Canada

1- The French health care system SPECIALIST CARE

105 000 specialists (50% self-employed)

- **108 k€ average net yearly earnings for self-employed specialists**

Large proportion of community-based specialists

Private hospital specialists remain self-employed and pay a fee back to their hospital

Public hospital specialists are salaried workers

1- The French health care system

"ALD" : A SPECIFIC AGREEMENT FOR CHRONIC PATIENTS (1)

Overview

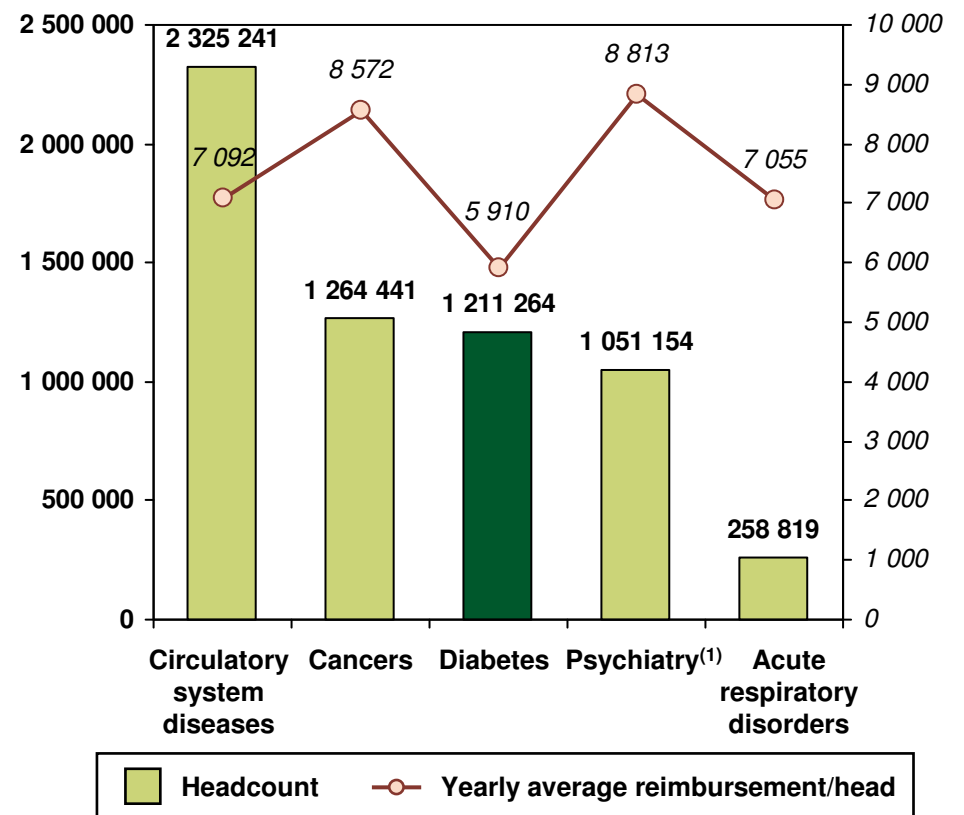
Patients with long-term diseases and requiring much care are 100% covered

- Medical and administrative definition

8 M people in France

14% of total population, 60 % of total reimbursement claims

Number of patients and cost per disease (patients in ALD, 2004)



(1) Including nervous system such as Alzheimer's

1- The French health care system

"ALD" : A SPECIFIC AGREEMENT FOR CHRONIC PATIENTS (2)

Healthcare guidelines set by the National Health Authority (HAS) are at the core of the process

The care plan is established between a national health insurance physician and the patient's referral physician, then signed by the patient

This agreement is a mutual link between the patient and the physician

The gatekeeper physician coordinates care provided by the various practitioners involved (nurses, specialists)

2- Projections of health care spending through 2015 Limits and Goals

- Not a research analysis**
- Provides a clear explanation of future health care expenditures and their drivers to policy makers, trade unions, medical providers, citizens**
- Identifies the specific impact of chronic diseases**

2- Projections of health care spending through 2015

Methodology

- Projection of number of persons insured, distinguishing persons with ALD (= patients with chronic disease) and persons without ALD**
- Projection of costs per patient (distinguishing ALD / non ALD) by category of expenses : outpatient, drugs, inpatient**
- Projection of total costs**

2- Projections of health care spending through 2015

Projection of number of patients - Methodology

Projection of number of patients within ALD system :

1st hypothesis : stability of ALD rate per age – projection taking into account the change in population structure only

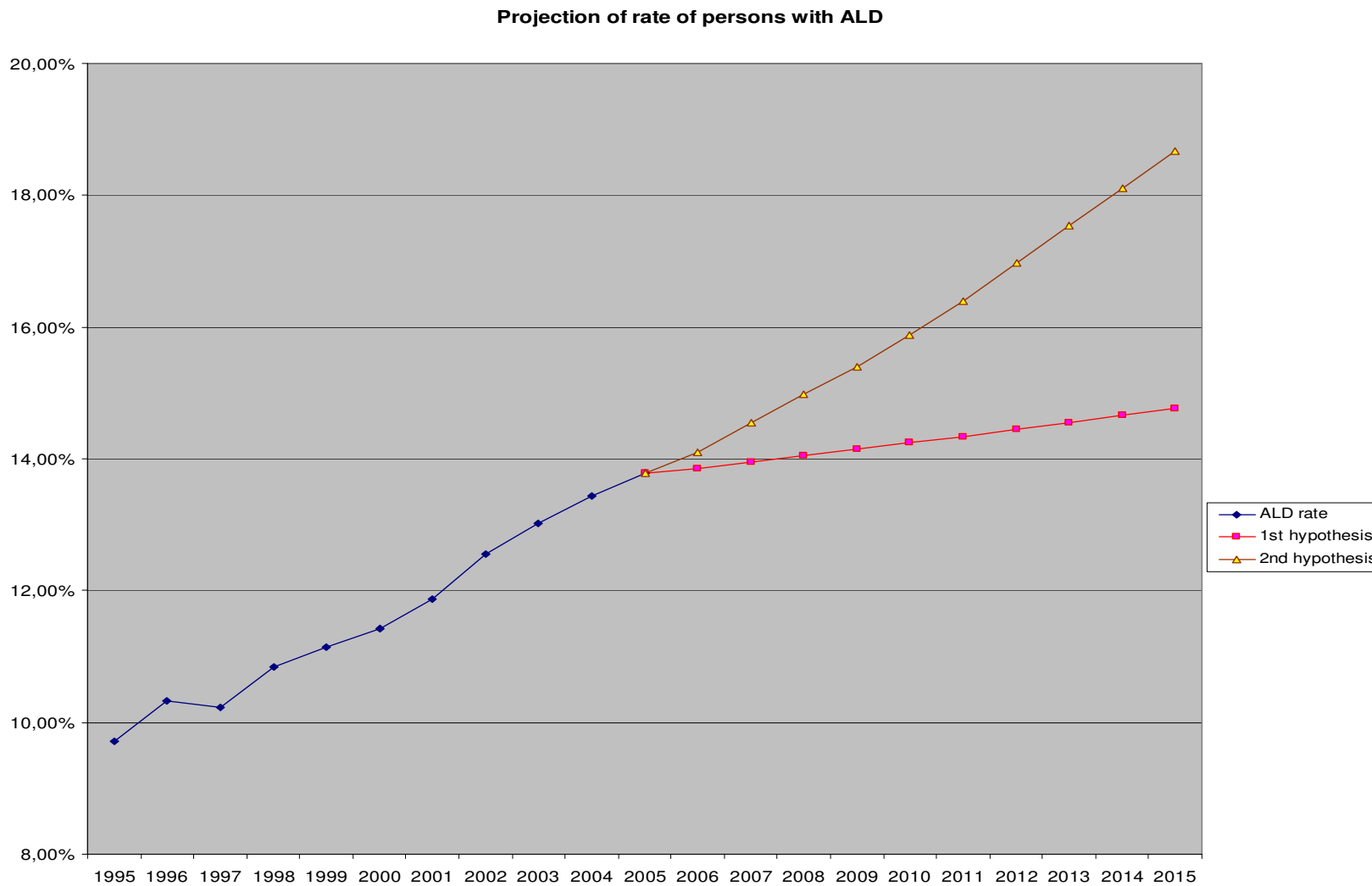
Rate of patients with ALD per age

| | |
|----------|-------|
| Under 20 | 2,3% |
| 20-29 | 3,4% |
| 30-39 | 6,5% |
| 40-49 | 11,2% |
| 50-59 | 19,2% |
| 60-69 | 30,5% |
| 70-79 | 44,5% |
| 80 + | 59,4% |

2nd hypothesis : projection taking into account the change in population structure + further increase (using past trends in prevalence rise)

2- Projections of health care spending through 2015

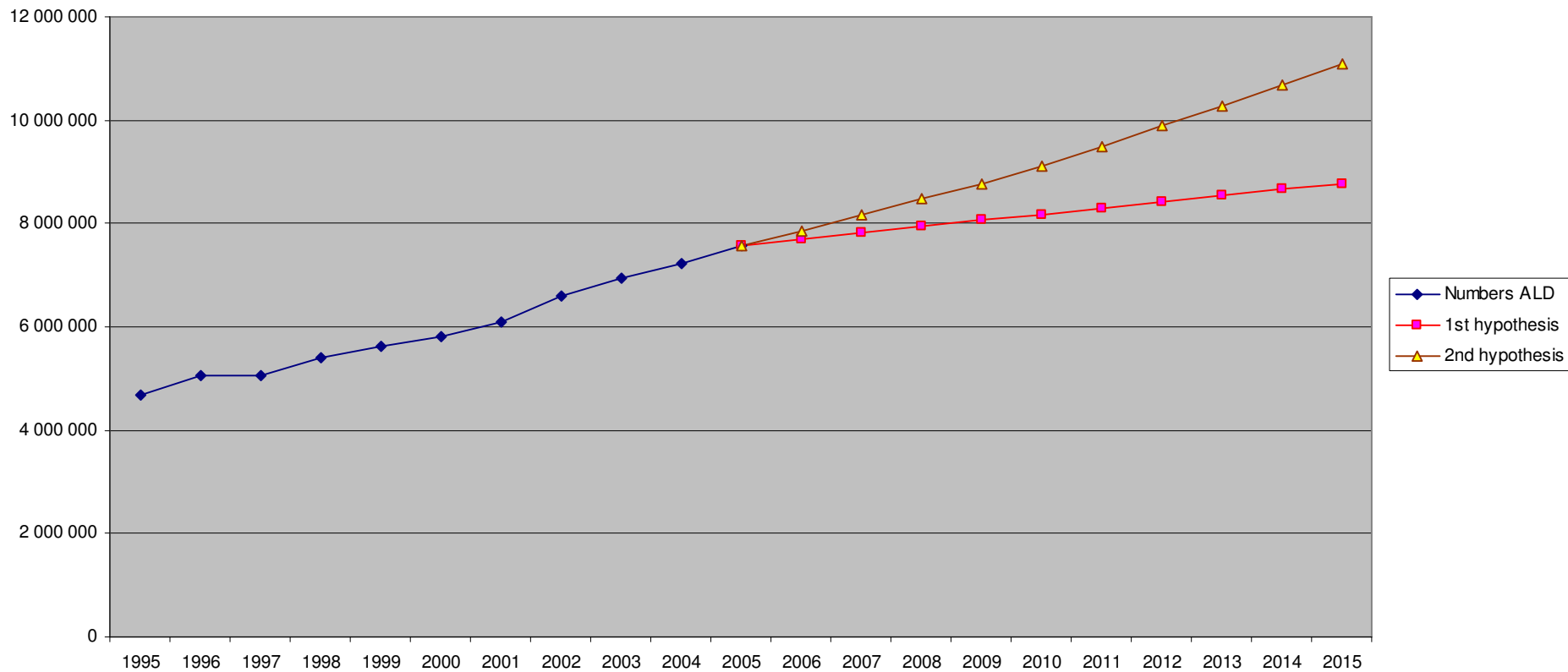
Rate of patients with ALD through 2015



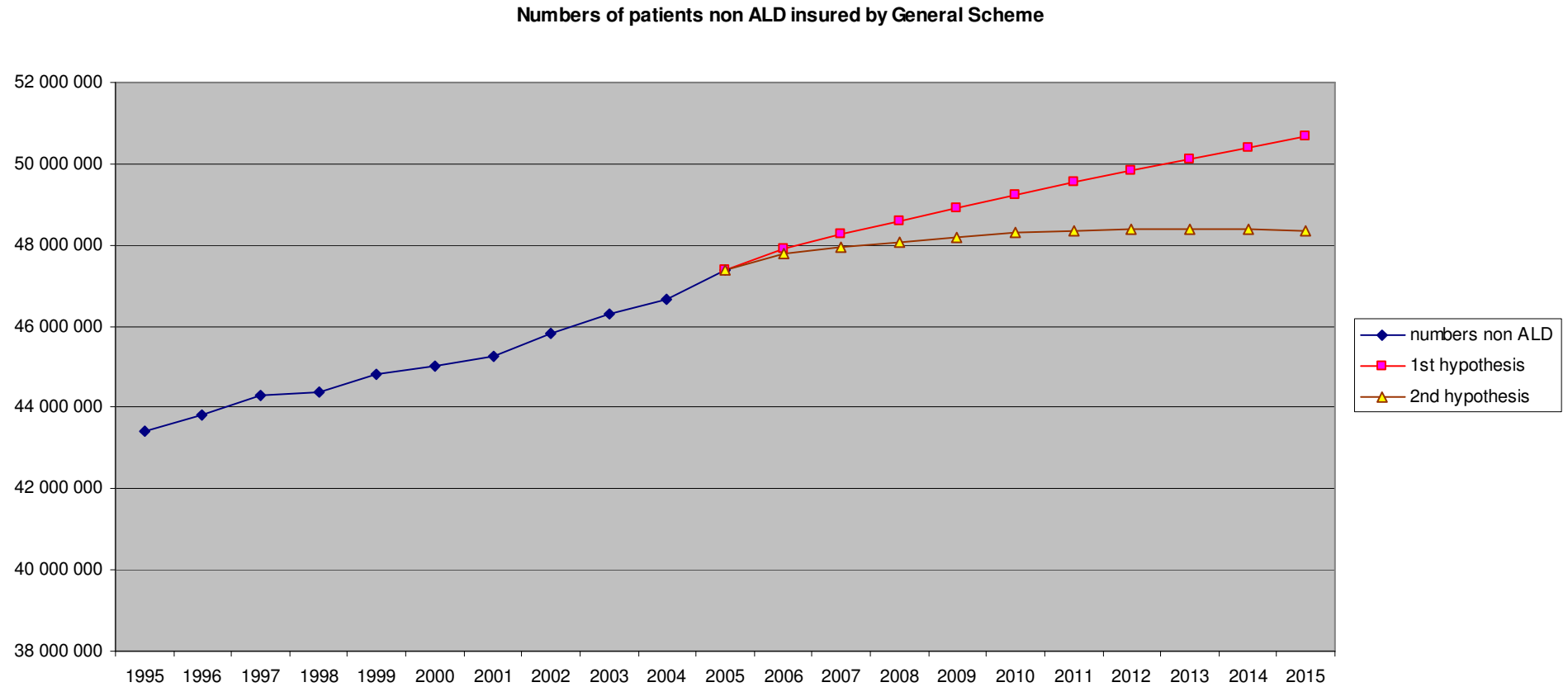
2- Projections of health care spending through 2015

Number of patients with ALD

Number of persons with ALD insured by General Scheme



2- Projections of health care spending through 2015 Number of patients without ALD



2- Projections of health care spending through 2015

Number of patients with ALD - results

Results with 2nd hypothesis :

- **12 million French patients with ALD in 2015 : +42 % between 2006 and 2015**
- **Rate of patients with ALD up from 14% in 2006 to 18,7% in 2015**
- **Factors of evolution : 1/4 due to population structure, 3/4 to prevalence increase**

2- Projections of health care spending through 2015

Number of patients with ALD – 2nd method (1)

Rise in ALD rates through 2015 discussed with physicians, taking into account :

Major epidemiological trends

Slowing down of pathologies linked to tobacco

Increase in pathologies linked to obesity

Increased screening trend (e.g. prostate cancer)

...

2- Projections of health care spending through 2015

Number of patients with ALD – 2nd method (2)

| pathologie | TCAM période 1994/2004 | TCAM 2006 | TCAM estimé période 2006/2011 | nov 1994 | dec 2005 | dec 2006 | dec 2011 | dec 2015 |
|---|------------------------|--------------|-------------------------------|------------------|------------------|------------------|------------------|-------------------|
| 30 Tumeur maligne, affection maligne du tissu lymphatique ou hématopoïétique | 6,3% | 6,2% | 5,9% | 666 827 | 1 412 839 | 1 500 517 | 2 027 599 | 2 579 735 |
| tumeur maligne du sein | 6,8% | 5,7% | 5,5% | 191 981 | 406 266 | 429 583 | 567 845 | 709 866 |
| tumeur maligne de la prostate | 11,3% | 11,7% | 11,4% | 65 303 | 223 482 | 249 712 | 434 934 | 677 971 |
| tumeur maligne du colon | 4,9% | 3,9% | 5,2% | 83 470 | 152 647 | 158 591 | 191 968 | 223 661 |
| tumeur maligne lèvre - bouche - pharynx | 1,4% | 1,0% | 0,5% | 38 789 | 52 555 | 53 077 | 55 766 | 58 015 |
| tumeur maligne du poumon | 3,6% | 1,5% | 1,0% | 30 442 | 58 415 | 59 291 | 63 872 | 67 790 |
| 8 Diabète de type 1 et diabète de type 2 | 6,2% | 7,0% | 6,5% | 652 325 | 1 310 864 | 1 402 573 | 1 966 820 | 2 577 722 |
| 12 Hypertension artérielle sévère | 4,7% | 7,6% | 6,0% | 481 638 | 845 504 | 909 616 | 1 310 902 | 1 756 062 |
| 23 Affections psychiatriques de longue durée | 3,7% | 0,4% | 2,5% | 746 647 | 886 279 | 889 796 | 907 591 | 922 084 |
| 13 Maladie coronaire | 2,2% | 5,2% | 6,0% | 520 264 | 709 300 | 746 142 | 961 123 | 1 176 915 |
| 5 Insuf. cardiaque grave, tr. du rythme graves, cardiopathies | 3,5% | 8,7% | 3,5% | 281 890 | 447 462 | 486 206 | 736 446 | 1 026 592 |
| 3 Artériopathies chroniques avec manifestations ischémiques | 2,2% | 5,4% | 2,8% | 242 585 | 331 194 | 349 184 | 454 898 | 562 084 |
| 14 Insuffisance respiratoire chronique grave | 3,0% | 3,1% | 5,0% | 195 103 | 269 212 | 277 620 | 323 767 | 366 149 |
| 1 Accident vasculaire cérébral invalidant | 4,5% | 6,3% | 2,8% | 121 458 | 196 913 | 209 294 | 283 902 | 362 325 |
| 15 Maladie d'Alzheimer et autres démences | | 6,1% | 6,0% | | 186 975 | 198 319 | 266 237 | 336 970 |
| 9 Forme grave des affections neurologiques et musculaires, épilepsie grave | 8,6% | 6,9% | 6,5% | 66 847 | 160 889 | 171 999 | 240 173 | 313 705 |
| 6 Maladies chroniques actives du foie et cirrhoses | 9,9% | 3,8% | 3,0% | 52 061 | 140 172 | 145 508 | 175 394 | 203 665 |
| 22 Polyarthrite rhumatoïde évolutive grave | 4,5% | 6,2% | 6,0% | 79 140 | 132 375 | 140 526 | 189 457 | 240 610 |
| 24 Rectocolite hémorragique et maladie de Crohn évolutives | 8,9% | 6,0% | 5,5% | 34 896 | 87 709 | 92 984 | 124 517 | 157 284 |
| 7 Déficit immunitaire primitif, infection par le VIH | 6,6% | 2,8% | 2,0% | 42 034 | 81 032 | 83 281 | 95 498 | 106 549 |
| 19 Néphropathie chronique grave et syndrome néphrotique primitif | 5,7% | 4,6% | 7,5% | 35 350 | 71 684 | 74 990 | 93 953 | 112 521 |
| 16 Maladie de Parkinson | 1,7% | 7,4% | 4,0% | 55 007 | 69 883 | 75 063 | 107 324 | 142 862 |
| 25 Sclérose en plaques | 10,0% | 5,5% | 3,0% | 19 034 | 51 789 | 54 647 | 71 484 | 88 619 |
| 27 Spondylarthrite ankylosante grave | 7,9% | 6,7% | 6,3% | 21 527 | 49 885 | 53 245 | 73 760 | 95 732 |
| 21 PAN, LEAD, sclérodémie généralisée évolutive | 12,3% | 7,2% | 6,0% | 15 352 | 40 156 | 43 036 | 60 847 | 80 272 |
| 17 Maladies métaboliques héréditaires nécessitant un traitement prolongé et spécialisés | 2,5% | 14,2% | 10,0% | 16 089 | 28 708 | 32 787 | 63 708 | 108 390 |
| 20 Paraplégie | -6,2% | 0,4% | 1,0% | 58 010 | 31 758 | 31 898 | 32 607 | 33 186 |
| 11 Hémophilies et affections constitutionnelles de l'hémostase graves | 4,9% | 10,6% | 8,0% | 5 835 | 16 857 | 18 646 | 30 875 | 46 220 |
| 26 Scoliose structurale évolutive | 3,8% | 3,9% | 4,0% | 10 424 | 15 946 | 16 564 | 20 032 | 23 323 |
| 29 Tuberculose active, lèpre | 1,5% | -9,9% | -7,0% | 10 877 | 11 809 | 10 642 | 6 325 | 4 172 |
| 10 Hémoglobinopathies, hémolyses, chroniques constitutionnelles et acquises sévères | 8,6% | 7,9% | 7,0% | 3 059 | 9 399 | 10 137 | 14 793 | 20 015 |
| 2 Insuffisances médullaires et autres cytopénies chroniques | 13,6% | 10,8% | 10,0% | 2 436 | 8 405 | 9 311 | 15 534 | 23 395 |
| 28 Suites de transplantation d'organe | -7,0% | 5,1% | 10,0% | 8 328 | 4 807 | 5 050 | 6 462 | 7 871 |
| 18 Mucoviscidose | 3,8% | 4,0% | 3,8% | 2 946 | 4 628 | 4 811 | 5 840 | 6 820 |
| 4 Bilharziose compliquée | -6,5% | -2,0% | -4,0% | 283 | 148 | 145 | 131 | 121 |
| ALD30 non ventilées | | 1,0% | | ? | 680 816 | 687 939 | 724 688 | 755 495 |
| Total patients en ALD 30 (un patient peut avoir plusieurs ALD) | 5,7% | 3,7% | 4,0% | 3 765 000 | 7 121 352 | 7 382 992 | 8 842 644 | 10 215 553 |
| nbre moyen d'ald par par patient en ALD 30 | | 1,5% | 1,5% | 1,1 | 1,165 | 1,1828 | 1,277 | 1,357 |
| Total patients en ALD 31 | | 6,5% | 7,0% | 192 000 | 334 794 | 356 694 | 489 651 | 630 898 |
| Total patients en ALD 32 | | -5,0% | -5,0% | 75 000 | 74 590 | 70 829 | 54 684 | 44 462 |
| Total patients (ALD30, 31 ou 32) | 5,7% | 3,6% | 3,9% | 4 003 030 | 7 421 099 | 7 686 890 | 9 165 642 | 10 550 976 |

2- Projections of health care spending through 2015

Number of patients with ALD – 2nd method (3)

Conclusion :

Results coherent with econometric method

10,5 million patients insured by General Scheme with ALD in 2015,
equivalent to 11,5 million for total French population

2- Projections of health care spending through 2015

Projection of cost per person - Methodology

Projection of expenditures per person ALD/non ALD :

Use of 20-years retrospective claim data on sample of patients

Modeling of future individual expenditures considering population structure + annual increase due to technology

Separate modeling of outpatient, pharmacy and inpatient expenditures

Choice of period to estimate trends : should the impact of the 2004 reform be included in the trends ?

Mostly short-term and one-time impacts :

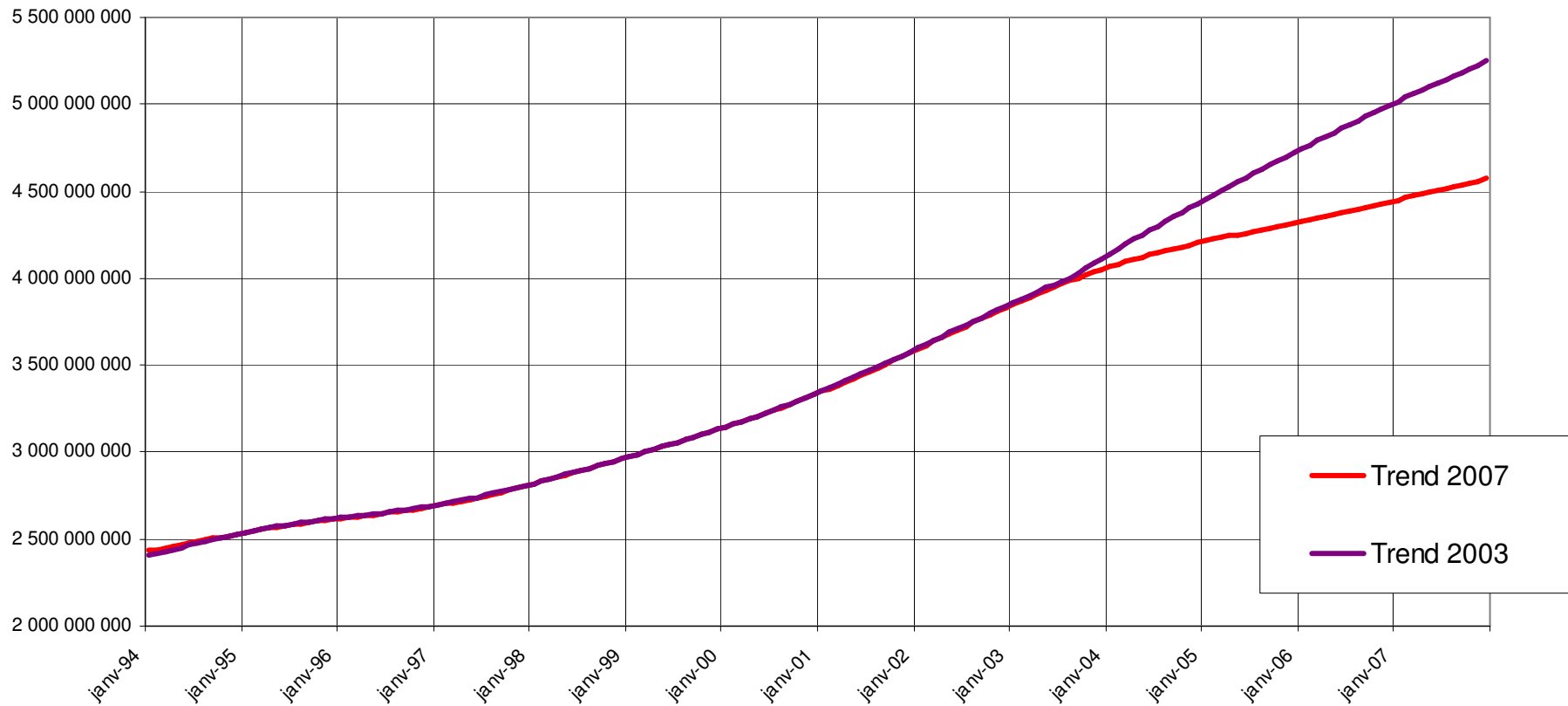
- Drop in drug prices and agreements with pharmacists to develop generics**
- Psychological impact on ambulatory care demand**
- Rises in co-payments**

=> Period used to estimate trends : 1995-2003

2- Projections of health care spending through 2015

Reference period used to estimate trends (1)

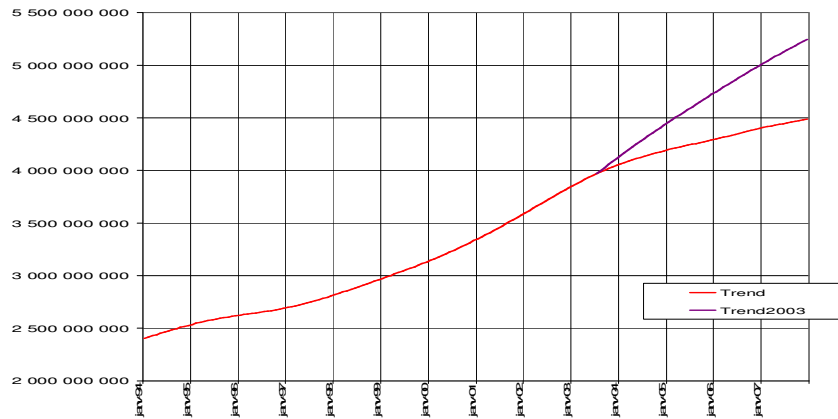
Health care spending growth trends



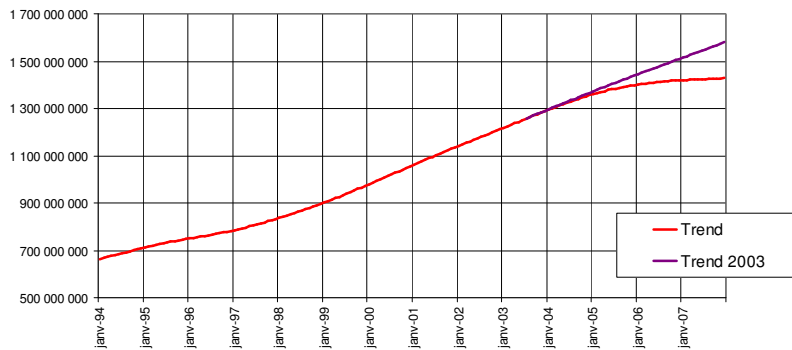
2- Projections of health care spending through 2015

Reference period used to estimate trends (2)

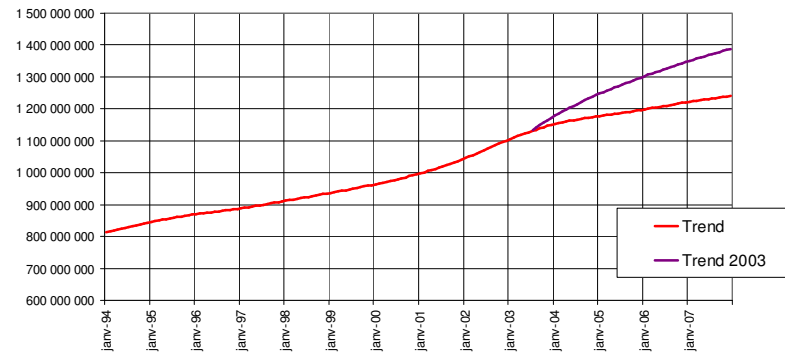
Outpatient spending



Pharmacy spending

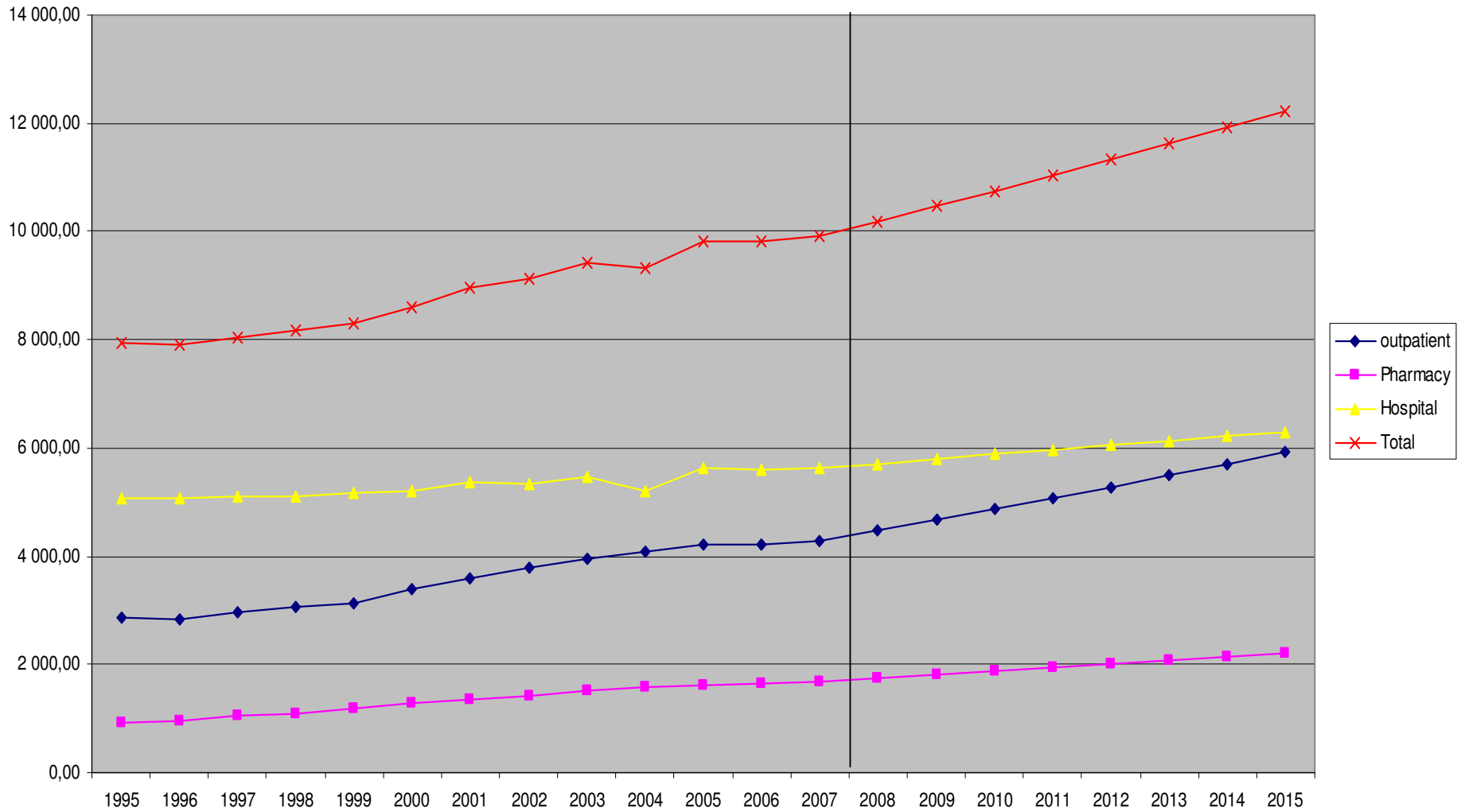


Physicians' fees



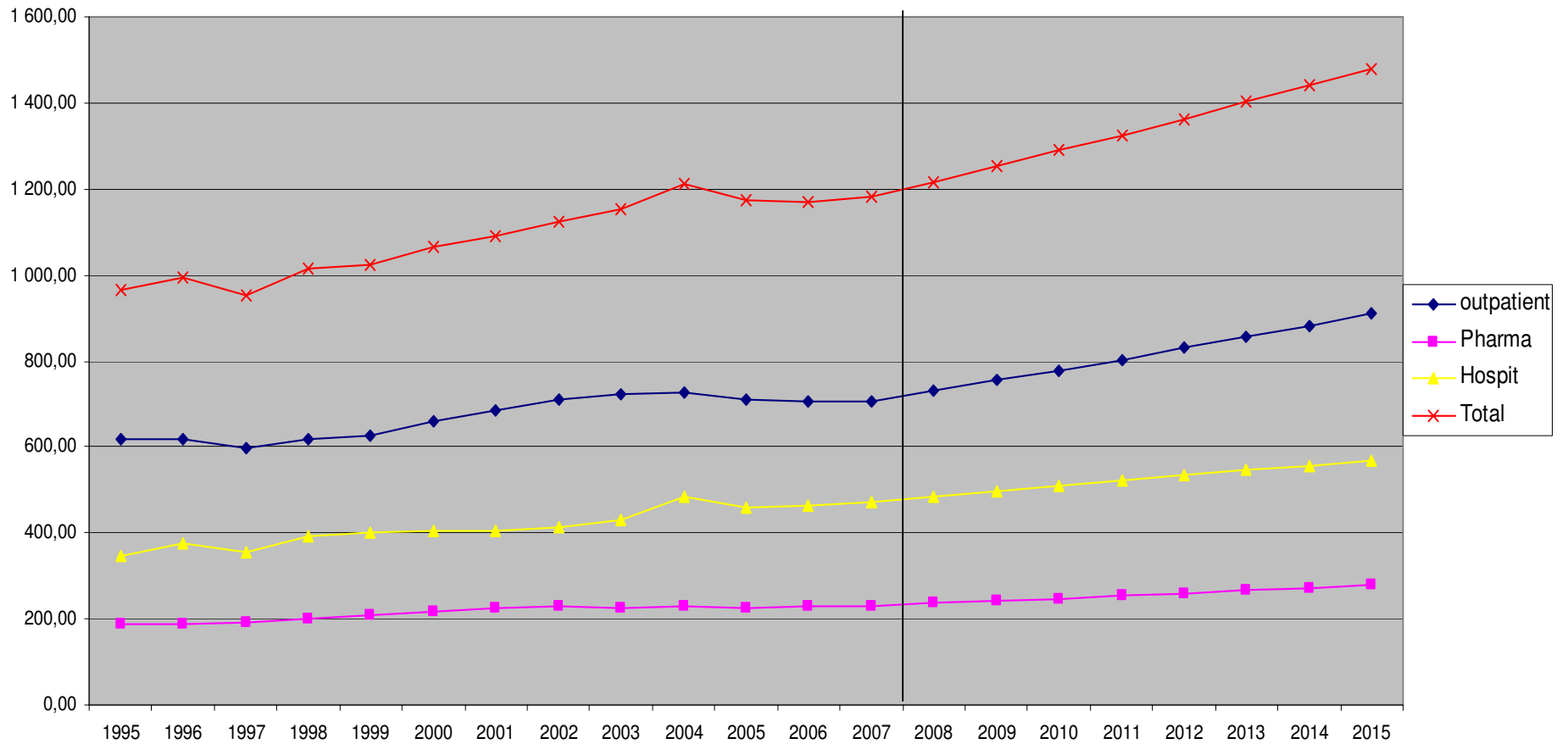
2- Projections of health care spending through 2015

Spending per person with ALD



2- Projections of health care spending through 2015

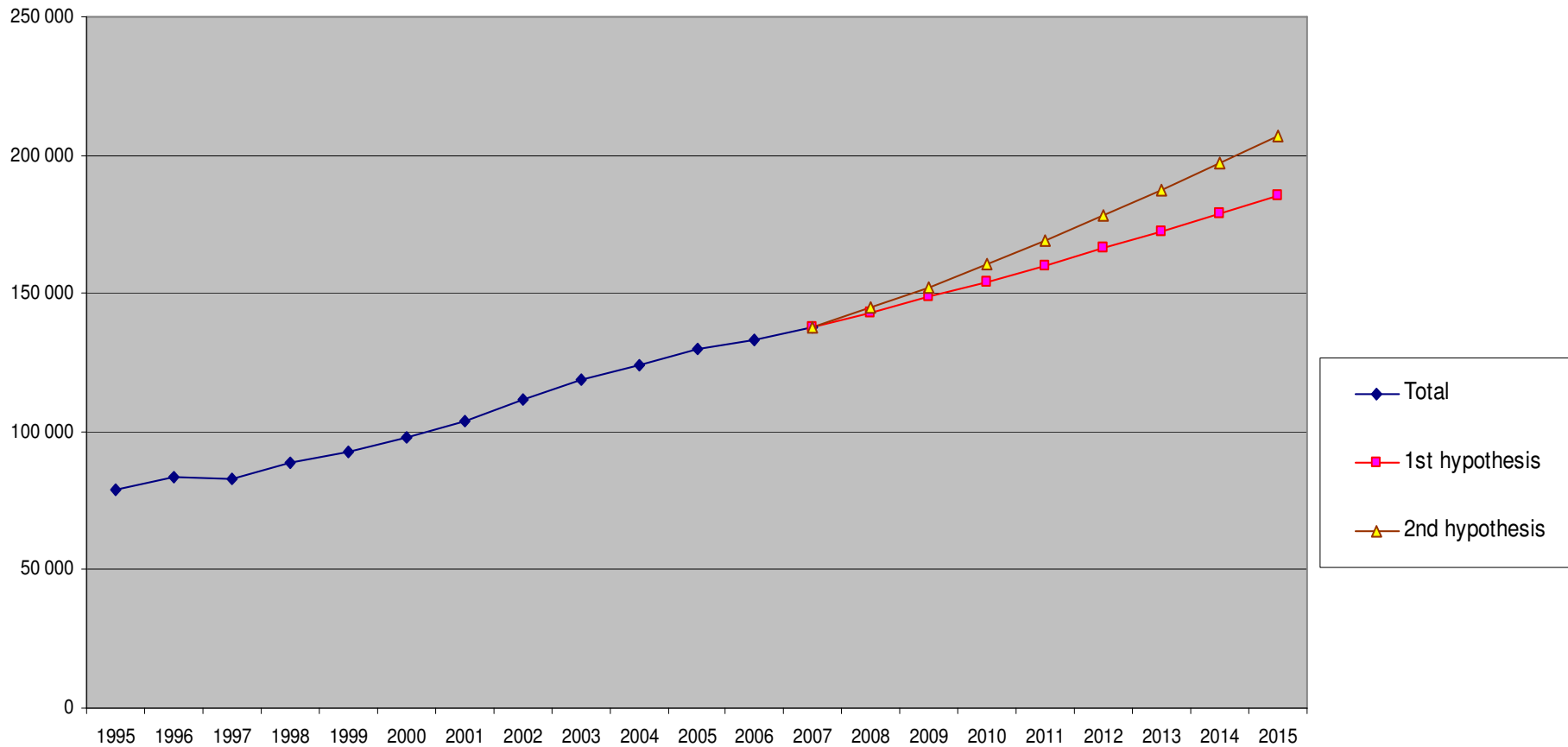
Spending per person without ALD



2- Projections of health care spending through 2015

Total spending

Methodology : Σ (Spending per patient with ALD per category of expenses * number patients with ALD + Spending per patient without ALD per category of expenses * number patients without ALD)



2- Projections of health care spending through 2015 : results

With 1st hypothesis (taking into account population structure only) : annual growth of 3.8%

With 2nd hypothesis (taking into account population structure + increase in prevalence of chronic diseases) : annual growth of 5.3 % (6.0% for outpatient spending including pharmacy and +4.5% for inpatient spending)

Projection of revenues growth 2007-2015 :

Inflation : 1.8%

Economic growth (real terms) : between 2.0% and 2.5%

Total revenues growth : around 4.0% per year

=> Annual gap between revenues and expenditures : +1.3%

3- Focus on health care spending for diabetics

Goals :

Evaluate future prevalence of diabetes through 2016

Evaluate future costs per diabetic

Evaluate total future costs for health insurance

3- Focus on health care spending for diabetics

Diabetes is the third most frequent chronic disease in France

- **2.2 M patients with a drug treatment**
- **1.8 M diabetics with ALD (64 years old on average, 51% men)**
 - **+6% a year**

11 Bn€ cost in 2004 for health insurance

- **~6.2 k€ per diabetic with ALD, +2.9% a year (94-04)**
- **Frequent complications (e.g. 15% of diabetics had had a heart attack in 2001)**

Cares for diabetics have a great potential for improvement

- **Over 2/3 have less than 3 glycemia tests (HbA1c) while guidelines are set at 4**
- **43% have the yearly ophthalmology check up required by guidelines**
- **33% have the yearly cardiology check up required by guidelines**
- **More than a third are not regularly tested for cholesterol**
- **Insufficient information to the patients on complications risks**

3- Focus on health care spending for diabetics

Cost structure for each type of diabetics

| | With insulin | No insulin With complications | No insulin No complications |
|----------------------------------|--------------|----------------------------------|--------------------------------|
| GP's | 250 | 268 | 160 |
| Specialists | 183 | 217 | 100 |
| Nurses | 1 443 | 220 | 16 |
| Physiotherapists | 109 | 166 | 20 |
| Others | 3 | 14 | 1 |
| Dentists | 34 | 34 | 37 |
| Transports | 265 | 142 | 14 |
| Drugs | 1 835 | 1 724 | 782 |
| Biological exam. | 165 | 197 | 116 |
| Hospitalization (public) | 3 092 | 1 524 | 181 |
| Hospitalization (private) | 1 102 | 850 | 192 |
| Health products | 767 | 275 | 76 |
| TOTAL | 9 247 | 5 631 | 1 696 |

Proportion of diabetics

~1/3

~1/3

~1/3

3- Focus on health care spending for diabetics

Projection of number of diabetics

| Year | Number of diabetics with drug treatment (in thousands) | Diabetics in ALD (%) | Number of diabetics in ALD (in thousands) |
|------|--|----------------------|---|
| 1994 | 1 277 | 66,1 | 844 |
| 1999 | 1 846 | 69,7 | 1 287 |
| 2006 | 2 166 | 80,9 | 1 752 |
| 2008 | 2 277 | 82,9 | 1 888 |
| 2012 | 2 539 | 86,9 | 2 206 |
| 2016 | 2 867 | 90,9 | 2 606 |

3- Focus on health care spending for diabetics

Evolution of drug treatment for diabetics 2000-2005

| | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 |
|--|-------------|-------------|-------------|-------------|-------------|-------------|
| % Patients with anti-hypertension treatment | 68,7 | 69,3 | 70,1 | 71,7 | 71,4 | 73,8 |
| <i>% with ACE inhibitors</i> | <i>45,0</i> | <i>46,9</i> | <i>49,2</i> | <i>52,9</i> | <i>54,4</i> | <i>57,0</i> |
| % patients with anti-lipemic treatment | 42,7 | 44,7 | 45,9 | 49,3 | 52,1 | 54,9 |
| <i>% with statins</i> | <i>23,9</i> | <i>26,2</i> | <i>28,0</i> | <i>32,1</i> | <i>37,1</i> | <i>40,3</i> |
| % patients with anti-platelet treatment | 25,8 | 26,7 | 28,0 | 29,7 | 31,5 | 32,2 |
| <i>% with aspirin therapy</i> | <i>22,4</i> | <i>23,0</i> | <i>23,6</i> | <i>24,4</i> | <i>25,4</i> | <i>25,6</i> |

3- Focus on health care spending for diabetics

Evolution of treatment costs per patient 2000-2005

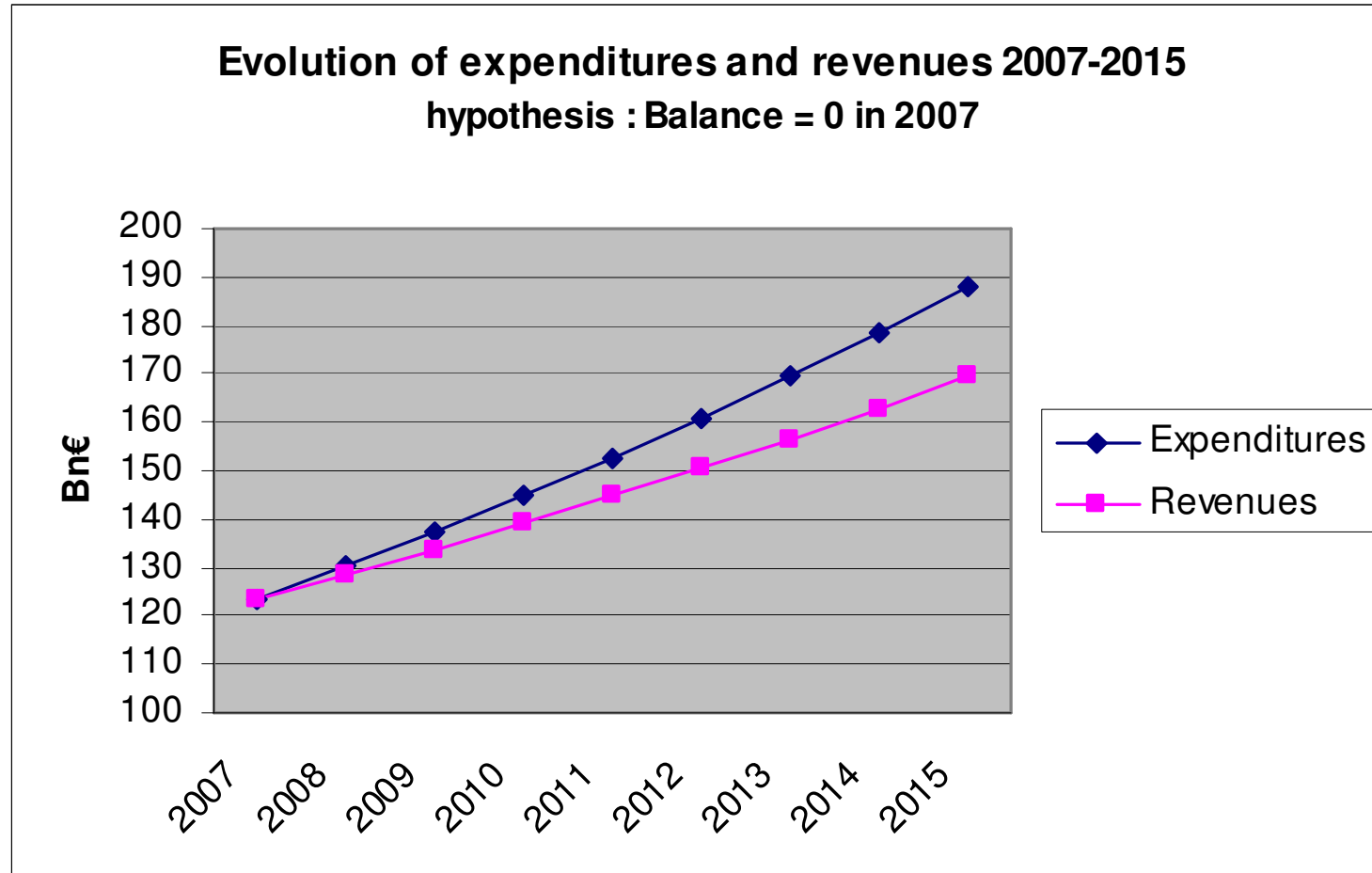
| Euros | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 |
|--------------------------------|------------|------------|------------|------------|------------|------------|
| Hypoglycaemic drugs | 237 | 246 | 255 | 268 | 293 | 312 |
| <i>insulin</i> | <i>78</i> | <i>83</i> | <i>87</i> | <i>95</i> | <i>115</i> | <i>126</i> |
| Anti-hypertension drugs | 196 | 205 | 215 | 234 | 237 | 248 |
| Anti-lipemic drugs | 83 | 91 | 95 | 113 | 129 | 137 |
| Anti-platelets | 23 | 29 | 36 | 42 | 53 | 63 |
| Total | 539 | 571 | 601 | 657 | 712 | 760 |

3- Focus on health care spending for diabetics

Projection of number of diabetics and total reimbursement cost

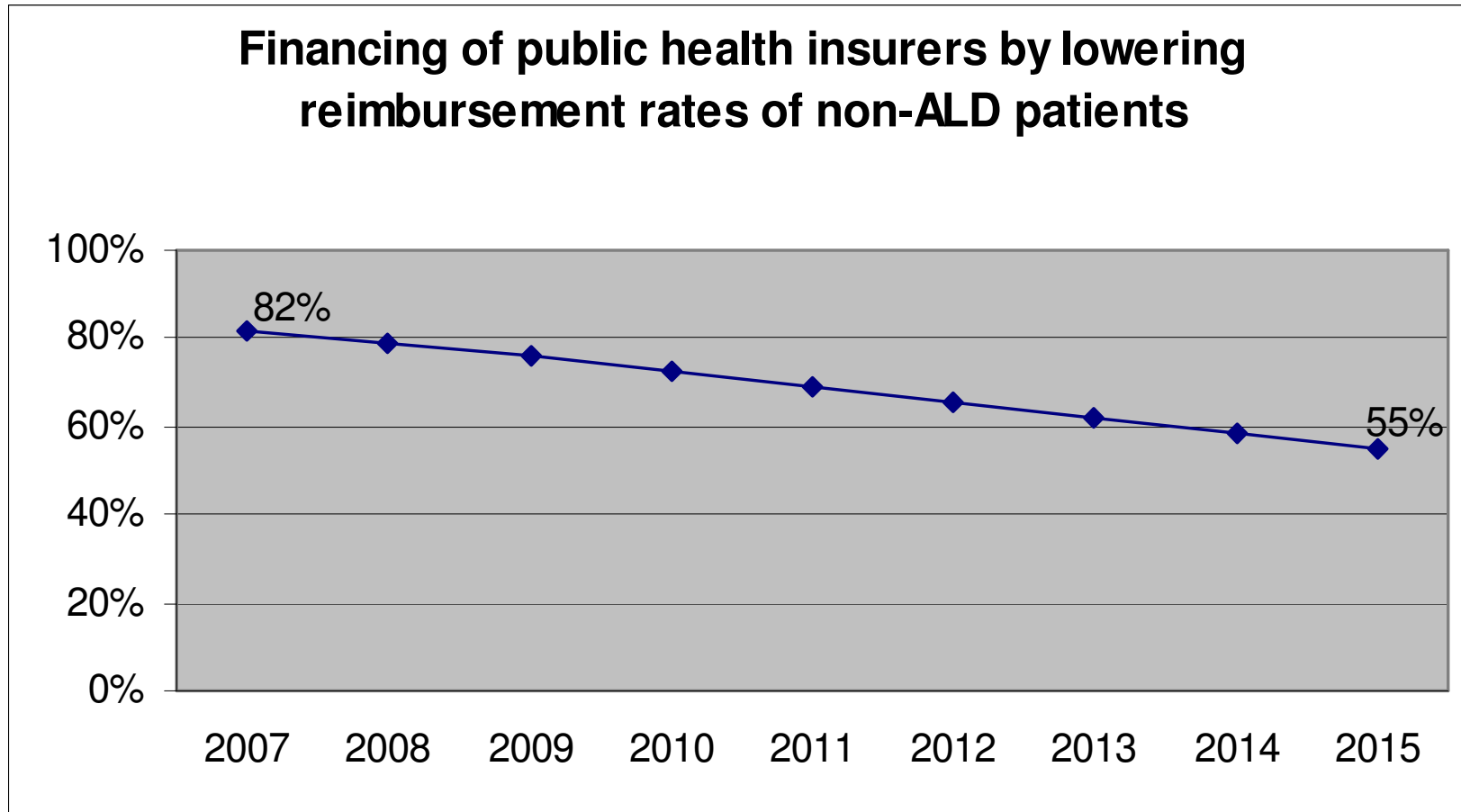
| Year | Number of diabetics with drug treatment (thousands) | % in ALD | Number of diabetics in ALD (thousands) | Average cost per diabetic in ALD (Euros 2004) | Total costs for diabetics in ALD (bn € 2004) |
|------|---|----------|--|---|--|
| 1994 | 1 277 | 66,1 | 844 | 4 427 | 3,7 |
| 1999 | 1 846 | 69,7 | 1 287 | 5 107 | 6,6 |
| 2006 | 2 166 | 80,9 | 1 752 | 6 210 | 10,9 |
| 2008 | 2 277 | 82,9 | 1 888 | 6 576 | 12,4 |
| 2012 | 2 539 | 86,9 | 2 206 | 7 372 | 16,3 |
| 2016 | 2 867 | 90,9 | 2 606 | 8 265 | 21,5 |

4- How to ensure the sustainability of the system : financing issues (1)

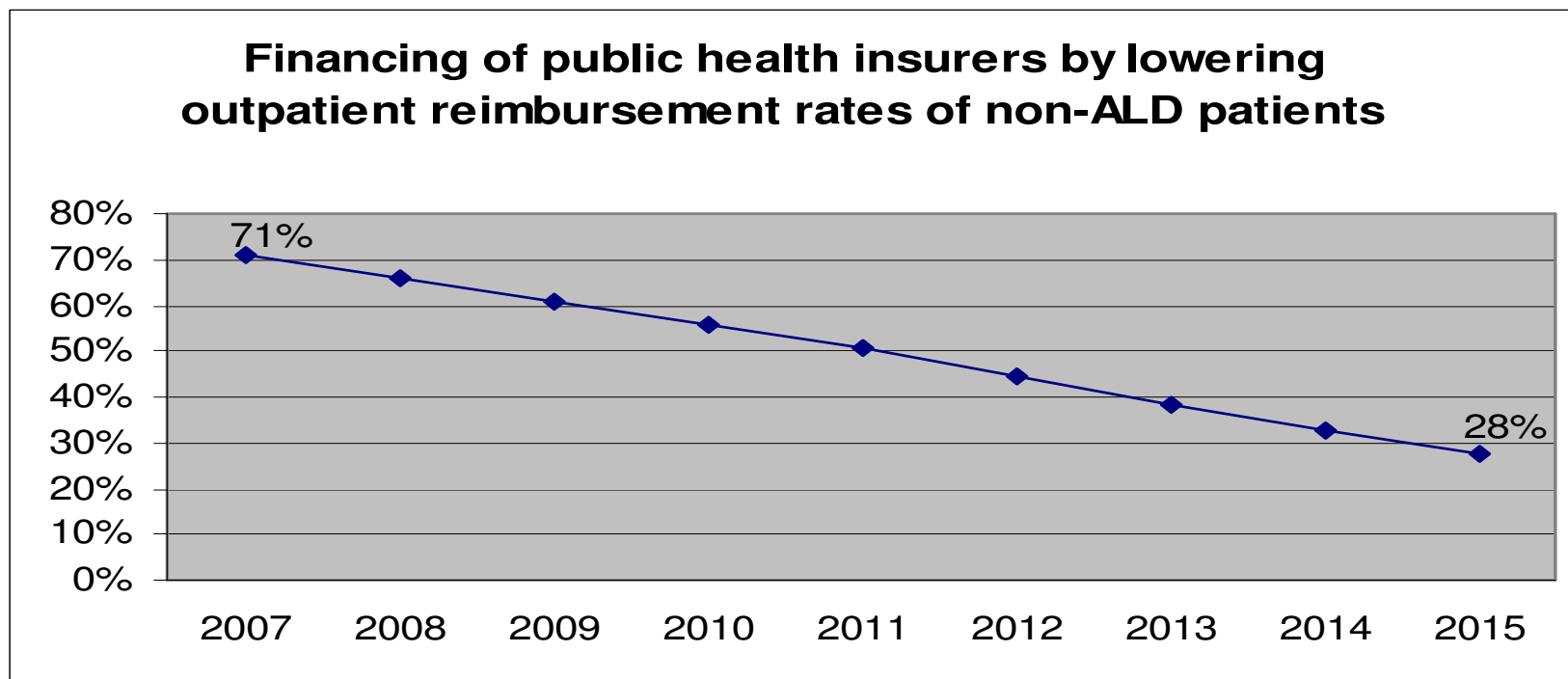


Deficit increases by 1.9 bn€ every year

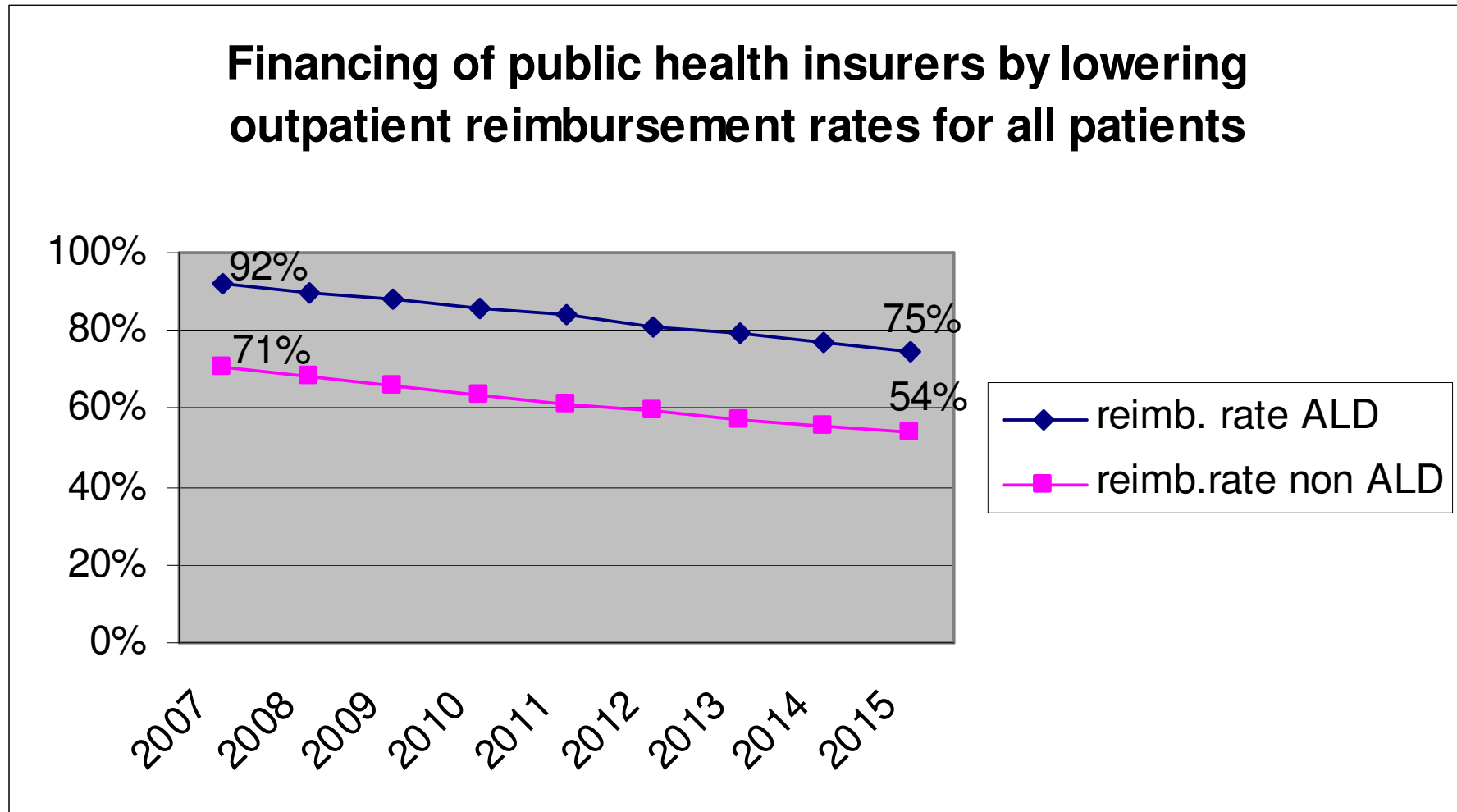
4- How to ensure the sustainability of the system : financing issues (2)



4- How to ensure the sustainability of the system : financing issues (3)



4- How to ensure the sustainability of the system : financing issues (4)



4- How to ensure the sustainability of the system : financing issues (5)

Financing public health insurers by lowering reimbursement rates is possible in the short-term (1 or 2 years). In the long term it is not an option

Financing by increasing revenues has long been a major lever for policy-makers but level of taxes and payroll contributions is high and increasing them is not a political option in the short term.

Reforms should therefore address demand and supply

4- How to ensure the sustainability of the system : avenues of research

Patients with chronic diseases (ALD) account for 60% of all costs in 2006

They might account for 68% in 2015

=> It is vital to address rising prevalence of chronic diseases

Possible tools :

Respect of clinical guidelines by providers

=> Training and evaluation of physicians and other providers

=> Prescribing tools

=> Pay-for-performance

=> Electronic health records...

Need to develop disease management programs (=> first pilot towards diabetics to be launched in France in 2008)