



ESTIMATING COSTS OF CANCER

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UTS BUSINESS SCHOOL

Bowel cancer victims denied life-prolonging drug that's free in Europe

ANOTHER CANCER DRUG TOO DEAR FOR BRITAIN

Tories accused of stalling on election pledge to lift block on life-prolonging cancer drugs

Condemned to an early death



VICTORY THAT CAME TOO LATE

...the government's failure to lift the ban on the use of drugs that are available in other countries but not in the UK. The government has promised to do this as part of its election pledge. However, it has failed to do so. This has led to the deaths of many cancer patients who could have been saved by these drugs. The government has been accused of stalling on this pledge. This is a betrayal of the trust that patients have placed in the government. The government must lift the ban on these drugs as a matter of urgency. This is a matter of life and death. The government must act now.

BETRAYAL OF THE CANCER PATIENTS

Rationing watchdog accused of talking down wonder drug's power to save lives

SUNDAY EXPRESS

FREE INSIDE GET FIT & FEEL FABULOUS IN 7 DAYS! WITH GURNEY TRAINING AND JOY SALEMMANN

FREE SPOTTY SCARF

NHS REFORMS WILL KILL CANCER PATIENTS

Bus crash beside flights for her life

The **COST** of Cancer Drugs

Produced By Richard Bonin



60 MINUTES

Medicare cuts to diagnostic scans will cost cancer patients, say radiologists

Cuts to rebates and bulk billing incentives for CT scans, MRIs, ultrasounds and other imaging will cost patients hundreds more, say private radiology practices



What if we can't afford the cure for cancer?

Sue Dunlevy, National Health Reporter, News Corp Australia Network

September 25, 2015 12:00am

Subscriber only

EXCLUSIVE

WHAT if we found a cure for cancer but couldn't afford it? It's the dilemma that could be hitting the desk of health ministers around the world within two years.

FEBRUARY 15 2016

Malcolm Turnbull's attacks on public health are impoverishing and killing me

The Liberals have a long history of undermining public healthcare.

Rick Kuhn

BT Super

Painful fees at heart of health reform push

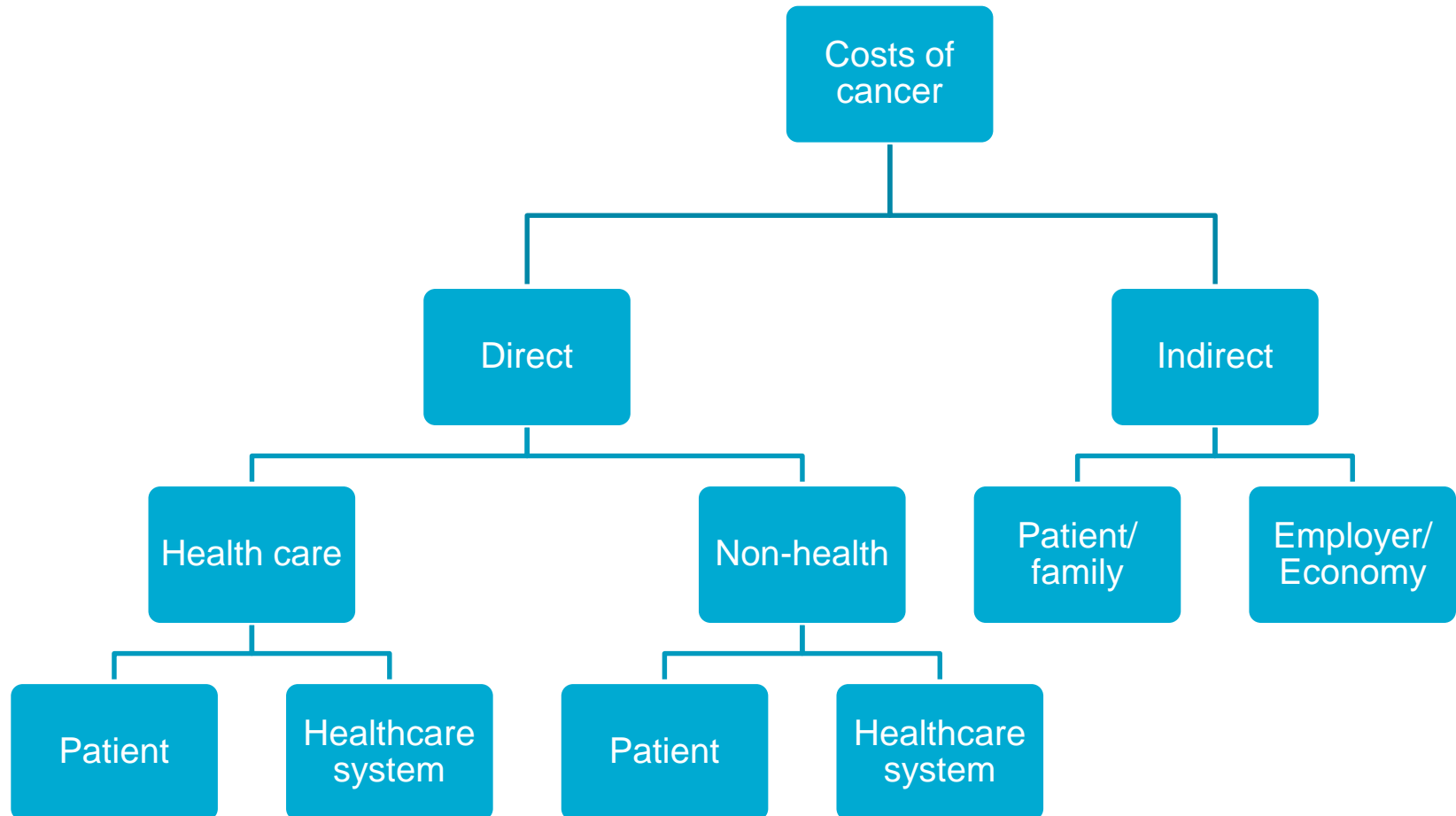


Federal Health Minister Sussan Ley. Picture: Tricia Watkinson

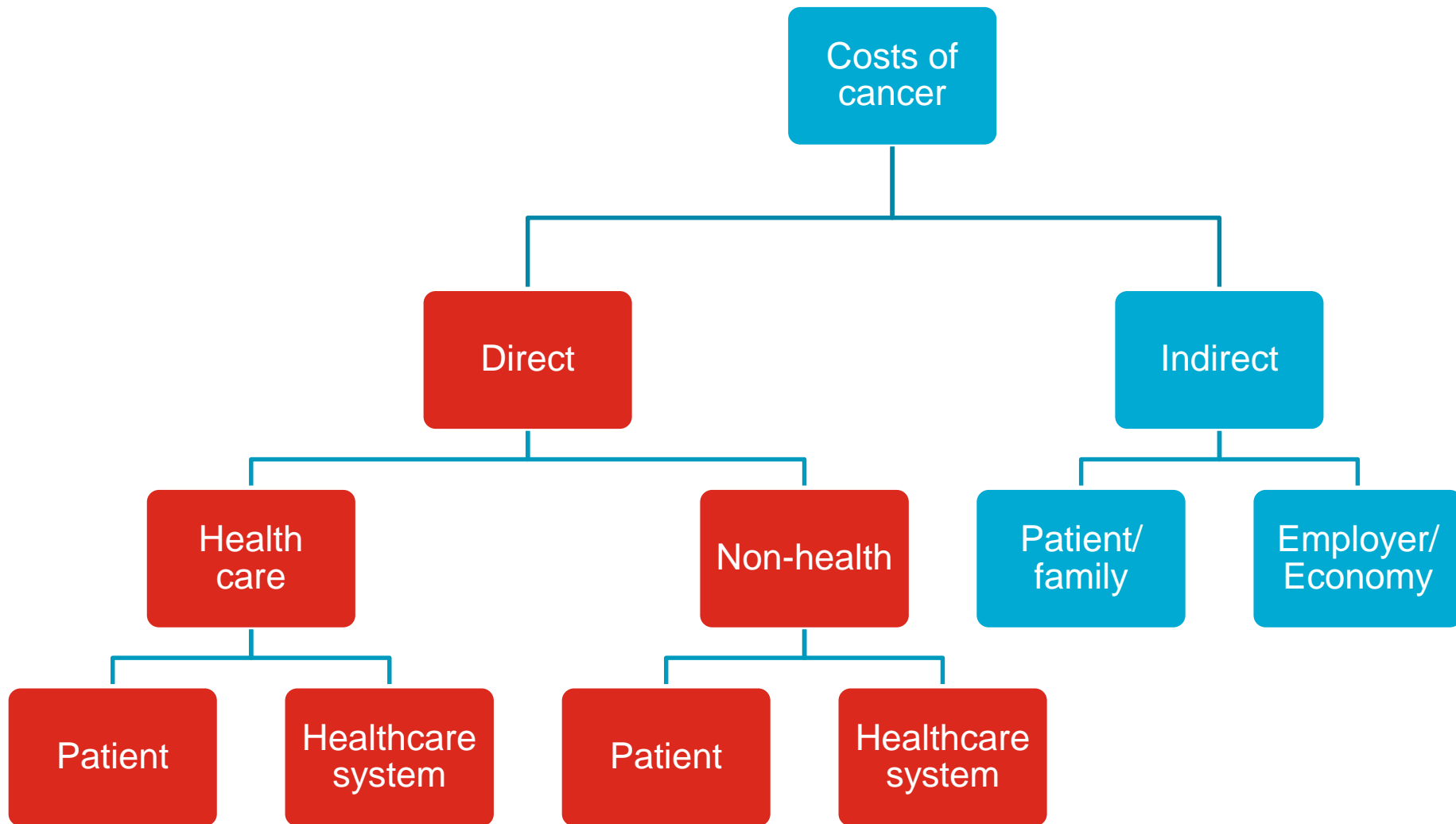
Cancer sufferers waiting years for PBS drug approvals

Jessica Kidd reported this story on [Monday, April 20, 2015 08:23:00](#)

TYPES OF COSTS



TYPES OF COSTS - DIRECT



DIRECT HEALTHCARE COSTS



Health care system

- Hospital care
- Outpatient clinics
- GP visits
- Allied health
- Overhead costs
- Drugs & devices
- Screening
- Prevention
etc.

Patient / family

- Drugs & devices
- Doctor visits
- Special diets
etc.



DIRECT NON-HEALTH COSTS

Health care system

- Social services
- Counselling
- Program evaluation
etc.

Patient / family

- Transport costs
- Time
- Childcare / housekeeping
etc.



MEASURING & VALUING DIRECT COSTS

- Medicare data (MBS / PBS / other)
- Patient questionnaires
- Other administrative data (eg cancer registry)
- Other 'standard pricing' sources
- Literature



MEDICARE DATA

- MBS
 - 5700 different medical services (& their fees)
 - Out of hospital services & private inpatient
 - Accurate and longitudinal
 - No public inpatient data, no outcomes, variable consent rates, changing definitions of items & policies, PHI rebates not captured
- PBS
 - Prescription drugs subsidised by PBS (except inpatient)
 - Accurate and longitudinal
 - Doesn't capture compliance, private scripts, OTC, hospital drugs (PBS ~ 40% total pharmaceutical expenditure)

PATIENT SURVEYS

- Validated survey instruments, eg:
 - Work Productivity & Activity Impairment Q'airre
 - Stanford Presenteeism Scale
- DIY - Identify, measure, value
 - Define which costs are likely and/or important
 - Determine time period and collection method
 - How will time be valued – real or average wage

EXAMPLE

Support Care Cancer (2016) 24:879–886
DOI 10.1007/s00520-015-2857-8



ORIGINAL ARTICLE

Comparing the costs of three prostate cancer follow-up strategies: a cost minimisation analysis

Alison M. Pearce¹ • Fay Ryan² • Frances J. Drummond¹ • Audrey Alforque Thomas³ •
Aileen Timmons¹ • Linda Sharp¹

EG: COST OF CANCER FOLLOW-UP

Table 2 Model input costs for a 10-year cost minimisation model comparing three different follow-up care strategies with a cohort of 1000 men aged 66 treated curatively for prostate cancer

	Basic cost
Medical Consultant ^a (per hour of contact)	€124.74 (£99)
PSA test ^b	€7.22 (£5.70)
General practitioner patient contact 11.7 min ^a	€42.84 (£34)
General practitioner 17.2 min ^a	€61.74 (£49)

^a Costs sourced from the Personal and Social Services Research Unit [18]

^b Ireland specific cost sourced from literature [19]

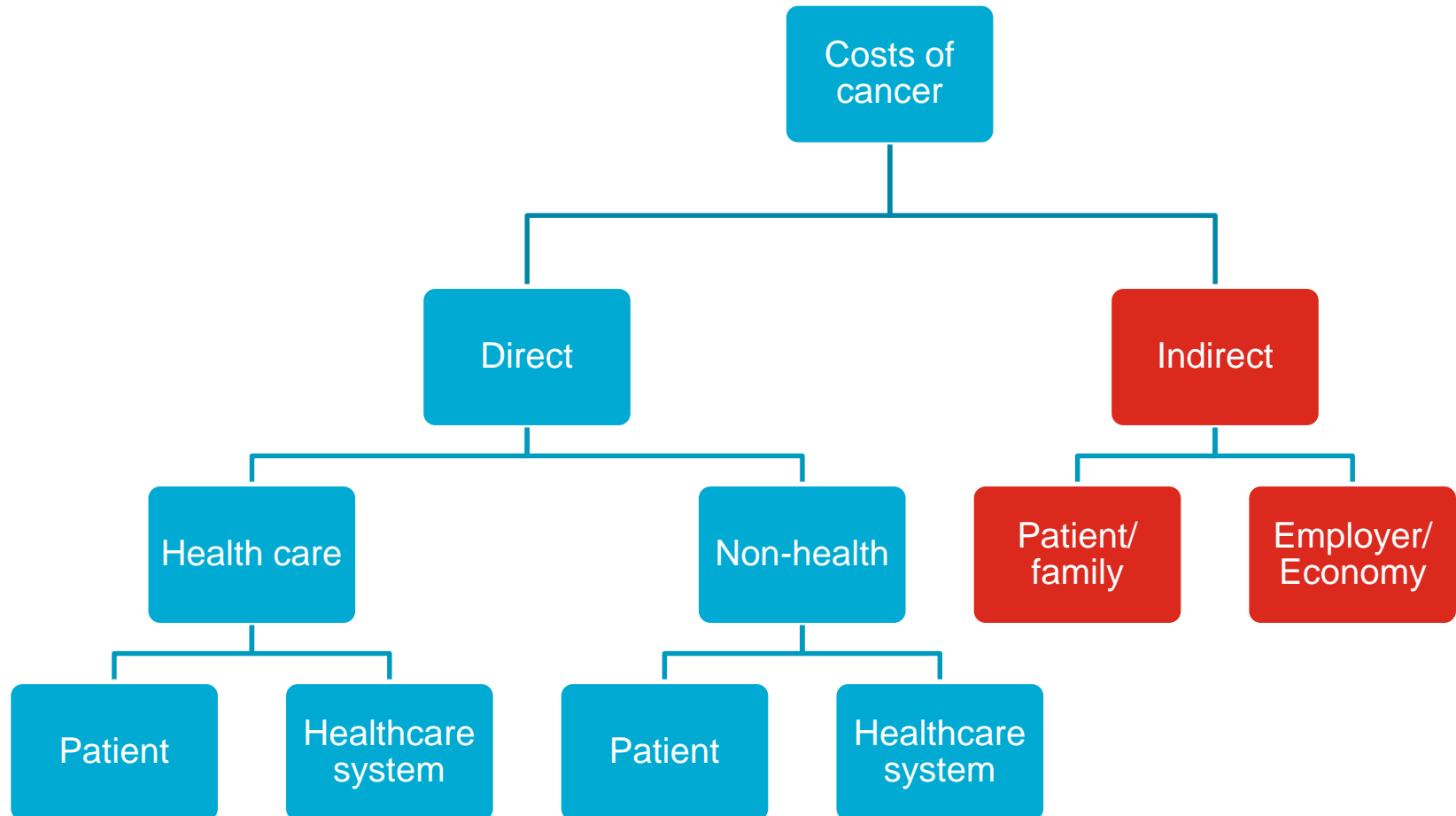
EG: COST OF CANCER FOLLOW-UP

Table 3 Cost of prostate cancer follow-up care per survivor – results of a discounted base case 10-year cost minimisation model comparing three different follow-up care strategies with a cohort of 1000 men aged 66 treated curatively for prostate cancer

	Cost of prostate cancer follow-up care per survivor	Percentage of current practice cost
EAU Guidelines	€1057.32	92 %
NICE Guidelines	€852.73	74 %
Current Practice	€1149.81	-

	Savings compared to current practice over a 10-year period	
	Per survivor	For a year's cohort of survivors
EAU Guidelines	€92.49	€236,959
NICE Guidelines	€297.08	€761,119
Current Practice	-	-

TYPES OF COSTS - INDIRECT



INDIRECT COSTS

Patient / family

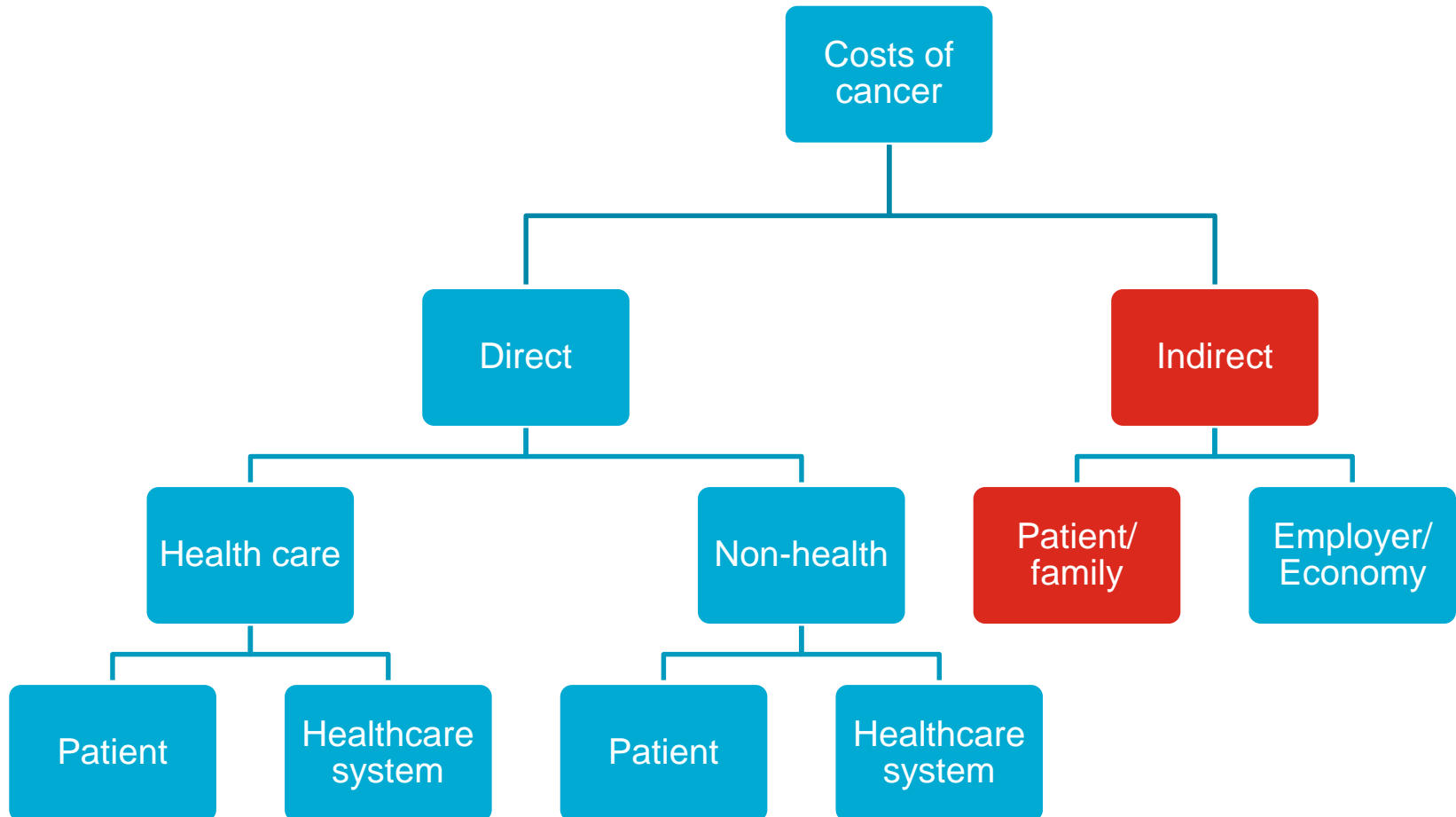
- Lost income
- Foregone leisure
- Carer time
etc



Employer / economy

- Lost productivity, inc:
 - time off work
(absenteeism)
 - reduced performance
(presenteeism)
 - Unpaid productivity
(childcare / volunteering)
 - Informal sector work
(developing countries)

TYPES OF COSTS - INDIRECT

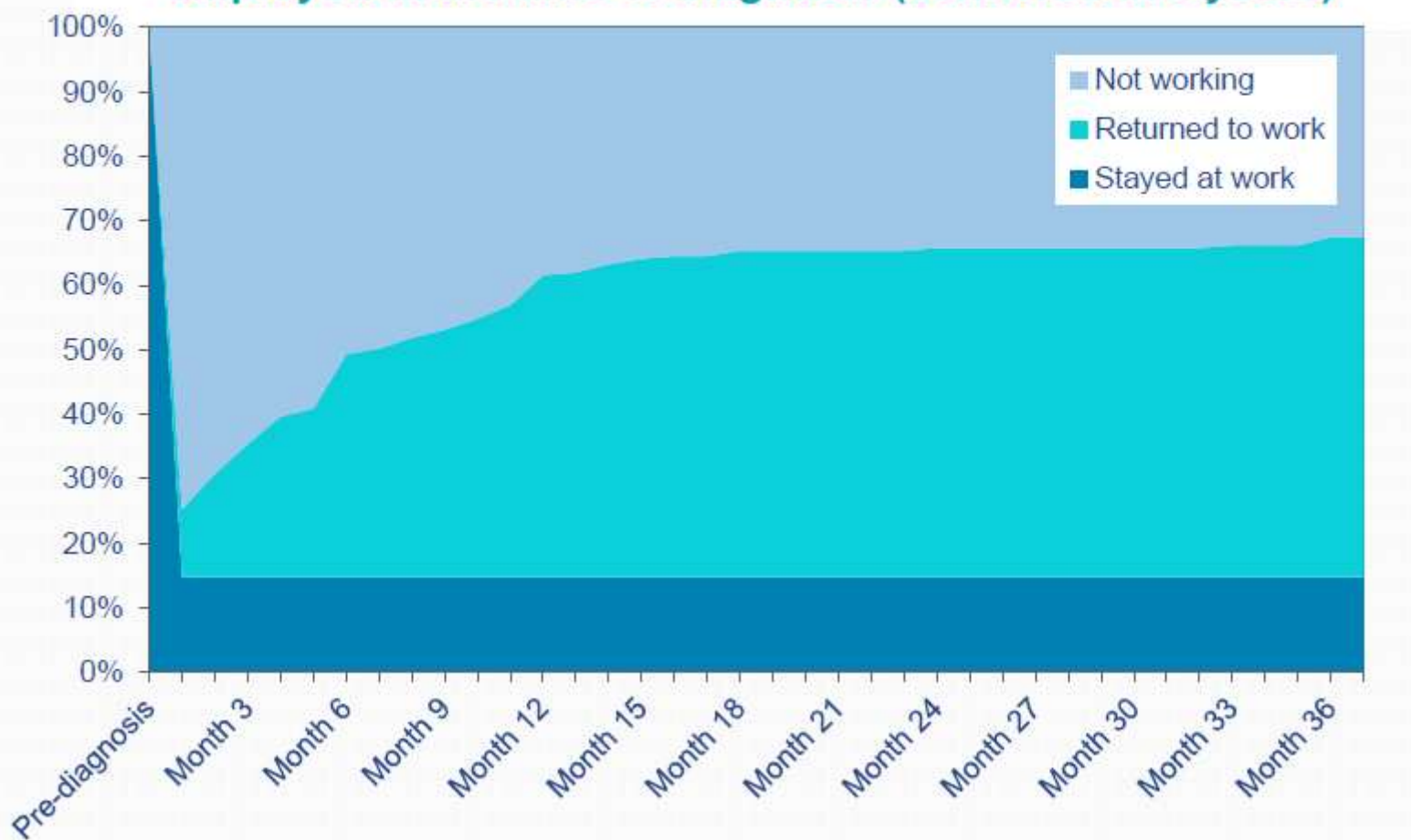


RETURN TO WORK AFTER CANCER

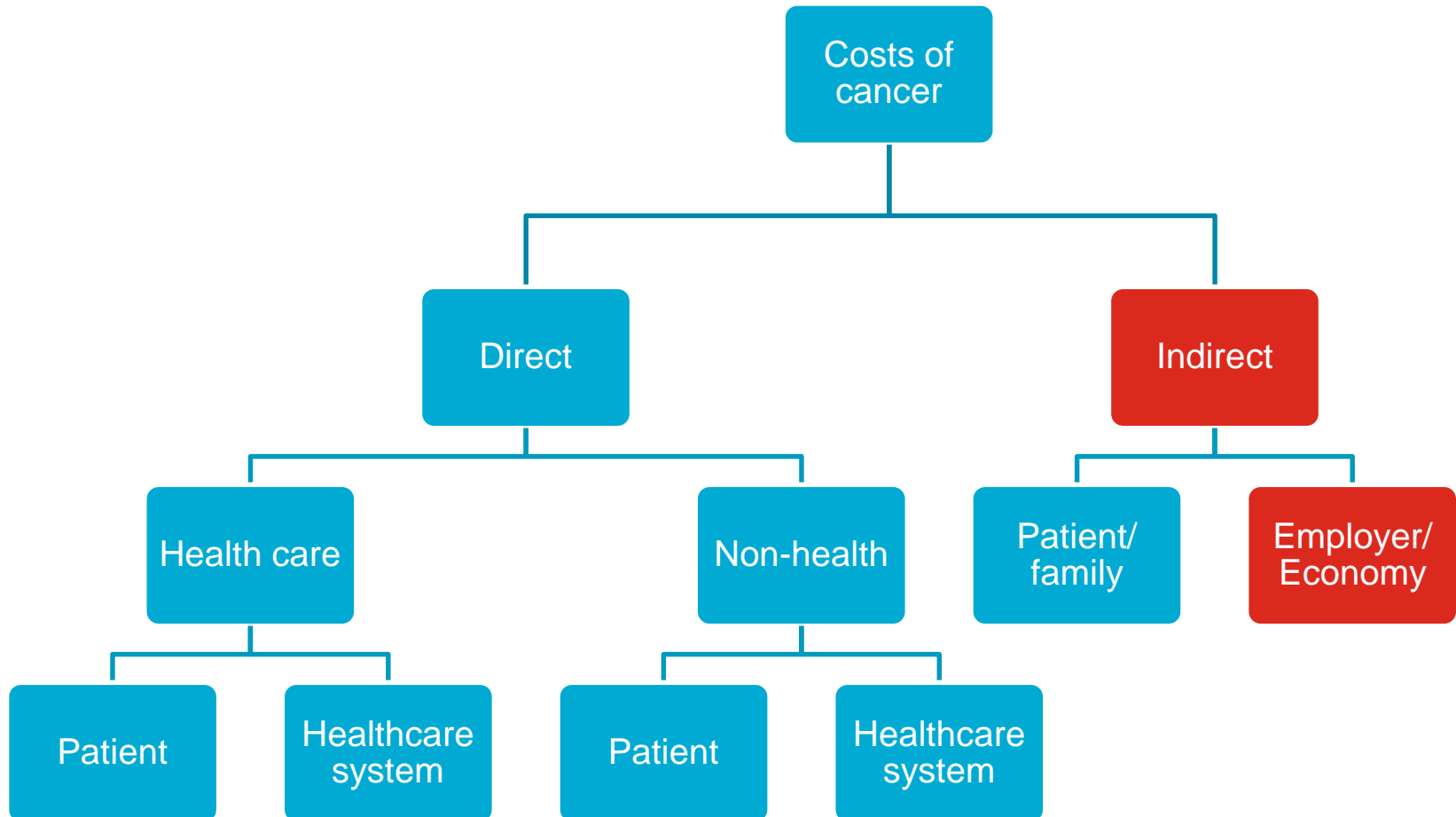
- Almost half of cancer diagnoses occur in working age range (18 – 65 years)
- Approximately 60% of cancer survivors return to work after 12 months (range 30-93%)
- Cancer survivors earn about 12% less than those without cancer, for up to 10 years after diagnosis

EXAMPLE: RETURN TO WORK AFTER HEAD & NECK CANCER

Figure 2. Return to work patterns of HNC survivors who were employed at the time of diagnosis (censored at 3 years)



TYPES OF COSTS - INDIRECT

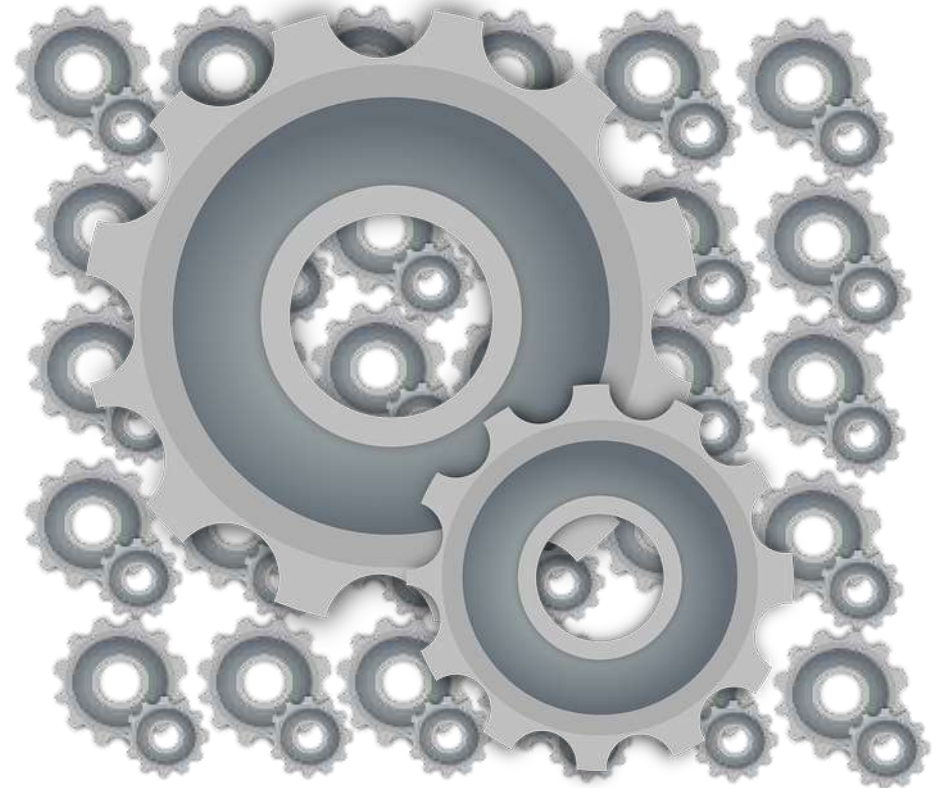
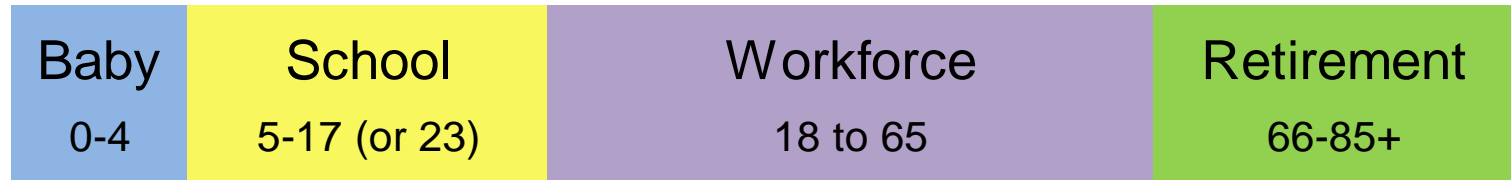


WHAT ARE PRODUCTIVITY LOSSES?

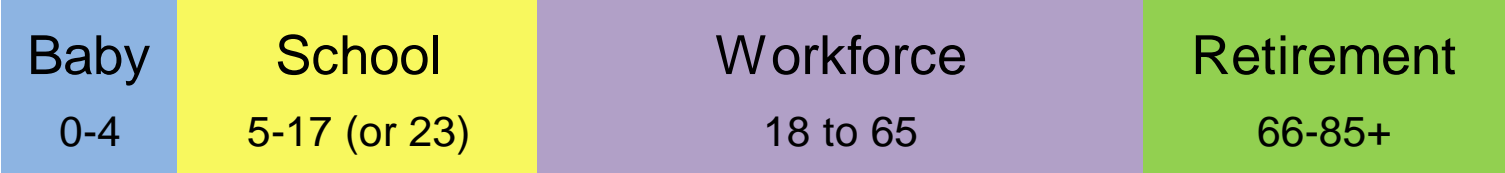
Everyone's work contributes to the economy, and time-off represents a loss to society



ESTIMATING PRODUCTIVITY LOSSES



ESTIMATING PRODUCTIVITY LOSSES



Cancer diagnosis

Temporary time off



Leaves the workforce
(retire early or death)

VALUING LOST PRODUCTIVITY



Temporary time off valued at market wage:

Wage = \$1,000/month

Time off = 3 months

Loss to society = \$3,000

VALUING LOST PRODUCTIVITY



Early retirement or premature death, valued at market wage:

Wage = \$1,000/month

Time off = 5 years

Loss to society = \$60,000

PRODUCTIVITY PROS & CONS

- Pros:
 - Lost productivity is advocated as part of a societal perspective in economic evaluations
 - Several studies suggest productivity losses far exceed direct health care costs
 - Lost productivity provides an additional perspective on burden of disease for decision making
- Cons:
 - Guidelines usually prefer health care payer perspective
 - Debate over appropriate method

EXAMPLE

Appl Health Econ Health Policy (2015) 13:359–367
DOI 10.1007/s40258-015-0155-8

ORIGINAL RESEARCH ARTICLE

Productivity Losses Associated with Head and Neck Cancer Using the Human Capital and Friction Cost Approaches

**Alison M. Pearce · Paul Hanly · Aileen Timmons · Paul M. Walsh ·
Ciaran O’Neill · Eleanor O’Sullivan · Rachael Gooberman-Hill ·
Audrey Alforque Thomas · Pamela Gallagher · Linda Sharp**

EXAMPLE

Table 3 Estimated productivity losses per person of working age and employed at the time of head and neck cancer diagnosis calculated with the Human Capital Approach (HCA) and Friction Cost Approach (FCA) (2013 Euros)

Cost Category	HCA base case	% of total HCA productivity	FCA base case	% of total FCA productivity
Temporary time off	EUR 20,423	8	EUR 4,953	73
Permanent time off	EUR 68,637	27	EUR 1,186	17
Reduce work hours	EUR 67,098	26	EUR 489	7
Premature mortality	EUR 97,674	38	EUR 175	3
Total	EUR 253,833		EUR 6,803	

FCA friction cost approach, *HCA* human capital approach

HOW WE USE COST INFORMATION

- Prioritise policy setting agenda
- Identify who incurs costs, and target accordingly
- Comparisons between diseases, settings, countries, etc.
- Measure value for money of policies, programs and interventions

*Cost data alone is not enough for decision making,
but it can be a valuable additional perspective*

A black and white photograph of a crowd of people. In the foreground, a person's hand is raised, palm facing forward. The background is filled with the heads and shoulders of many other people, some of whom also have their hands raised, suggesting a public event or a meeting.

**A WISE MAN CAN LEARN MORE FROM
A FOOLISH QUESTION THAN A FOOL
CAN LEARN FROM A WISE ANSWER.**

 Lifhack

RESOURCES

- MBS item list: www.health.gov.au/mbsonline
- PBS Schedule: <http://www.pbs.gov.au/pbs/home>
- Factsheet: Introduction to Medicare data for research -
<http://www.crest.uts.edu.au/pdfs/Factsheet-Medicare-Australia-UpdatedNov2015.pdf>
- Factsheet: Step by step guide to economic evaluation in cancer trials -
http://www.crest.uts.edu.au/pdfs/Factsheet-Steps_in_an_Economic_Evaluation_FINAL.pdf