NTORS and the £3 for £1 bargain

The best known and most influential finding in British addiction treatment – £3 savings to society for every £ spent on treatment.

From the mid-'90s NTORS study, this finding underpinned the expansion of treatment as a means of cutting the burden of crime.

Both sides of the equation rested on assumptions seemingly so convenient for everyone concerned that their fragility was overlooked.

Then as now methadone was under attack. The NTORS findings saved it from a hostile health minister but left it hostage to a precarious and limited justification.

Chickens have come home to roost.

The context

Abstentionist health minister Brian Mawhinney saw methadone as perpetuating addiction … "we will be looking to get people off drugs" – sound familiar?

Specialist inpatient units and residential rehabs too were under threat from cost constraints and public service reforms.

Mawhinney condemned the "'drug industry' who resist any threat to their present autonomy".

Ironically, the review he set up commissioned its key research project from the heart of that industry, the National Addiction Centre, whose allied health services provided the treatments under attack.

Their findings would be crucial to the survival and development of the UK's drug treatment provision.

The study

From March to July 1995, 1075 drug users starting treatment were interviewed for the research and then followed up to see whether they improved.

They were attending typical English inpatient detoxification, residential rehabilitation or outpatient methadone programmes. Most were using heroin.

Headline finding: “for every extra £1 spent on drug misuse treatment, more than £3 is saved on costs of crime” – Public Health Minister Tessa Jowell.

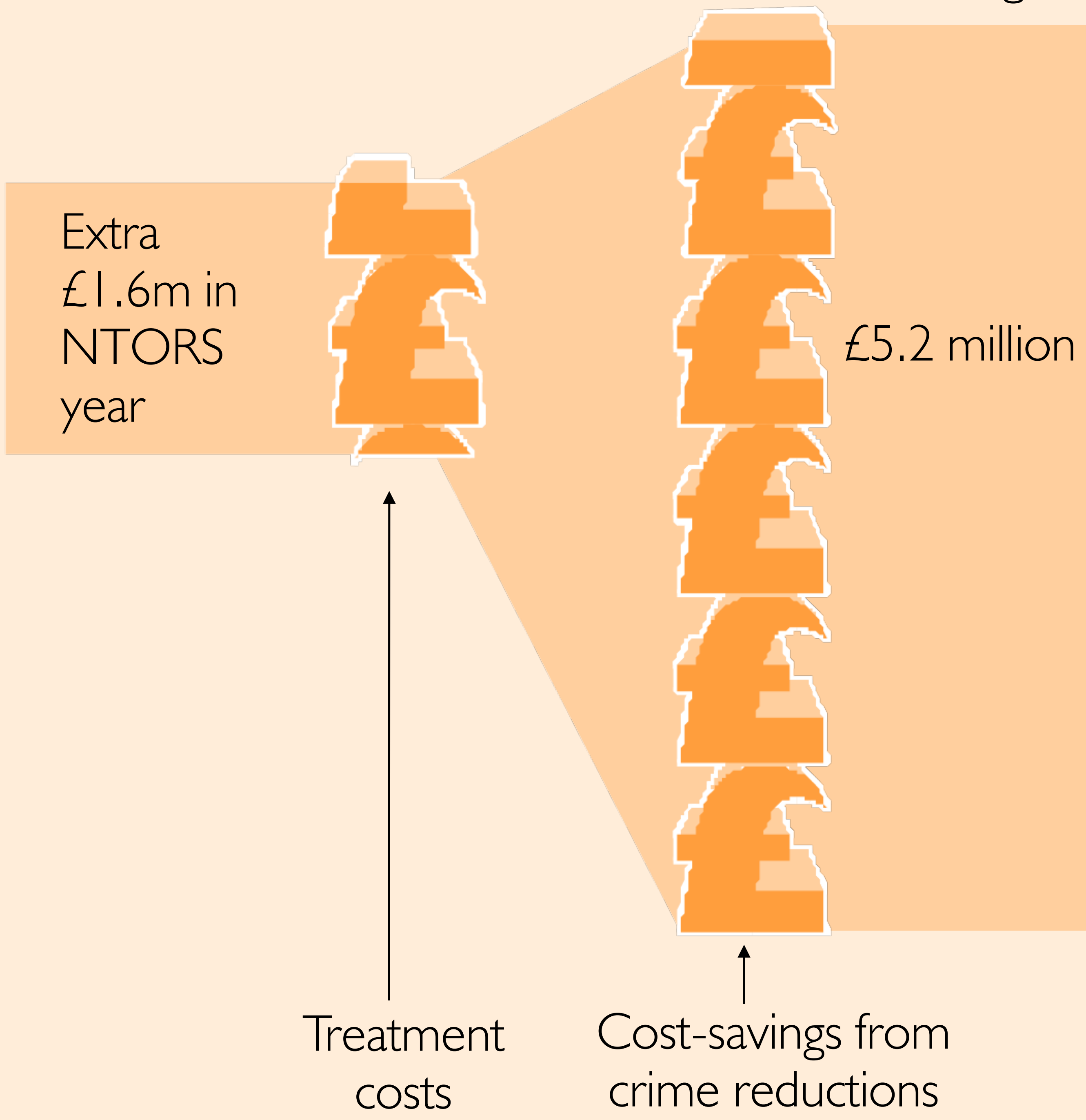
What was the £1?

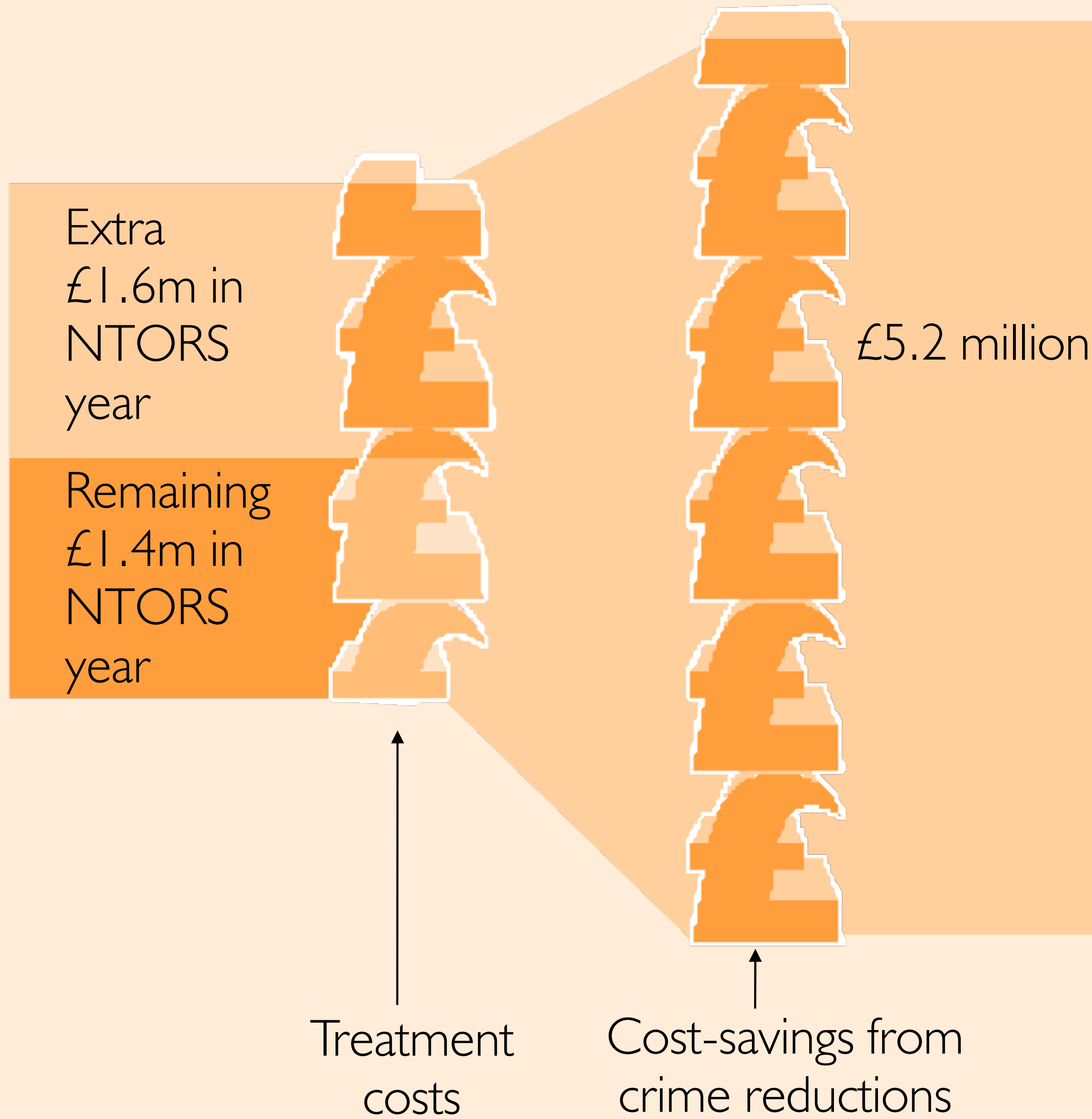
Like drugs policy coordinator Jack Cunningham, most people forgot the word “extra”; £3 for £1 became the mantra.

They assumed the £ was the full cost of the treatments studied in NTORS; understandable and the way other studies had done similar calculations.

It wasn’t – it was just over half. At a stroke the cost-savings ratio had been nearly doubled.

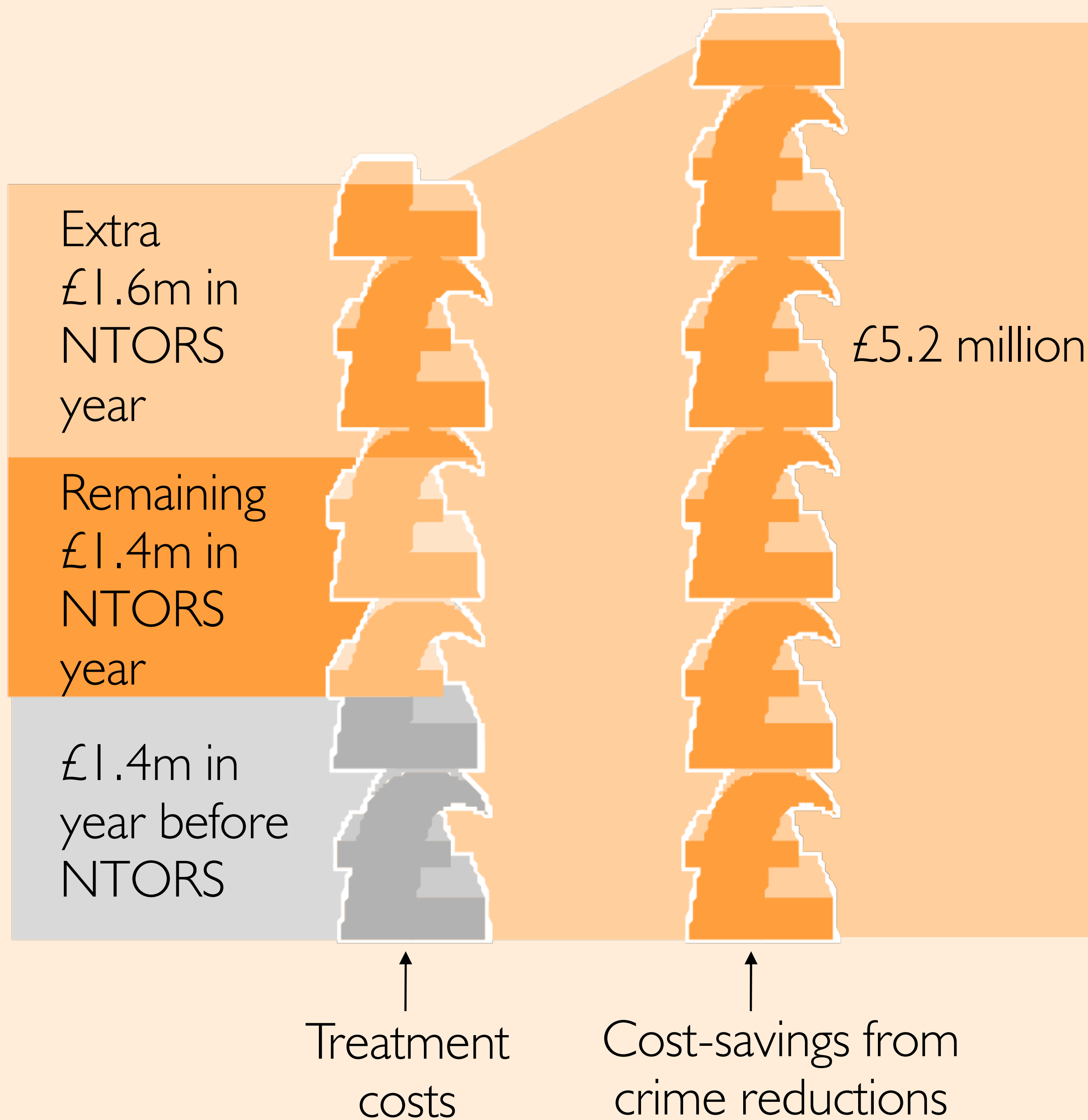
How the NTORS team calculated it





How other studies would have calculated it

How it might have been calculated

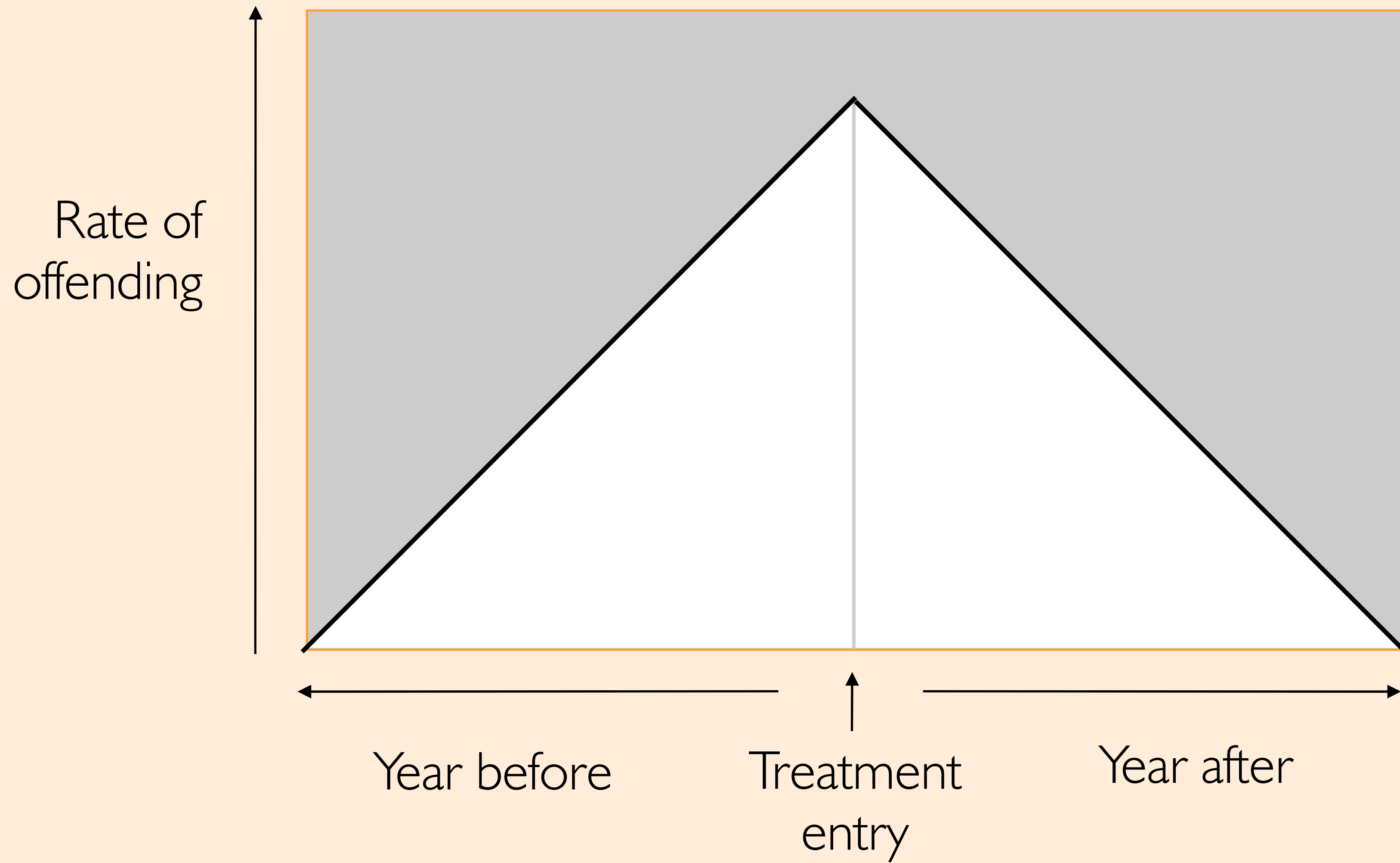


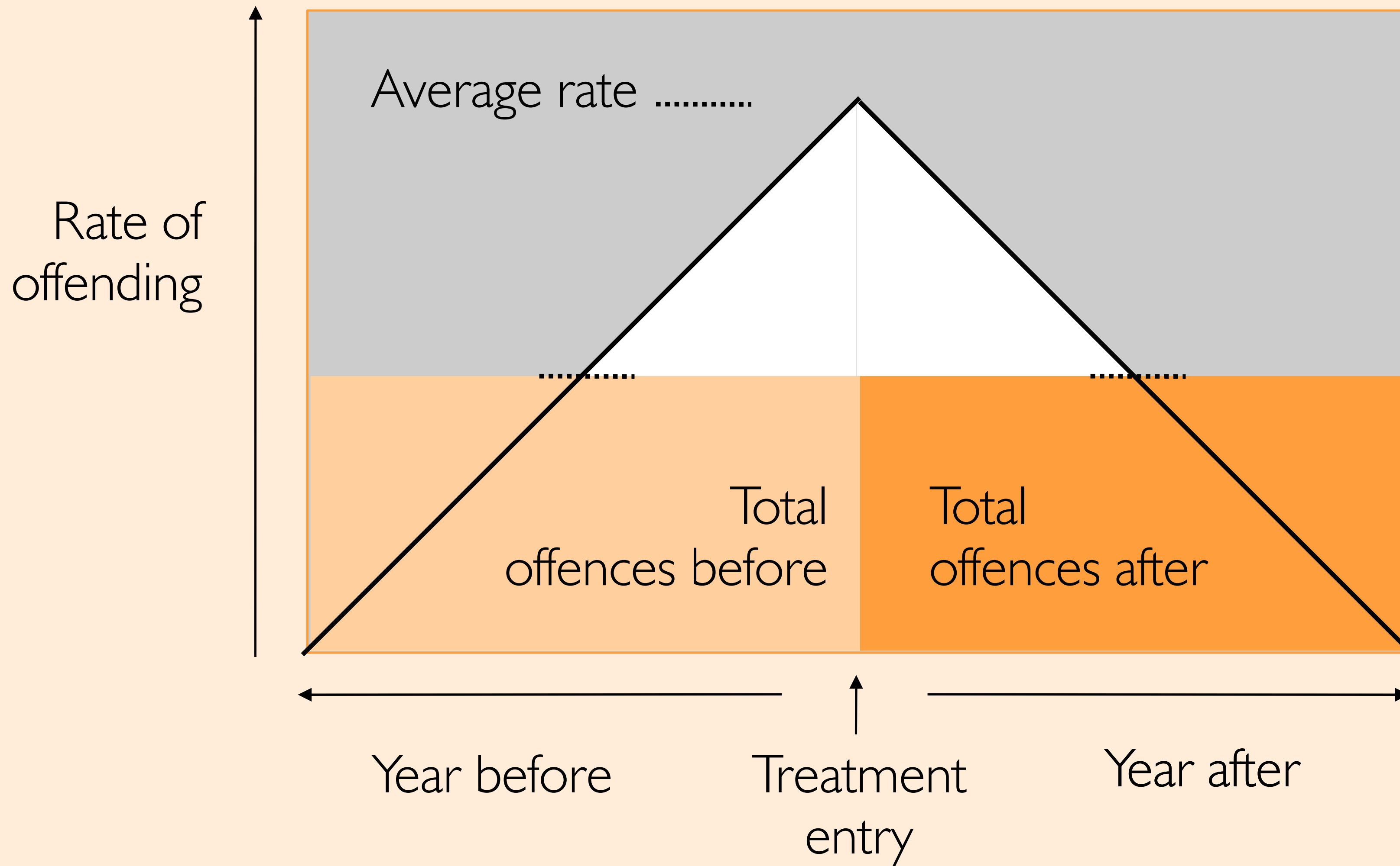
What was the £3?

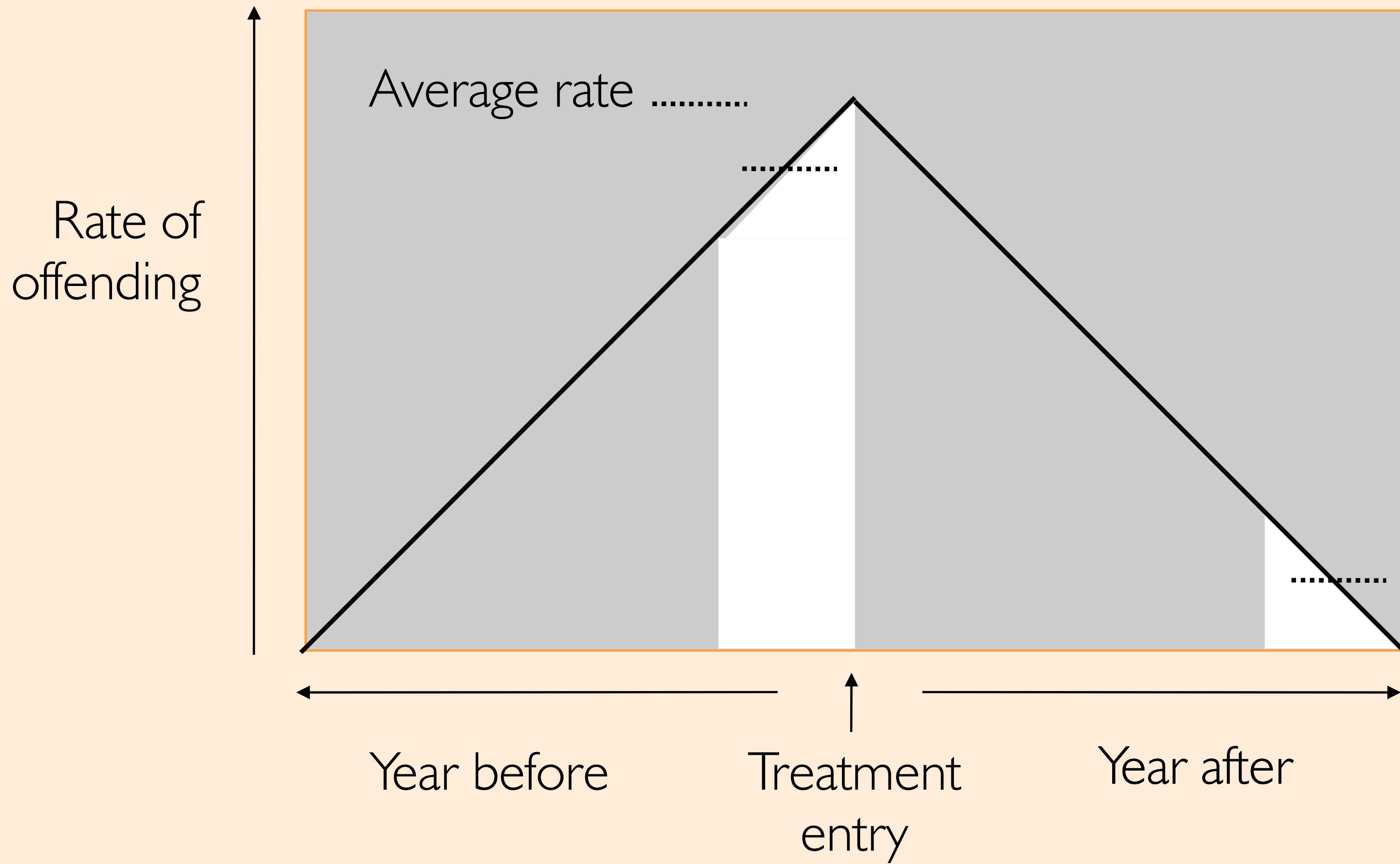
The costs imposed on the rest of us due to crimes committed by the NTORS patients in the year before minus the year after they after they started treatment.

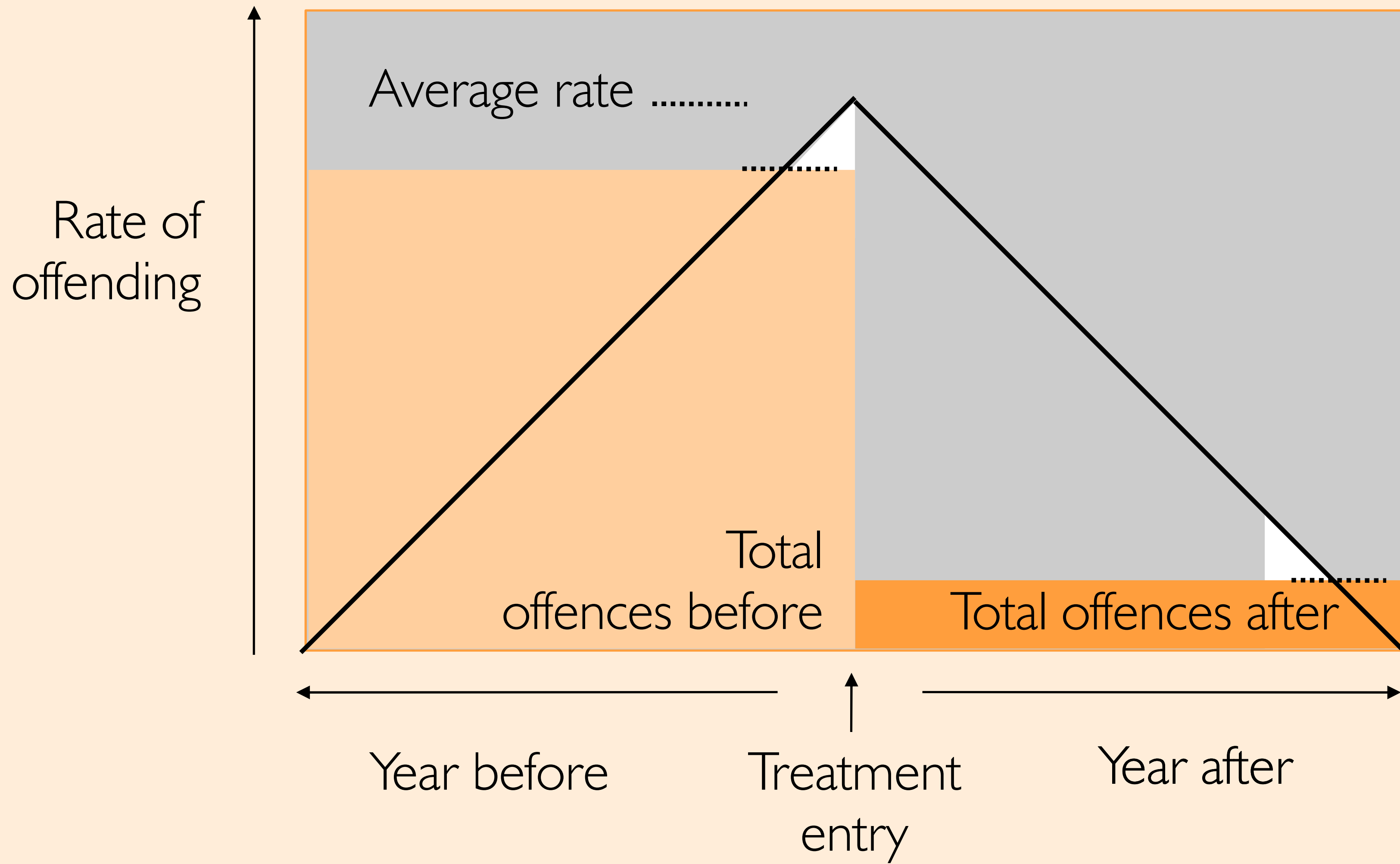
Questionable assumptions inflated this to perhaps more than twice the value it would have been had different assumptions been made.

Here's how it happened.

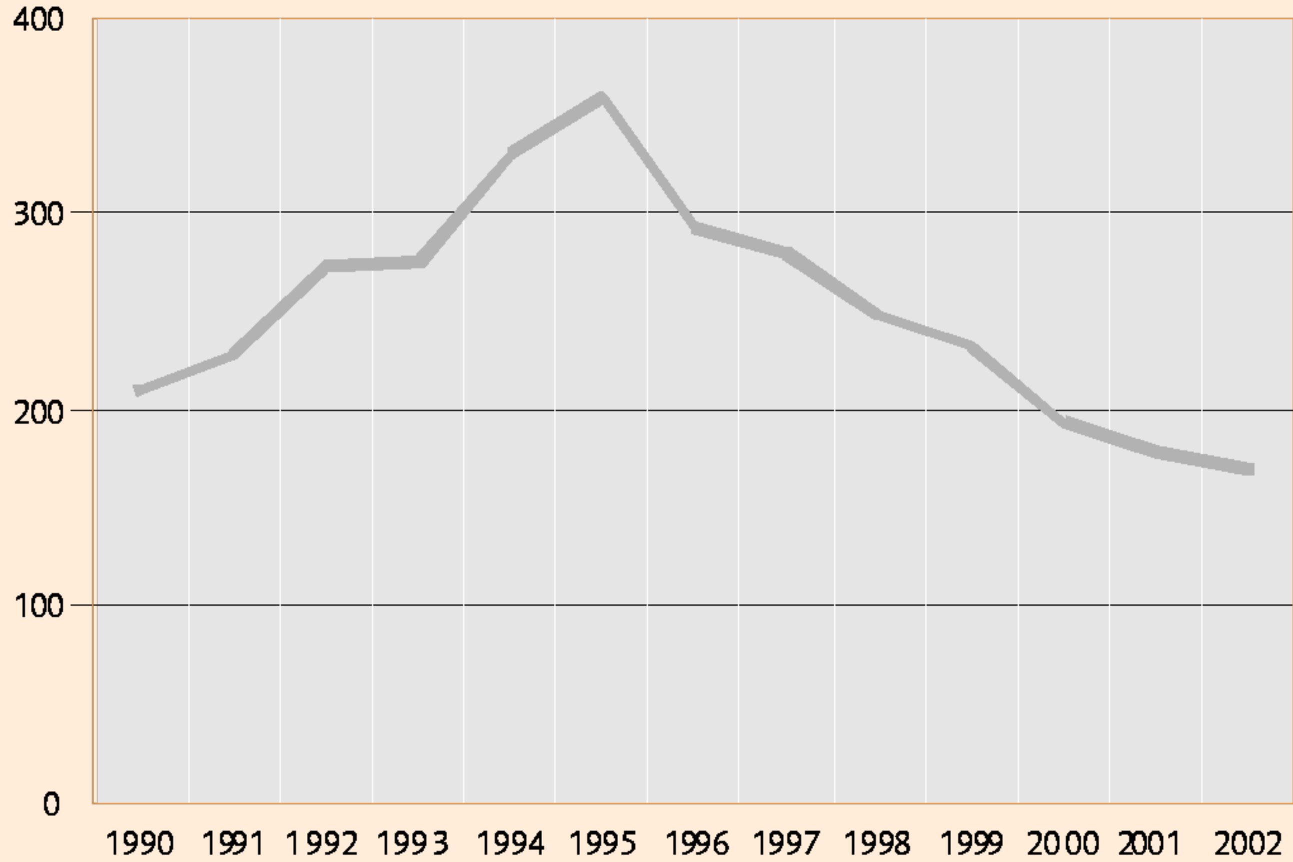

Rate of offending
Year before
Treatment entry
Year after


Average rate
Rate of offending
Total offences before
Total offences after
Year before
Treatment entry
Year after


Average rate
Rate of offending
Year before
Treatment entry
Year after

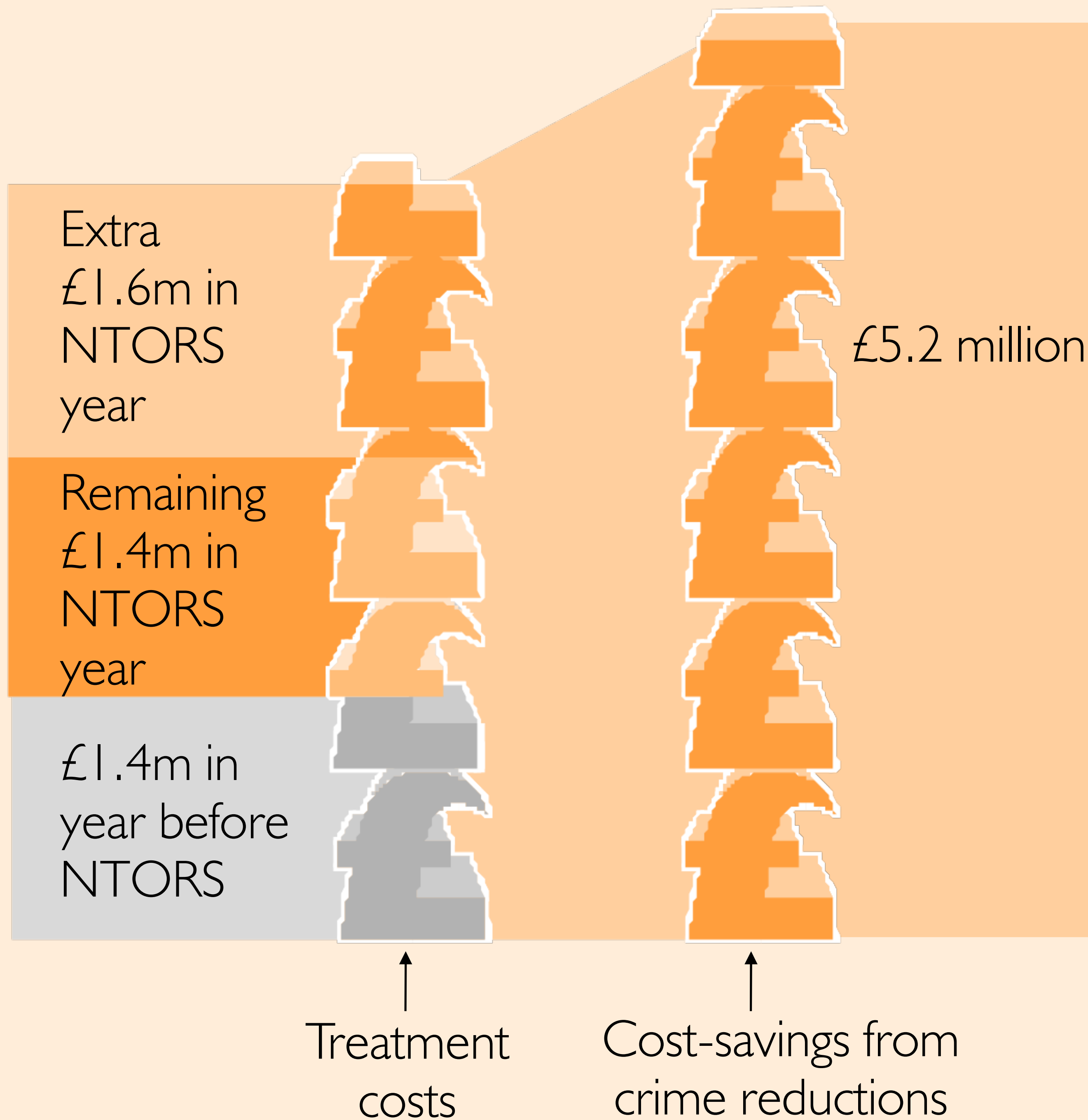

Average rate
Rate of
offending
Total
offences before
Total offences after
Year before
Treatment
entry
Year after

Number of clients convicted in each year



Treatment
entry

How it might have been calculated



NTORS “We included all costs to households and retailers ... stolen property largely reflects a transfer of well-being from the victim to the criminal. However, unlike other transfers (eg, welfare payments, gifts) they involve a violation of victim property rights. For this reason they were included in reported cost estimates.”

Simoens “Losses from criminal activity in fact constitute a transfer payment within society rather than impose an additional cost on society and, hence, should not be counted from a societal perspective."

Home Office “Burglary, theft or robbery involves an illegal transfer of property that is unwanted by one party, the victim, and the transfer of the property out of the legal economy. This study treats transfers out of the legal economy and into the illegal economy as costs of crime.”

Institute for Criminal Policy Research “Some members of some communities that host drug markets clearly benefit from having a local illicit economy. The market for stolen goods that they stimulate can help people living in extreme poverty.”

For NTORS and its £3 for £1 ratio, what would the consequence have been of treating stolen property and money as transfer payments?

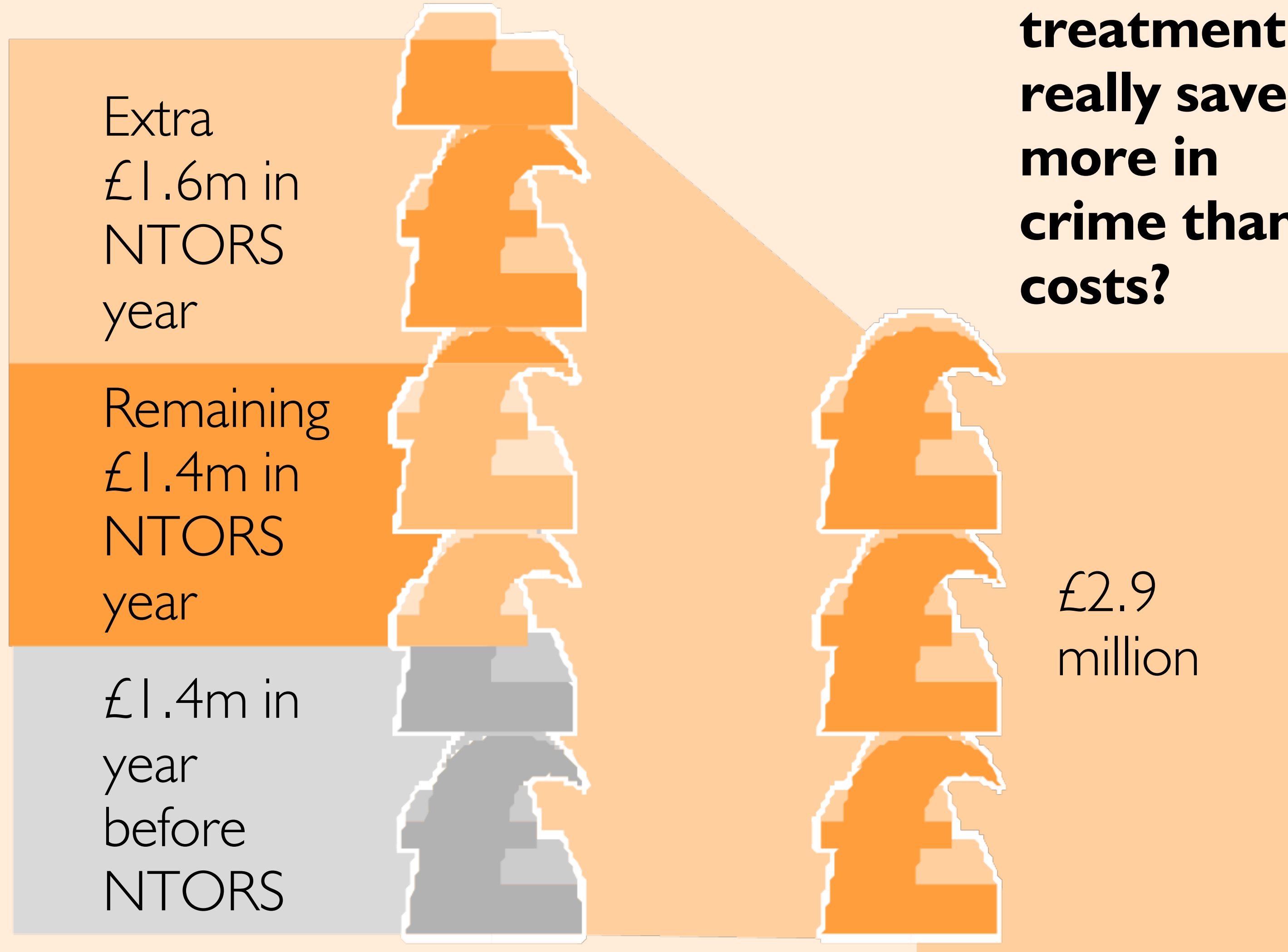
I've made an amateur stab at estimating it by combining ...

1. NTORS data on the costs of shoplifting, burglary robbery, drug offences, and fraud committed by the NTORS patients in the two years before and after treatment with ...

2. Home Office estimates of the costs of those crime which (not for all) break these costs down in to their components including stolen property or defrauded money.

The result ...

The cost savings estimate in the NTORS study was cut by nearly half



£3m cost of treatment in first year NTORS study
Extra £1.6m in NTORS year
Remaining £1.4m in NTORS year
£4.4m including previous year
£1.4m in year before NTORS
£2.9 million
Treatment costs
Cost-savings from crime reductions excluding transfers
Does treatment really save more in crime than it costs?

CALDATA

Sampled 3000 people discharged from drug or alcohol treatment centres (or remaining on methadone).

Estimated the costs saved by society most of which related to crime.

Made two savings estimates:
1. to "taxpaying citizens"
2. to "total society"

Main difference: "taxpaying citizens benefit when there is less theft and other crime [and welfare payments]. However, these transfers ... are considered economically neutral to the total society, since one person's loss equals another's gain."

The result

On model one – savings to “taxpaying citizens” including transfer payments – the savings were $1493 million over the period of treatment and in the year after.

On model two – savings to “total society” which excluded transfer payments – the savings were $454 million.

Does this mean the treatments studied in NTORS did not create benefits for society?

NO!

It just means that given what it measured, it's questionable whether NTORS *demonstrated* such benefits in economic terms. Benefits there certainly were in terms of saved and improved lives. These were not included in NTORS' economic estimates, leaving crime as the main component.

Postscript: inpatient detoxification

NTORS generally lumped together inpatient detoxification and residential rehabilitation programmes as ‘residential services’.

It didn’t seem to make sense. Typically inpatients want to *become* drug-free, rehabilitation residents to *remain* so. Inpatient stays are usually much shorter. Chalk was being merged with cheese.[1]

What was the effect? 122 of the sample were inpatients, 286 rehab residents, so the merged outcomes largely reflected the work of the rehabilitation services. An opportunity to assess the work of half[2] England’s inpatient services was lost.

But not entirely ...

Doors close after six months

The first published outcome report (six month follow-up) **did** separate rehabilitation and detoxification units.[1]

How did they do? Almost as well with respect to opioid use and associated injecting frequency, much worse in nearly every other respect.[2]

Residential rehabilitation units had a full flush of 8 substance use and infection risk measures on which residents improved to a highly statistically significant degree; inpatient units, 3 out of 8.

By the time the one-year outcomes were reported, the doors had closed and the (poor?) performance of the inpatient centres was submerged among the successes of the rehabilitation units.

But not entirely ...

Neglected cost-effectiveness analysis exposes inpatient services

In 2003 one NTORS cost-effectiveness analysis **did** separate rehabilitation and detoxification units.[1]

It was based on crime outcomes for heroin users measured one year after starting treatment.

Here's the reference: Healey A., Knapp M., Marsden J., Gossop M., Stewart D. "Criminal outcomes and costs of treatment services for injecting and non-injecting heroin users: evidence from a national prospective cohort survey." *Journal of Health Services Research and Policy*: 2003, 8, p. 134–141.

It is the only paper to show how these services performed uncontaminated by results from the other set of services. Given this, what's remarkable is where it was **not** mentioned.

It was not mentioned in a later NTORS economic analysis, even though two of the authors were also responsible for the earlier paper.[1]

It was missed too from NTA commissioning guidance for residential and inpatient services published three years later in 2006.[2]

Not surprising, because it was also missing the year before from the NTA's research briefing on inpatient opiate detoxification, even though this included cost effectiveness data.[3]

Missed too when in the same year a government-funded network of UK doctors specialising in addiction supportively reported on the evidence for inpatient services.[4]

But it wasn't invisible. It has been cited by at least 12 other papers[5] including a review conducted for NICE – but that was on substitute prescribing.[6]

How did the detox services perform?

How did the detoxification services perform without their rehab camouflage? The analysis separated the injectors (around 6 in 10 of the sample) from the non-injectors.

There was no 'no treatment' control group, so instead an estimate was made of what the crime reductions (from before to after treatment) would have been without treatment, and this was compared with an estimate of what they actually were after an average stay.

Non-injectors did well whichever type of service (inpatient, rehab or methadone) they were treated in. Injectors were more treatment resistant. In fact, if you excluded a handful of extraordinarily prolific offenders …

Detox counterproductive for injectors?

… for heroin injectors, an average stay in a detoxification unit was estimated to have led to a **higher** crime rate than if the patients had never been treated.

In other words, for typical injectors these services were negatively cost effective. Every £80 spent putting patients through these services was associated with one extra crime committed.

This was just an estimate based on the association between longer stays and the later crime rate extrapolated back to a 0 day stay, ie, no treatment. But of course there was no real 'no treatment' control group.

And the results were different for non-injectors and if the handful of extraordinarily prolific offenders were included in the analysis. But had these results been widely known, could the recent investment in these services have been justified?

More in: Ashton M. “NTORS: the most crucial test yet for addiction treatment in Britain.” *Drug and Alcohol Findings*: 1999, 2.

http://findings.org.uk/docs/Ashton_M_12.pdf