

Nudging

Behavioral Sciences applied
to the *Big Four* Public Health
issues and health inequalities

Final report/Endbericht



Ludwig Boltzmann Institut
Health Technology Assessment

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Health Technology Assessment

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Projektteam

Projektleitung: Dr.ⁱⁿ med. Brigitte Piso, MPH
Projektbearbeitung: Michal Stanak, MA, BA, AKC
Dr. phil. Roman Winkler, MSc

Projektbeteiligung

Systematische Literatursuche: Tarquin Mittermayr, BA

Korrespondenz: Michal Stanak, michal.stanak@hta.lbg.ac.at

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Zusammenfassung

Hintergrund

Das vorliegende Addendum ist ein ergänzender Bericht zum LBI-HTA-Bericht „Effekte von (im)materiellen Anreizen auf das Gesundheitsverhalten“ [1]. International hat die Anwendung der Verhaltensökonomie und –psychologie – in Form von Nudging¹ – in politischen Gestaltungsprozessen („Policy-Making“) generell und in der Gesundheitspolitik im Speziellen viel Aufmerksamkeit gefunden. Grundsätzliche Überlegungen formierten sich hierzu etwa im angelsächsischen bzw. anglo-amerikanischen Raum, wo u. a. in dem 2008 erschienenen Buch von Cass R. Sunstein und Richard H. Thaler „Nudge – Improving Decisions About Health, Wealth, and Happiness“ der Begriff des „Nudging“ geprägt wurde. In Folge wurde eine Nudging-Debatte angestoßen, die 2010 die britische Regierung dazu anleitete das erste „Behavioural Insights Team (BIT) (Nickname: The Nudge Unit) ins Leben zu rufen. Nudging beruht auf der Prämisse, dass es grundsätzlich legitim ist, das (Gesundheits-)Verhalten von Menschen zu beeinflussen, damit sich deren Leben verbessert (Paternalismus-Ansatz). Allerdings soll ein solcher Einfluss ohne Zwang ausgeübt werden (Liberalismus-Ansatz).

Methode

Für die Nudging-Analyse wurden mittels einer systematischen Literatursuche (in Medline, Embase und TRIP-Datenbanken) u. a. Definitionen, Theorien und Praxisbeispiele recherchiert, die zu 62 Literaturhinweisen führte. Mittels Handsuche wurden 25 weitere Publikationen eruiert. Mit einer narrativen Analyse sollte die Beziehung zwischen Nudging und vier großen Public Health Themen (Rauchen, Alkoholkonsum, Ernährungsgewohnheiten und körperliche Aktivität) erörtert werden.

Ergebnisse

Das BIT hat einen Kriterienkatalog (Akronym: „EAST“) für Regierungseinrichtungen bzw. Verwaltungseinheiten entworfen, der bei der Gestaltung von Programmen, die auf eine Verhaltensänderungen abzielen, unterstützen soll. Hierin wird empfohlen, dass Maßnahmen zur Verhaltensänderung „Easy“ sein sollen, Menschen anziehen sollen („Attract“) und „Social“ und „Timely“ sein sollen. In diesem vorliegenden Addendum wird dieser Kriterienkatalog auf die oben genannten vier Public Health Themen angewandt.

USA und Großbritannien sind Vorreiter beim „Gestalten von Wahlmöglichkeiten“ – Nudging

Einfluss von Paternalismus- und Liberalismus-Ansatz

narrative Analyse auf Basis einer systematischen Literatursuche und Handsuche

britische „Nudge Unit“ hat „EAST“ Kriterienkatalog entworfen

¹ Der englische Begriff des „Nudging“ kann mit „eine Person anstoßen, anschubsen“ übersetzt werden. D. h. eine Person dazu zu bewegen, ein bestimmtes oder gewünschtes (Gesundheits)Verhalten einzunehmen.

Fragestellungen zu Nudging im Kontext des Paternalismus-Ansatzes, u. a. zu Autonomie, Manipulation, „Zwang“ etc.

Nudging ist „unvermeidbar“ ...

... transparente und ethisch vertretbare Gestaltung daher sehr bedeutsam

Incentives bauen auf rational agierende Individuen

Nudging als Tool zur Verringerung von Ungleichheit – in Kombination mit weiteren Maßnahmen

Die theoretische Debatte rund um Nudging eröffnet sich u. a. vor dem Hintergrund des Paternalismus-Ansatzes und beschäftigt sich dabei mit Fragen, die im Zusammenhang mit (Gesundheits)Verhalten auftreten, die individuelle Autonomie von Menschen erfassen, sowie den Grad an Manipulation, „Zwang“, persönlichem Einverständnis, Verantwortung und „Moral“ zu ergründen beabsichtigen. Nudging ohne eine Diskussion zu (staatlicher) Bevormundung und „Zwang“ zu führen, erscheint unkritisch bzw. naiv, da keine Intervention per se „neutral“ ist. Zudem ist Nudging in der Politikgestaltung an sich nicht zu vermeiden und in vielen Politikbereichen gegenwärtig indem Entscheidungen getroffen werden, die Personen dazu anleiten, ein bestimmtes (Gesundheits)Verhalten einzunehmen oder zu unterlassen. Vor diesem Hintergrund erlangt die Frage nach der Art der Gestaltung von Wahlmöglichkeiten besondere Bedeutung. D. h. *wie* sind Wahlmöglichkeiten in Hinblick auf ein bestimmtes Verhalten gestaltet. Hierbei kommt der Transparenz und Nachvollziehbarkeit von Gestaltungsprozessen eine entscheidende Rolle zu, um einer Manipulation von Menschen vorzubeugen. Demzufolge sind die Wahrung ethischer Grenzen und der Respekt vor der individuellen Autonomie entscheidende Nudging-Aspekte. Auf Basis der bisherigen Evidenz hinsichtlich eines Nutzens zeigt sich, dass Nudging vor allem bei jenen Personen eine positive Wirkung zeigt, die ohnedies schon zu einem „gewünschten“, bestimmten (Gesundheits)Verhalten tendieren.

Im Vergleich zu Anreizen (Incentives), die versuchen das (rational handelnde) Individuum zu motivieren bzw. dazu ermutigen, ein bestimmtes (Gesundheits)Verhalten einzunehmen oder zu unterlassen, versuchen Nudging-Strategien (auf einer eher unbewussten Ebene) das Setting, die Wahlmöglichkeiten oder auch die Standards (etwa bezüglich eines bestimmten Gesundheitsverhaltens) zu verändern.

Diskussion und Schlussfolgerung

Dieses Addendum enthält eine kritische Zusammenschau zu Nudging und legt dar, dass solche Gestaltungsprozesse an sich unvermeidbar bzw. in Policies allgegenwärtig sind. Nudging kann in Kombination mit Incentive-Strategien zu einer Reduktion von gesundheitlicher Ungleichheit führen. Hierbei spielt ein robuster, legislativer Rahmen für die Einbettung von Nudging und Incentives eine wesentliche Rolle.

Summary

Background

This report is an addendum to the LBI-HTA report “Material and immaterial incentives – effects of incentives on health behaviour”[1]. Internationally, the application of behavioral economics and psychology – *nudging* – into policy-making in general and health policy in particular, has attracted much attention. Lead predominantly by the Anglo-Saxon world, a 2008 book by Cass R. Sunstein and Richard H. Thaler called *Nudge: Improving Decisions about Health, Wealth, and Happiness* coined the term and stirred the debate such that in 2010, the United Kingdom Coalition Government appointed the first Behavioral Insights Teams (BIT), nicknamed The Nudge Unit. *Nudging* operates on the premises that it is legitimate to influence people’s behavior for the sake of making their lives better (paternalism) but that such influence should be unobtrusive and not entail compulsion (libertarian).

United States and United Kingdom pioneer the approach of choice architecture – nudging – that is based on the premises of libertarian paternalism

Method

The analysis of nudging, definitions, underlying premises and current practices is based on a systematic literature search conducted in Medline via Ovid, Embase and TRIP databases, where a total of 62 articles were unlisted and in addition, 25 more articles were hand searched. The narrative analysis of the researched literature was carried out to clarify the relationship between nudging, the *big four* health issues, and health inequalities.

the narrative analysis of nudging was conducted based upon a systematic literature search

Results

The BIT has created a framework called EAST proposing that if the government wants to encourage a behavior, it should think about making it *Easy, Attract, Social, Timely*. In the report, this framework is used for suggesting the possible nudges that can be used for addressing the *big four* public health issues (i.e. smoking, alcohol consumption, nutrition and physical activity); for example by serving alcoholic drinks in smaller glasses or by making the public know that majority of smokers want to quit as a way of correcting the social norms.

current practices are set by the UK’s Nudge Unit that pioneers the EAST framework

Compared to incentives, which attempt to motivate and encourage the rational individual to perform an action or inaction, *nudging*, among other subtle strategies, involves subconscious cues, altering of the profile of different choices or changing which options are the default.

incentives function on the premises of rational choice theory

The theoretical debate around nudging revolves mainly around the notion of *paternalism* and the problems highlighted in the literature range from the questions of consent and autonomy, manipulation and coercion, to responsibility and moral character. It is naïve to expect nudging not to include any compulsion whatsoever, but because no intervention is neutral, nudging is inevitable. It remains to be a matter of *how* the choice architecture will be designed and here the notion of transparency and public scrutiny is needed in order to prevent manipulation and coercion. Indeed, respecting the limits to ethically acceptable forms of nudging that respect person’s autonomy is crucial. The evidence seems to suggest that nudging works best with those already heading the direction of the nudge anyway. Furthermore, the topic of health inequalities is explored and it is suggested that because nudging tends to focus on more downstream factors, it should be used as a complementary tool for the sake of a more holistic approach in health policies.

paternalism and problems stemming from it, such as consent, autonomy, manipulation or moral character

inevitability of nudging but in a transparent and ethically acceptable way

**inevitability of
nudging as not choice
architecture is neutral**

Conclusion

This report critically reflects on the notion of nudging and argues that such choice architecture is inevitable and, even though it prima facie does not seem to reduce health inequity directly, it has the potential to do so if targeted well, complemented with incentive structures, and backed-up by robust legislation.

Background

This report is an addendum to the LBI-HTA report “Material and immaterial incentives – effects of incentives on health behavior” [1]. Internationally, the application of behavioral economics and psychology – *nudging* – into policy-making in general and health policy in particular, has attracted much attention. In the effort of “finding intelligent ways to encourage, support and enable people to make better choices for themselves” [2], governments of the Western Europe, United States, Australia and others have mandated behavioral teams to apply this approach of *choice architecture* into policy making.

Lead predominantly by the Anglo-Saxon world, a 2008 book by Cass R. Sunstein and Richard H. Thaler called *Nudge: Improving Decisions about Health, Wealth, and Happiness* [3] coined the term and stirred the debate such that in 2010, the United Kingdom Coalition Government appointed the first Behavioral Insights Teams (BIT), nicknamed The Nudge Unit. Based on the premises of *libertarian paternalism*, the BIT has since proved successful in guiding everyday actions of citizens, which, such approach assumes, are often not conscious and rational. *Nudging* operates on the premises that it is legitimate to influence people’s behavior for the sake of making their lives better (paternalism) ”but that such influence should be unobtrusive and not entail compulsion (libertarian) [4].

Compared to incentives, which attempt to motivate and encourage the rational individual to perform an action or inaction, *nudging*, among other strategies, involves subconscious cues, altering of the profile of different choices or changing which options are the default. *Nudging* can also include incentives as part of its strategy but the imposition of significant material incentives such as taxes, subsidies, and fines no longer falls under the heading of *nudging* [5]. So far, the overall positive impact of *nudging* is hard to deny, but the impact of *nudging* on specific groups of citizens and the question of health equality is yet unclear.

Against this background, the research project is trying to answer this question: What is the relationship between *nudging* and health inequalities against the backdrop of the *big four* public health issues; smoking, alcohol consumption, nutrition and physical activity?

The report is structured in three parts; the first part includes definitions and underlying premises for nudging, the second part provides an overview of current practices of choice architecture applied to the *big four* health issues; and the third part provides a critical reflection of nudging over against the background of the current academic debate and the question of health inequalities. Furthermore, the report argues that choice architecture – nudging – is inevitable and, even though it *prima facie* does not seem to reduce health inequity directly, it has the potential to do so if targeted well, complemented with incentive structures, and backed-up by robust legislation.

nudging as a tool of public policy is currently an internationally popular approach

terminology and theoretical background behind nudging: libertarian paternalism

incentives function on the premises of rational choice theory, whereas nudging on the premises of heuristics (mental shortcuts that are often erroneous)

research question

report structure and thesis

Method

databases consulted	<p>The narrative analysis of nudging, definitions, underlying premises and current practices is based on a systematic literature search conducted from the 28th of October to 13th of November in the following databases:</p> <ul style="list-style-type: none">✧ Medline via Ovid✧ Embase✧ TRIP Database
terms searched	<p>More than 60 articles were unlisted as relevant as a result of searches that used terms as Nudge, Nudging, In/equality, In/equity and Life Style Change (s), Life Style Factor (s), Health Determinant (s). A total of 62 articles were unlisted and in addition, 25 more articles were hand searched.</p>
narrative analysis done	<p>The narrative analysis of the researched literature was carried out based on the research questions outlined above to clarify the relationship between nudging, the <i>big four</i> health issues, and health inequalities.</p>

PART I: Definitions and premises

1.1 Definitions

A simple nudge, in other words a gentle push in a direction, is the popular nickname for what is also referred to as choice architecture. Building upon insights from behavioral psychology and economics, choice architecture attempts to design impactful ways for presenting different choices to consumers. Up until recently, the field of choice architecture was predominantly led by marketing companies that have made use of non-deliberative ways to sell their products to the consumers [6]. However, since the early 2000s, governments of the United States and the United Kingdom have tried to apply behavioral insights into the public structures, and other countries like Canada, France, Singapore, New Zealand, and Australia have followed since.

Nudging, as defined by the coiners of the term Thaler and Sunstein, is “... any aspect of the choice architecture that alters people’s behavior in a predictable way without forbidding any options or significantly changing their economic incentives. To count as a mere nudge, the intervention must be easy and cheap to avoid. Nudges are not mandates. Putting the fruit at eye level counts as a nudge. Banning junk food does not” [3]. As opposed to the mere giving of ‘sticks and carrots’, i.e. rewards and punishments for the sake of inducing behavior, nudging involves the usage of “subconscious cues (such as painting targets in urinals to improve accuracy) or correcting misapprehensions about social norms (like telling us that most people do not drink excessively)” [4]. It can also include altering of “the profile of different choices (such as the prominence of healthy food in canteens)” or changing of the default options “(such as having to opt out of rather than into organ donor schemes). Nudges can also create incentives for some choices or impose minor economic or cognitive costs on other options (such as people who quit smoking banking money they would have spent on their habit but only being able to withdraw it when they test as nicotine free)” [4].

In this report, the terms of health inequality and health inequity will be used in the sense that health inequalities are unavoidable differences in the distribution of health determinants between different population groups whereas health inequity refers to avoidable differences that are unfair and are to be changed.

1.2 Premises behind nudging

Nudging operates on the premises that a) people are not *rational economic optimizers* when making decisions, b) that the environment can be reshaped such that people’s actions better reflect their underlying real desires through the above mentioned subtle cues and alike, c) and that the government, in some respects, knows better what is good for the individual.

terminology and the widespread use of nudges since the early 2000s

definition of nudging and examples

to count as a mere nudge, the intervention must be easy and cheap to avoid

distinction between health inequalities and health inequities

list of underlying premises

**behavioral psychology
background of
Kahneman and Tversky
and their theory of
heuristics that
individuals tend to
decide in more intuitive
than rational ways**

Choice architecture works within the framework of behavioral psychology dating back to the 1970s research of David Kahneman and Amos Tversky, which suggests that people are not conscious and rational when making decisions. Kahneman and Tversky found that when faced with a decision, people not only tend to take mental shortcuts that ease their cognitive load of making a decision [7], but they also tend to be erroneous [6]. The theory of *heuristics*, i.e. mental shortcuts, assumes that an individual cannot really fit the rational Socratic ideal of thorough integrity between thoughts and actions, but rather that the individual tends to decide in more intuitive ways described in plain language by terms such as *educated guess*, *rule of thumb* or *common sense*. Applying Kahneman and Tversky into economics, the field of behavioral economics assumes that people are not *rational economic optimizers* when faced with a decision but that the architecture of the choice setting greatly influences their decision-making.

**choice architecture
and shaping of the
environment**

Thus, the subtleties of the way the environment is shaped tap into triggering of different mental shortcuts. Subconscious cues – such as placing of red vegetables against the background of green ones and the repetition of such pattern of contrasting blocks of opposing colors – can attract our *attention spotlight* and supermarkets have learned that that which is visible is that which sells [6]. Hence, the goal of choice architecture in the government policy is to “reshape the environment in which people act” for instance by getting people’s attention so that their actions “better reflect their underling ‘real’ desires” [8].

**liberal paternalism and
the assumptions that
governments know
'better'**

Whereas the private sector uses behavioral economics for the sake of driving profit, the public sector’s usage of nudging claims to be for the “good” of the population. The notion of choice architecture as such is based on the premises of *libertarian paternalism*, which “believes it is legitimate for governments to design environments and contexts ... in which people make decisions in order to make it easier for them to maximize their well-being” [9] without obtrusion and compulsion [4]. It needs to be noted though that some of the reasons that drive public interest in nudging are current economic austerity, attempts to change behavior in deregulatory ways, and better application of particular policies into practice.

**rational decision theory
vs heuristics,
the difference between
nudging and incentives**

The above outlined premises behind nudging find themselves in opposition to the *rational decision theory*, which argues that if individuals are adequately informed, they are better able to make those choices that maximize their own best interests [10]. Here lies the main difference between nudging and incentives. Whereas nudging counts with an individual who is often unable to make consistent choices for oneself due to various behavioral influences, incentive structures bet on individual’s rationality to discern what is right. It assumes the individual’s integrity to follow with actions what has been discerned with reason. Hence, an example of a nudge when approaching the issue of smoking would be making non-smoking more visible in the media in order to apply social pressure on smokers and support, or *nudge*, those intending to quit. Whereas an incentive in the same field would be to create a reward structure for those who are successful in quitting such as awarding them with straight cash rewards.

PART II: Current practices

Current trends in choice architecture are predominantly set by the Anglo-Saxon world with its beginnings in Tony Blair’s Prime Minister Strategy Unit and Barack Obama’s Office of Information and Regulatory Affairs lead by one of the coauthors of *Nudge*, C.R. Sunstein. It was however the 2010 Coalition Government in the UK that has appointed the first Behavioral Insights Team (BIT) dedicated to the application of behavioral sciences in the public sector. Since then, the team has expanded significantly, yet its objectives of “making public services more cost-effective and easier for citizens to use; improving outcomes by introducing a more realistic model of human behavior to policy; and wherever possible, enabling people to make ‘better choices for themselves’” remained the same [11]. Recently, the BIT has expanded its activities to Singapore and Australia’s New South Wales, which established their own BIT units and in 2015, Barack Obama issued an Executive Order formally establishing the Social and Behavioral Sciences Team. The Nudge Unit, as the BIT is nicknamed, is a social purpose company, which works in various areas of public policy ranging from sustainability and local governance, to tax and health. In the past two years, the BIT has expanded its health programs specifically focusing on the areas of “behavioral drivers of health and the administrative efficiencies of healthcare systems”, and it is its health related work that this report focuses on in the context of the *big four* health issues [12].

The BIT has created a framework called EAST, which is a heuristic of heuristics, in other words a mental shortcut introducing the theory of mental shortcuts. EAST suggests that if the government wants to encourage a behavior, it should think about making it [6]:

- ✧ Easy
- ✧ Attract
- ✧ Social
- ✧ Timely

In the context of the *big four*, Table 2-1 introduces a list of interventions that fall under the heading of nudging and focus on the health issues concerned.

Table 2-1: EAST applied to the big four health issues, Sources: [6, 9, 13]

	EASY	ATTRACTIVE	SOCIAL	TIMELY
Smoking	Reduce cues for smoking by keeping cigarettes, lighters and ashtrays out of sight	Put stickers on pregnancy tests pointing out that the purchaser could easily access help to stop smoking in pregnancy	Make the public know that majority of smokers want to quit smoking	Target the moments of ‘transfer’ when new habits are being created, such as first-time mothers
Alcohol consumption	Serve alcoholic drinks in smaller glasses	Prevent alcoholic drinks from being put at the end-of-aisle spots in supermarkets as that increases sales	Make the majority of students know that binge drinking at university is not the default behavior	Make General Practitioners recommend their patients not to consume excessive amounts of alcohol right after the check-up as that is when patients are most responsive

United State and United Kingdom pioneer the approach of choice architecture in public policy

current practices are set by the UK’s Nudge Unit that develops the EAST framework

list of countries that apply nudging in public policy

BIT framework for nudging interventions – EAST

	EASY	ATTRACTIVE	SOCIAL	TIMELY
Nutrition	Nudge supermarkets to introduce smart shopping baskets that counts calories and keep separate compartments for fruit and vegetables	Put nutrition labels on pre-packaged food in university halls at the level of eye-sight for healthier food to sell better	Use eyes and faces in health nutrition campaigns as that tends to make people behave more virtuously	Make food choice in canteen available ahead of time as that boosts people to be more consistent with choosing the healthy option
Physical activity	Make public transport and city bikes easy to access and easy to use	Create an entertaining show aimed at young children to make a healthy lifestyle fun and automatic	Make physical activity the social norm, such a walking up the stairs in public	Support the making of commitments towards being fit or losing weight

2.1 Easy

the first principle of nudging – easy	“If you want to encourage something, make it easy”, a statement by the co-author of the <i>Nudge</i> R.H. Thaler summarizes the first principle of applying behavioral sciences to policy [6].
friction costs to induce or prevent behavior	One of the ways of simplifying is through the work with <i>friction costs</i> . Friction costs represent obstacles that a person finds on the way towards performing an action and “it explains why otherwise perfect models might sometimes throw out predictions at odds with messy real-world observations” [6]. Friction can be either reduced or applied, depending on the outcome observed. The reduction of cues for smoking by keeping cigarettes, lighters and ashtrays out of sight is an example of applied friction. When kept out of sight and out of reach, applying the extra cost of getting a cigarette has a plausible effect towards putting people off from smoking. To the contrary, removing friction from travelling by the public transport, such as making the transport scheme more user friendly, barrier-free, and easy to understand, or establishing city cycle schemes encourages people to choose the healthier option [6].
smoking reduced by applying friction and thus keeping cigarettes out of sight	
default set-up to help with people’s natural tendency to inaction	The other key concept in simplifying is the work with defaults. Bryan Wansink’s research on eating behavior suggests that people are generally inattentive as to the amount of food they consume and use external cues to decide how much to eat [6]. “Plate shapes and package sizes, lighting and layout, color and convenience” contribute to how much a person eats and so setting up the default option of placing smaller plates in school canteens may help tackle obesogenic behavior as well as serving alcoholic drinks in smaller glasses may help to limit the amount drunk [14]. As it was the case in the UK and the US where the default of pension schemes changed from opt-in to opt-out, in the UK alone, the “proportion of employees of large firms saving for pensions rose from just over 60% ... to over 80%” [6]. Due to people’s natural tendency towards inaction, 90% of all eligible workers chose not to opt-out while at the same time 9 out of 10 workers supported the opt-out system – showing that having automatic enrollment as the default is the better option [6]. By setting the healthier option as the default and by removing the friction costs involved, such as in the case of smart easy-to-use shopping baskets in supermarkets that add up calories, salt or added sugar and have compartments for vegetables and fruit, the simple nudge can contribute markedly towards health in general [6].
pension scheme change from opt-in to opt-out proved to be the better option	

2.2 Attract

Getting person's attention is one of the key strategies in nudging. Tapping into the limited *attention spotlight* is crucial for the sake of the message to be registered.

One of the means of attracting is by making the key point in the message salient or distinctive. For instance, in order to get pregnant women realize as soon as possible that their habit of smoking can cause harm to the newborn and get help to quit, one of the options is to put a salient sticker "on pregnancy tests pointing out that the purchaser could easily access help to stop smoking" [12]. A research conducted at Cornell University, Ithaca, NY also concluded that putting salient "nutrition labels on pre-packaged foods in a large university dining hall produce[d] a small but significant reduction of labeled high calorie and high fat foods purchased and an increase in low calorie, low fat foods" [13]. The BIT has also tested for the use of different easy-to-understand labelling and concluded that "a four-light traffic-light system leads to significantly lower calorific choices than a three-light system" (with red marking the least healthy and green the most healthy foods) and that "adding a human figure also improves impact" [6]. Furthermore, working with salient messages can also involve guiding providers of services to make healthier choices more distinctive. For instance, preventing alcoholic drinks from being put at the end-of-aisle spots in supermarkets has a major impact on their sales. Because our eyes naturally scan as we turn corners, items placed at the end of aisles sell better [15]. A non-alcoholic drink at the end of aisle increases sales by 52-114% and an alcoholic one by 23-46% [15].

Moreover, what helps to attract person's attention is addressing the person by name. The BIT has tested the impact of personalization with the UK's tax office of HMRC and found that just by sending the tax letter in a white and not brown envelope with a personalized message on top, such as 'Michal, you really need to open this', the "envelope raised the response and completion rate in previous non-respondent from 21.8 to 26%" [6]. Such personalized messages could be made use of also in the health setting for instance in sending text messages to avoid missed doctor appointments reminding people the date and time of their appointment signed by the doctor or nurse (as the messenger acknowledgment seems to also boost response [6]).

In order to boost physical activity, Icelandic televisions show *Lazy Town* with its main protagonist Sportacus attempts to nudge children towards understanding the importance of health and fitness. Sportacus, a portmanteau of the ancient figure Spartacus and the word sport, attracts the attention spotlight of children and gives them cues for a healthier lifestyle. *Lazy Town* is an attempt to make incentives more attractive and, combined with salience and personalization of messages, may positively contribute towards public health.

the second principle of nudging

salience of the point communicated

four light traffic light labelling leads to significantly lower calorific choices

items placed at the end of aisles sell better for they are more salient

personalization, addressing by name and acknowledgment of the messenger lead to higher response rate

attract attention of children by a TV series that nudges the healthy direction

2.3 Social

<p>the third principle of nudging</p>	<p>People are strongly influenced by what others do. Watching a comedy with someone else makes a person laugh twice as much and the more fellow diners one has around the table, the more one eats [6].</p>
<p>correct misapprehensions about social norms</p>	<p>Social nudges in the context of the <i>big four</i> health issues for the most part revolve around correcting of misapprehensions about social norms. In a 2011 US study, researchers put signs next to elevators stating that stair use is a good way of getting some exercise but such nudging did not work. Instead, telling student that “most people use the stairs” lead to an increased stair use by 46% [16]. Based upon the same principle, social nudges could be introduced to clarify to smokers that majority of smokers actually want to quit as well as to explain to university students that binge drinking is not the norm [6]. In terms of alcohol consumption, the BIT has found that pubs that require customers to order behind the counter tend to contribute to the culture of ‘rounds’, which puts unduly pressure on those members of the group who would have otherwise not ordered another alcoholic drink [6]. A restaurant style ordering behind the table seems to be the type of a nudge that creates less social pressure and hence leads to less drinking [6].</p>
<p>majority of smokers desire to quit</p>	
<p>drinking of “rounds” creates a social pressure on those, who would otherwise not have another drink</p>	
<p>reminders of others to boost response</p>	<p>Another element of social nudging is the use of network suggestions and reminders of others. BIT conducted a randomized controlled trial in an investment bank concerning raising money for charities and concluded that if sent a personal email followed by a tub of sweets, 17% more employees of the bank were ready to give their day’s salary to the charity [6]. In terms of reminders of others, several studies have indicated that “eyes and faces looking at us tend to make us behave more virtuously” [6]. Such could be used in nutrition campaigns as a personal remainder to eat healthier foods. Social norms, network suggestions and reminders of others represent a group of subtle social nudges that can, via the use of subconscious cues and corrected misapprehensions about social norms, contribute towards targeting some of the <i>big four</i> health issues.</p>
<p>eyes and faced in campaigns tend to make people behave more virtuously</p>	
<p>avoid committing of the <i>big mistake</i> by normalizing the unwanted behaviour</p>	<p>In the context of social nudging, policymakers tend to miss the power of social norms and inadvertently use them in counterproductive ways. They commit what Robert Cialdini, author of the book <i>Influence</i>, calls <i>the big mistake</i> [17]. By emphasizing the negative behavior on the social scale, policymakers tend to discourage the behavior they want to reinforce. For instance, in the health care contexts, “signs in doctor’s surgeries about the number of people who missed their appointments in the last month” creates the norm that missing an appointment is socially acceptable, even though its intention is to put people off from missing their appointments [6]. Conscious architecting of social norms is one of the means to avoid making of the <i>big mistake</i>.</p>

2.4 Timely

Timing is another important part of choice architecture. Interventions tend to be more effective when timed well; before habits kick in, when behavior is disrupted, and when rightly framed against the backdrop of ‘time inconsistency’ [6].

In order to get people acting in ways that are more consistent with people’s underlying preferences, governments need to design their interventions in a timely manner. It has been reported that critical periods matter in adulthood as well as they do in childhood [6]. The David Olds Nurse Family Partnership of supporting young at-risk mothers, developed in the US but applied also in the UK, showed particularly good results with mothers having their first child [18]. “It was not clear if it had any effect at all on mothers having second or later child” and it was concluded that the reason lies in the question of habits. “Learn it first, learn it right” is a mantra that captures well how critical timely interventions are [6]. It is therefore particularly critical to pinpoint those ‘transfer’ moments in people’s lives where new habits are being created such as pregnancy, moving of houses, change of work, and others. For pregnant women, the time of pregnancy with the first child seems to set the habits for the following and hence if asking when to target mothers to adopt a healthy lifestyle and stop smoking, it is during the time of first pregnancy [6].

Not only is it crucial to impact upon unhealthy behavior in the process of habit creation, but it is also important to time the advice appropriately. After being examined at the general practitioner’s office, i.e. after metaphorically receiving the ‘gift of advice’, it seems to be the crucial time when patients are most receptive to the doctor’s advice on healthy lifestyle, moderate alcohol consumption and physical activity [6].

Because of people’s ‘time inconsistency’ of discounting the future and focusing on the present, it is crucial to follow through the health choices made in the past. In a study on ‘time inconsistent preferences’ three-quarters of Danish workers “chose fruit over chocolate when the prize was due to be delivered the following week”, yet majority chose chocolate when offered the choice at the point of delivery [19]. Hence, choices in school canteens could be made in advance with the aim of nudging the healthier behavior. Another possible timely intervention in the context of the *big four* is to create the structures so as to avoid time inconsistency. A stickk.com, an internet platform, focuses precisely on helping people follow through their decisions and so far has helped “people complete 300,000 workouts, and has prevented more than 2,500,000 cigarettes being smoked” [6]. If timed well, such help can have a major impact on the *big four* health issues.

Applied to the *big four* health issues, the EAST framework has the potential to architect healthier choices in a deregulatory way.

the fourth principles of nudging

right timing at the time of habit creation

first-time mothers show better results – “learn it first, learn it right”

timing of advice in the context of psychology of gifts

time inconsistency, discounting of future and focusing on the present

healthier choices made if referring to the future

summary paragraph

PART III: To nudge or not to nudge

The third part of the report is concerned first with objections to nudging and its critical reflection, mainly from the side of paternalism, and second with the question of health inequalities and nudging in particular.

structure
of the third part

3.1 Criticism of paternalism in nudging

The theoretical debate around nudging revolves mainly around the notion of *paternalism*. As mentioned above, the notion of choice architecture as such is based on the premises of *libertarian paternalism*, which “believes it is legitimate for governments to design environments and contexts ... in which people make decisions in order to make it easier for them to maximize their well-being” (paternalism) [9] without obtrusion and compulsion (libertarian) [4]. It is however unclear where the boundaries of compulsion are when it comes to subtle deregulatory moves of choice architecture. Problems highlighted in the literature range from the questions of consent and autonomy, manipulation and coercion, to responsibility and moral character.

introduction to the
criticism of paternalism

One of the core criticisms is the question of consent and autonomy. As mentioned above, a core premise behind nudging is the assumption that governments act in the name of *public good* and hence implicitly claim to know better what is good for the individual. Understandably then, in the context of the current economic austerity, this premise stirs disagreement for it seems to intrude on person’s autonomy for the sake of a ‘dubious’ public good. As it is the case with the private sector that uses nudges for budget-driven reasons in marketing and sales, the government’s usage of nudges can also be perceived against the backdrop of budget implications and cost-effectiveness, and hence not necessarily viewed by the public as a public good.

consent and autonomy
criticism, government
knows ‘better’

can the government
be trusted on its
assumptions of what is
best for the individual?

What if it is the case that people do act “against their own best interests – by using drugs, eating junk, failing to save or taking loans they can’t repay ... because of individual behavioral flaws, [20] not because of poverty, inequality or lack of hope” [21]? Nudging seems to disregard the question of individual’s autonomous decision of consent, but in the context of the *big four*, it pursues a particular understanding of what is good for an individual. Nudges may be oriented towards trying to make a person quit smoking, because smoking as such causes negative health implications that the health care system needs to bear, without attempting to get the person’s agreement. By some, this can be perceived as manipulation or coercion because “libertarian paternalism often fails in its promise to track target agents’ own normative standards” and so it manipulates the person into what it perceives as ‘good’ [22]. “The use of public authority to change citizens’ behaviours, even if the altered behaviours are better for the citizens themselves, violates spheres of privacy, integrity and autonomy ... The state ought not to patronise people, by singling out a subset of the population and treating them as if they lacked the full use of reason” [20].

consent and
autonomy criticism

possibility of
manipulation as the
government often fails
in its promise to track
target agents’ own
normative standards

**responsibility
and moral character
implications**

**on the long run,
nudging may lead to
*infantilisation***

**nudging, as a
communitarian rather
than libertarian policy**

Moreover, such singling out may have a negative impact on the person's sense of responsibility and moral character. Because "[n]udges, by aiming at behavioural change through strategic manipulation of cognitive patterns, achieve their objective neither through education nor personal will", there is a risk that such choice architecture will only weaken person's "capacity for self-control" [23]. There is a possibility that nudging, having brought for the most part financial benefits in short-term, will long-term contribute to weakening of moral character and *infantilisation* by "decreasing responsibility in matters regarding one's own welfare" [23]. Because nudging in the public sector is a relatively recent development, there is little data on its long-term sustainability, which will eventually prove or disprove its impact on responsibility and moral character. "[T]o date, few nudging interventions have been evaluated for their effectiveness in changing behavior in general populations and none ... has been evaluated for its ability to achieve sustained change of the kind needed to improve health in the long term" [4].

The above mentioned criticism attempts to qualify the notion of choice architecture as compulsive, and hence not really libertarian but only paternalistic. Such perspective implies that nudging rather falls under communitarianism and not libertarianism by its priorities set on what contributes to the communal good rather than what is good for the autonomous individual.

3.2 Critical reflection

nudging analyzed

**structure of the
criticism section**

**because no intervention
is neutral,
choice architecture is
inevitable**

**doctors need to make
decisions of what they
think is best for the
patient, which is also
the case of inevitable
nudging**

It is naïve to expect nudging not to include any compulsion whatsoever. "[I]n many cases, we face informational constraints on what a person's good really is" and the government's drive for cost-effectiveness by definition will compel people to act a certain way [22]. a) However, because no intervention is neutral, nudging is inevitable. It remains to be a matter of *how* the choice architecture will be designed and b) here the notion of transparency and public scrutiny is needed in order to prevent manipulation and coercion. c) Indeed, respecting the limits to ethically acceptable forms of nudging that respect person's autonomy is crucial and, d) in order to avoid unethical nudges, governments should consult with a specimen of the target group of individuals in advance of the nudge. e) The evidence seems to suggest that nudging works best with those already heading the direction of the nudge anyway.

No policy intervention is neutral and every policy intervention is based on a set of assumptions that serve as its theoretical underpinnings. Choices are presented to individuals and hence "[c]hoice architecture happens anyway, it is just a matter of how we do it, not if" [24]. Indeed, "once you know that every design element has the potential to influence choice, then you either close your eyes and hope for the best, or you take what you know and design programmes that are helpful" [25]. Hence, choice architecture cannot be avoided. Applied to the health care context, "[c]linicians will usually have an opinion about what course of action represents the patient's best interests and thus may "frame" information in a way which "nudges" patients into making choices which are considered likely to maximise their welfare" [26]. This kind of nudging can be viewed as "interfering with patient autonomy and constitute medical paternalism", however clinicians cannot avoid giving advice but rather "have a responsibility to try and correct "reasoning failure" in patients" in order to maximize their wellbeing [26]. Therefore, nudging as a policy measure is inevitable.

Despite the fact that nudging is inevitable, the question of ‘*How* to nudge?’ remains to be answered. Nudging ought to be transparent with clear limits and open to public scrutiny, so as to define what the public good is.

Bovens suggests that there is a need to distinguish between two sorts of transparency, one that tells people directly about an intervention and second that ensures that a “perceptive person could discern for [himself] that an intervention had been implemented” [27]. In the case of nudges however, “this fuller sort of transparency might limit the effectiveness of the intervention” and so the latter, weaker form, should be adopted [27]. Bovens suggests that the latter is ethically acceptable “provided those who were nudged had the ability to discern its implementation” [27]. Such condition is necessary as it is arguably ethically unacceptable to nudge with the use of subliminal message such as priming. It is “wrong to influence people in a way that they are incapable of identifying” and it is under these circumstances that nudging respects person’s autonomy and thus avoids the criticism of manipulation and possible coercion [27]. Because “coercion entails an element of control over the behavior of agents” and because it is “not plausibly displayed by the kinds of serious examples of nudges posited in the literature”, such nudging is to be considered ethically sound [28]. Nudging needs to be detectable by perceptive individuals and so left open to public scrutiny.

In order however, to get better understanding of what people themselves consider *good*, it is important not only to leave it on the public scrutiny, but also to consult a specimen of the target group of the intervention (in order not to ruin the nudge, it is enough to consult just a specimen of the target group for the sake of bettering understanding). Because one type of nudge does not fit all, it is important to have nudges tailored to the target groups at stake [29]. It is a reoccurring conclusion in the literature that nudging works best with that subset of population, which inclines to the change suggested by the nudge regardless [6]. One of the explanations of why banning smoking in public places in the UK has been so successful as well as why the use of e-cigarettes has helped to “save around 100,000 years of life per annum in the UK alone” is because majority of smokers intend to quit smoking anyways [6]. Sunstein suggests that nudges are more like a GPS in the sense that they have a goal to increase navigability “of making it easier for people to get to their referred destination. Such nudges stem from an understanding that life can be simple or hard to navigate, and a goal of helpful choice architecture is desirable as a way of promoting simple navigation” [30]. Thus, the goal of nudging is to help people avoid procrastination and help them through the process of “their own value clarification” [31].

Hence, even though it is to be expected that nudging will involve some level of compulsion, it is necessary to highlight that nudging as such is inevitable. In order however, for it to be ethical, it needs to be done a transparent way (in the weaker sense of the word transparent), involve public scrutiny and respect person’s autonomy through not using subliminal messages. And for the sake of maximizing of the effectiveness of choice architecture, it is crucial to consult a specimen of the target group of the intervention and see to the direction the group is heading anyways.

how best to nudge?

weaker form of transparency condition – nudges must be detectable by perceptive individuals

if left to be detectable, then public scrutiny condition can follow

consult a specimen of the target group condition

nudges work best for those already heading the direction of the nudge

the goal of nudging is to be like GPS in helping people to get to their referred destination

concluding remarks

3.3 Health inequalities and nudges

Marmot review and health inequalities	<p>The 2010 review by Michael Marmot provided a robust evidence for the link between social justice and health equity [32]. According to Marmot, “[t]here is a social gradient in health – the lower a person’s social position, the worse his or her health”, which suggests that health matters to justice in a fundamental way as well as that creating a fair society is important for the sake of health [32]. Marmot further suggests that “[a]ction on health inequalities requires action across all the social determinants of health”, which range from income and social status, education, physical environment, social support networks to health services and gender [32]. According to Marmot, reducing health inequalities will require action on these policy objectives:</p>
tackling the social gradient of health as key to health policy	<ul style="list-style-type: none"> ✧ Give every child the best start in life ✧ Enable all children young people and adults to maximize their capabilities and have control over their lives ✧ Create fair employment and good work for all ✧ Ensure healthy standard of living for all ✧ Create and develop healthy and sustainable places and communities ✧ Strengthen the role and impact of ill health prevention [32]
list of policy interventions suggested	<p>To answer the question of what is the relationship between nudges and health equity, it is suggested that if targeted well, nudging is a useful tool for reducing health inequalities and can contribute both directly as well as indirectly towards a fairer society. However, it needs to be backed up by robust legislation and alternatively also by coherent structure of incentives.</p>
nudging has the potential to target social gradient of health	<p>The UK’s Coalition Government strategy of using choice architecture as a way “to encourage, support and enable people to make better choices for themselves” [2] has been criticized for not targeting the upstream factors that lead to inequity suggested by Marmot “such as poverty, neighborhood deprivation, and over-reliance on fossil fuels” but for focusing of “downstream factors such as how individuals absorb information and perceive choices” [4]. A systematic review “as to which type of interventions are more likely to produce ‘intervention-generated inequalities’ (IGI)” tentatively concluded that “downstream interventions are more likely to produce IGIs” [33].</p>
nudging to complement robust health policies, but cannot be left alone to tackle health inequalities for it only focuses on the downstream factors	<p>Because nudging seems to largely ignore the socioeconomic determinants of behavior, it ought not to be used as a substitute for legislation in targeting the issue. Marmot makes “a strong evidence-based case for governmental action to promote public health, including thorough legislation, regulation, taxation, and welfare” in order to tackle the socioeconomic determinants of health [4], where choice architecture can be used as a contributing tool. That is because nudging does not focus on the “merits of privatizing social security, but the best way of doing it. It considers why Americans aren’t saving more for their retirement, without mentioning that, for the majority, real wages haven’t risen in a decade” [21]. In terms of health inequalities, it is to say that nudges do not focus on eradication of poverty, but for instance on making the health care system more accessible to the poor. A long term solution to health inequalities is needed and mere nudges, and also incentives for that matter, are insufficient [34]. Nudges are rather to be seen as “behavioral insights [that] are more incremental rather than revolutionary in their impact, just as the engineer’s use of a wind tunnel does not fundamentally change the design of</p>
nudges need to focus on upstream factors like poverty	

a car, but it subtly reshapes it to be more efficient, and better suited for the task it is made for” [6]. Table 3-1 is an example of a robust strategy that includes legislative steps as well as choice architecture.

Table 3-1: Robust regulation to back-up nudging interventions [9].

	Nudging	Regulating
Smoking	<p>Make non-smoking more visible through mass media campaigns communicating that the majority do not smoke and the majority of smokers want to stop</p> <p>Reduce cues for smoking by keeping cigarettes, lighters and ashtrays out of sight</p>	<p>Ban smoking in public places</p> <p>Increase the price of cigarettes</p>
Alcohol	<p>Serve drinks in smaller glasses</p> <p>Make lower alcohol consumption more visible through highlighting in mass media campaigns that the majority does not drink to excess</p>	<p>Regulate pricing through duty or minimum pricing per unit</p> <p>Raise the minimum age for the purchase of alcohol</p>
Diet	<p>Designate sections of supermarket trolleys for fruit and vegetables</p> <p>Make salad rather than chips the default side order</p>	<p>Restrict food advertising in the media directed at children</p> <p>Ban industrially produced trans fatty acids</p>
Physical Activity	<p>Make stairs, not lifts, more prominent and attractive in public buildings</p> <p>Make cycling more visible as a means of transport, e.g. through city bike hire schemes</p>	<p>Increase duty on petrol year on year (fuel price escalator)</p> <p>Enforce car drop-off exclusion zones around schools</p>

Undoubtedly, in the context of *health in all policies*, nudging have indirectly contributed towards health and social justice through interventions such as changing the default system from opt-in to opt-out for university application for students from deprived neighborhoods in a project done in New York city [6]. By tapping into the behavioral tendencies that people have, nudging has made an important impact that contributes towards the public good (for the most part in deregulatory ways), especially in its interventions focused on health as well as in its successful interventions in other areas. Choice architecture could however, bring more impact to targeting health inequalities by applying its behavioral knowledge of specific groups of the society alongside the gradient of health, from lower social positions to higher. An example of this could be an already existing method of applying ‘smart defaults’ tailored to the target group [6]. In practice that could mean that against the backdrop of the behavioral psychology of poverty, nudges would be applied for instance to the group of citizens that lives below the poverty line. Such a prioritarian approach would in practice mean that decisions would be planned that “improve access to sports facilities or shops/markets that sell fresh fruit and vegetables, or the distribution of food vouchers to people of lower socio-economic status” [35]. It needs to be noted that careful considerations would need to be made to avoid stigmatization for instance by universalizing the intervention scaled alongside the Marmot’s social gradient.

nudging most useful when targeting the social gradient of Marmot

Conclusion

**nudging was argued
to be inevitable**

Choice architecture – nudging – as part of the effort of “finding intelligent ways to encourage, support and enable people to make better choices for themselves” [2], was argued to be an inevitable tool that governments should use for the sake of better provision of public health. Indeed, the deregulatory potential of nudging ought not to replace either incentive structures or robust legislation, but the EAST framework developed by BIT should be used as a complementary tool in health policy. Nudging is to “refine and improve the cost-effectiveness of policies [and] to make services easier for citizens to use” [6].

**even though at time
paternalistic, it should
be used as long as it
fulfills the conditions of
transparency, public
scrutiny, consultation of
the target group, and
ethicity
in health inequalities,
it should be a
complementary tool
to legislation and a
structure of incentives**

Nudging tends to be criticized for being paternalistic, assuming to know better what is good for an individual and hence involving a level of compulsion. This report suggests that nudging needs to be nonetheless applied because architecting of choices cannot be avoided. In order however, for nudging to be ethical, it needs to be done in a transparent way (in the weaker sense of the work transparent), involve public scrutiny and respect person’s autonomy through not using subliminal messages.

Because these approaches have not been used for very long, at least not in the government policy, there is little data on its long-term effectiveness. Also, there is little data on its effectiveness after having been repeated, so as to know if the effect of behavioral insights fades out with time. Undoubtedly however, the evidence suggests that nudging in short term is very cost effective [6]. Against the backdrop of health inequalities, also there, there is more research needed into the relationship between nudging and health inequalities, but nudging is seen as a potentially useful tool for its reduction. It is further suggested that nudging should focus on more upstream factors behind health inequity for instance by focusing on architecting choices for specific groups alongside the social gradient of health.

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