DESIGN FOR BEHAVIOUR MODIFICATION
for Routine Health Checkups

Submitted by : Sohini Guin
136130001

Guide: Prof. Girish Dalvi

February, 2015

IDC
IIT Bombay

Declaration

I declare that this written document represents my ideas in my own words and where others' ideas or words have been included, I have adequately cited and referenced the original sources.

I also declare that I have adhered to all principles of academic honesty and integrity and have not misrepresented or fabricated or falsified any idea/data/fact/source in my submission.

I understand that any violation of the above will be cause for disciplinary action by the Institute and can also evoke penal action from the sources which have thus not been properly cited or from whom proper permission has not been taken when needed.

Sohini Guin,

136130001

Industrial Design Centre,

Indian Institute of Technology, Bombay

February, 2015.

Approval Sheet

The project titled ‘Design for Behaviour Modification - for Routine Health Checkups’ by Sohini Guin, is approved for partial fulfilment of the requirement for the degree of ‘Master of Design’ in Industrial Design.

Guide:

Examiner:

February, 2015

Acknowledgement

I would like to express my sincere gratitude to Prof. Girish Dalvi for his support and guidance throughout the execution of the project.

I am extyremely thankful to everyone who cooperated and let me take interviews and shared their views for the user study.

Last but not the least, I'd like to thank my friends at IDC for their support and suggestions through various discussions.

Sohini Guin

Contents

Abstract

The project is based on Design for Behaviour Modification. The selected field is routine health checkups. Routine health checkups are meant to comprehensively perform various tests on a person periodically so as to prevent illnesses or take action wherever necessary before the illness gets aggravated and caught at a later stage. Health checkups are especially important for middle aged people who tend to fall sick often. However, most people do not do this regularly for varying reasons. The aim of the project is to understand the mindset and behaviour of such people, and intervene by providing nudges to benefit them so that they go for routine health checkups regularly. For doing this, various cognitive biases of the human brain were studied. Several examples of nudges in healthcare and other fields were studied for better understanding of various biases. In the end some ideas have been described to try and make health checkups more routine in the lives of middle aged people.

Introduction

General health checks involve multiple tests in a person who does not feel ill with the purpose of finding disease early, preventing disease from developing, or providing reassurance. (Krogsboll, 2012)

A routine health check up is called by several names such as annual health check up, periodic health check up, comprehensive medical exam, general health check, prevention health examination. The general tests included in a health check up vary depending on the person's age and gender. A person might also need certain tests based on medical history or family's medical history. The benefits of a routine health check up are plenty.

Different countries have different standards for health checkups. Based on various sources, the list of tests that a person needs to take for a master health check up based on age and gender is as follows:

Age	Male	Female
18-39	Blood pressure screening Cholesterol screening and heart disease prevention Diabetes screening Dental exam Eye exam Immunizations Infectious disease screening Physical exam	Blood pressure screening Cholesterol screening Diabetes screening Dental exam Eye exam Immunizations Physical exam Breast self exam and mammogram Pelvic exam and pap smear Skin self exam
40-64	Blood pressure screening Cholesterol screening and heart disease prevention Diabetes screening Colon Cancer screening Dental exam Eye exam Immunizations Osteoporosis screening Physical exam Prostate cancer screening (Lung cancer screening (Only if there is a history of screening	Blood pressure screening Cholesterol screening Diabetes screening Colon cancer screening Dental exam Eye exam Immunizations Physical exam Breast exam Mammogram Osteoporosis screening Pelvic exam and pap smear Skin exam (Lung cancer screening (Only if there is a history of screening

List of tests based on gender and age group

and above 65	Abdominal Aortic Aneurysm Screening (Only if there is a history of (screening Blood pressure screening Cholesterol screening and heart disease prevention (Lung cancer screening (Only if there is a history of screening Colon Cancer screening Diabetes screening Dental exam Eye exam Hearing test Immunizations Osteoporosis screening Prostate cancer screening Physical exams	Blood pressure screening Cholesterol screening and heart disease prevention Diabetes screening Colon cancer screening Dental exam Eye exam Hearing test Immunizations Physical exam Breast exam Mammogram Osteoporosis screening Pelvic exam and pap smear Skin exam (Lung cancer screening (Only if there is a history of screening

List of tests based on gender and age group
Source: Medline Plus. 2014

Routine health checks can be beneficial since they can help detect problems before they become serious, harmful or fatal. They can be cured quickly and simply with lesser effort thereby preventing serious health or monetary consequences. It may be noted that they cannot be treated like a definite method to prevent diseases and stay safe. However, even though the benefits of a routine health check up is common knowledge most people neglect to have them regularly for a variety of reasons.
With increasing age, it becomes necessary for a person to monitor their health regularly. We often hear cases where illnesses get detected only when they are far too serious for easy treatment or have proved to be fatal. This project is aimed at modifying the behaviour of people who take routine health checkups lightly.

Nudging

A nudge is any aspect of the choice architecture that alters behaviour in a predictable way without forbidding any options or significantly changing their economic incentives. A nudge must be easy and cheap to avoid. (Thaler & Sunstein, 2008) Nudging is often used to try and direct people to make better decisions without directly affecting the freedom of choices. Choice architecture refers to the different ways choices are presented to the consumers so that it affects their decision positively.

Cognitive biases

Humans have biases. These biases affect every decision that humans make. Even though humans are confident about their decisions, slight nudges in daily life affect all decisions made by humans. Humans think differently in different situations. There are two kinds of thinking, one is intuitive and automatic and the other is reflective and rational. The first is called the Automatic system and the second is called the reflective system. (Thaler & Sunstein, 2008). The Automatic system is used for making decisions instinctively, almost involuntarily. It is not associated with thinking. This is where a lot of biases come in. Example: Person gets nervous when airplane hits turbulence. The Reflective system makes decisions after thinking. These include big decisions like whether to attend medical school or law school. Both systems are important and work in different scenarios.

Nudging can be used for affecting change positively by using the biases that the automatic system of human beings possess. These are supposed to be small changes in which do not take away the freedom of choice from a person but help him/her in making better decisions which affect their life positively.

Literature Review

Do Defaults Save Lives

There have been studies which talk about the importance of default choices in various scenarios. One such study is about the huge difference between the opt-in and opt-out policy in organ donation. The research in this study showed that there was a large variation in opinions regarding organ donations. Among the large percentage of people who approved of organ donation, less than half made the decision of donating.

The experiment was based on the use of defaults to create preferences in the minds of people who didn't have one yet. A decision maker might select the default assuming it is the best choice as indicating by the policy-makers. Accepting the default is also effortless and maintains a status quo. Any kind of change from a default might imply cognitive and emotional stress on the decision maker.

The status quo bias is seen to be working in this study. People don't want to make changes since the said changes may have consequences, which may be good or bad. The cognitive effort required for this change is not something most people are willing to go through. Also, most people are lazy and would not change a default option thereby sticking to the default.
(Johnson & Goldstein, 2003)

Nudges at the dentist

A experiment was conducted to study the effect of reminders on patients due for a checkup. There were two kinds of reminders sent to people. One group of people who were the main control group were not given any reminders at all. The second

group was given a neutral reminder. The third group was a reminder with additional information such as the benefits of prevention, contact information of the dentist, etc. Two styles of additional information included a positive style where the person had healthy teeth and a negative style where the person had a toothache.

The conclusion to this study had two layers to it just like the experiment. It was seen that the group of people who were given reminders for scheduling and then going for a dental check up was more than those who were not. The second result was that the neutral reminders seemed to be having a greater impact than the reminders with additional information. Also, there was no specific conclusion on the results between the reminders which had positive information and the reminders which had negative information. Moreover, repetitive reminders did not increase the percentage of people going for checkups or the frequency of checkups. Different sub groups of patients based on age, education, background etc also didn't seem to make much of an impact on the results.

Most people are aware of the importance of going to the dentist to prevent dental problems. However, it seems like a task with low priority since there is no particular trigger. Thus, reminders seem to be a reasonable way to affect change.
(Altmann, S, et al., 2012)

Quit smoking, CARES

CARES is a voluntary commitment product to help people quit smoking. It made the study participant open a savings account and deposit a certain amount of money for a commitment to quit smoking. After a span of 6 months, these people were asked to take a urine test for nicotine content. The money was returned to them if they passed the test or else it was given to charity. Surprise tests were also conducted after 12 months for a more long term, honest result.

The study mainly focuses on how a financial incentive like a deposit helps people stick to their decision. If nothing is at stake, it is difficult for people to stick to their decision. Also, something like a test at the end of a few months on which the return of deposit is dependant is also like a compulsion. This compulsion, can eventually lead to the formation of a habit.
(Giné et al., 2008)

Lotteries to encourage weight loss

This study uses literature based on economic behaviour of people to set up a financial incentive program for weight loss. Healthy individuals with a BMI between 33.8 and 35.5 were recruited and divided into 3 control groups. The first group got no incentives. The second group got a deposit based incentive system and the third group got a lottery incentive system.

The deposit based incentive group required a participant to deposit 0.1$ - 3$ everyday for the 16 week period which would be refunded to them if they met or exceeded their weight loss target. To add an incentive, their deposit was matched 1:1 by the organizers. At the end of the week, the participant had to update the weight loss and accordingly they would receive a sms feedback about how much money they have earned. They would receive all this money only if they met the final weight loss target at the end of 16 months.

The lottery incentive group could win 10$ per day (1 in 5 chance) or 100$ per day (1 in a 100 chance), based on drawing numbers randomly every day. They are eligible for this lottery only if they have met their daily weight loss goal. These participants also received daily feedback based on their weight loss updates. Those participants who did not adhere to their weight loss goals were informed of the money that they have lost. The result of the survey saw about 10% people of the control group reaching their target weight, and over 50% participants reaching their target weight in the incentive groups.

Financial incentives can be useful to change people's behaviour for the better. People are loss averse and also regret averse, thus try and stick to the plan. It is also seen that a constant reminder of how much money they could have won or how they can improve or do better is useful to maintain the positive change.
(Volpp et al., 2008)

Improving immunization coverage in rural India

This study is about immunization camps in rural India. Children in rural India are often not immunized. 134 villages were selected and children aged 1-3 were targeted for this study. These children were divided into 3 groups. One control group was made with no intervention. A second group was made with monthly immunization camps with good facilities. A third group was made with an intervention of incentives provided

along with immunization. This was mainly raw lentils and metal plates for completed immunization. This study was conducted for 18 months.

The result of this study was that 39% of children in the third group were immunized, 19% children in the second group and only 6% children in the first control group. Thus, it was seen that non-financial incentives were useful in making people come out for immunization. However, only a good supply of facilities was not enough for the immunization to be successful.
(Banerjee et al., 2010)

User Study

Routine health checkups are essential for checking the status of one's health and taking necessary action in case of any anomalies. This helps the person take quick precautions and treats the problem when it is still nascent or active in lesser magnitude and can be treated. However, most people do not go for regular health checkups due to expenses, time constraints and lack of interest in taking precautions. These broad causes are generic and it was important to understand other reasons, the kind of information most people have about health checkups, its importance, causes for the disinterest etc. Opinions of various age groups, people with different economic, social and educational backgrounds could also vary.
To modify any user behaviour, it was important to understand the current user behaviour properly. A survey method was selected to assess people's knowledge, ideas, and feelings about health checkups.

Objectives/Areas:

- Demographics
- Self Health Image, lifestyle
- Caution level
- Risk estimate
- Trust for healthcare centers and doctors
- Motivation for health checkup
- Hang ups regarding routine health check ups
- Source of healthcare information

Objective/Area	Structured questions	Unstructured questions
Demographics	1	
Self Health Image, lifestyle	7 ,5 ,4 ,2	3
Caution level	25 ,15 ,13 ,12 ,9 ,8 ,7 ,5	
Risk estimate	25 ,13 ,12 ,7 ,6 ,5	20
Trust for healthcare centers and doctors	27 ,10	28 ,11
Motivation for health checkup	25 ,18 ,16 ,15 ,5 ,4 ,9	20 ,17 ,19
Hang ups regarding routine health check ups	18 ,16 ,15 ,12	20 ,19 ,17
Source of healthcare information	26 ,24 ,23 ,22 ,21 ,6	

Based on these objectives, a questionnaire was developed. It was kept short, such that the survey can get completed in approximately 45 minutes.
The questions were then divided into structured questions and unstructured questions where the first described the current state of affairs and the latter described the feelings, misconceptions, problems, pre-conceived notions about health checkups and brought out insights which could be worked upon. Correlated questions were also marked to check how one result was affecting another.

Connected questions (Correlation)

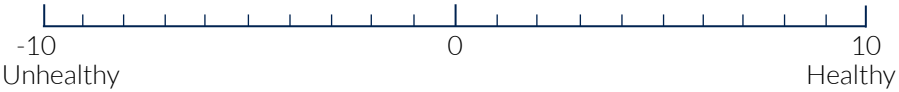
Risk estimate: 2-5-6-14
Cautionary behaviour:7-8-9-12
Like-ness for doctors and healthcare centres: 10-11-27-28
Awareness levels:6-21-22-23-26

15 people were interviewed. The division of age groups amongst these people was as follows:
Age group: 20-29 (3)
30-39 (3)
40-49 (3)
50-59 (3)
60 and above (3)

Questionnaire:

1. Name, Age, Occupation, Gender, Education?

2. How healthy do you think you are?



3. Why do you consider yourself *ans 2*?

4. Are you aware of any health related issues you may have such as asthma/diabetes/ blood pressure/allergies?

5. What kind of health issues do you think you might have in the future? At what age?

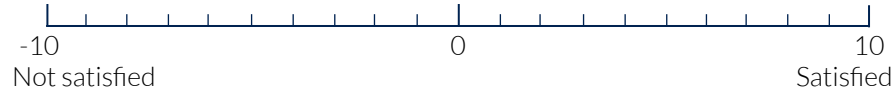
6. At what age do you think men/women become more prone to prostate/breast cancer?

7. How often do you visit the doctor?

8. When was the last time you visited the doctor?

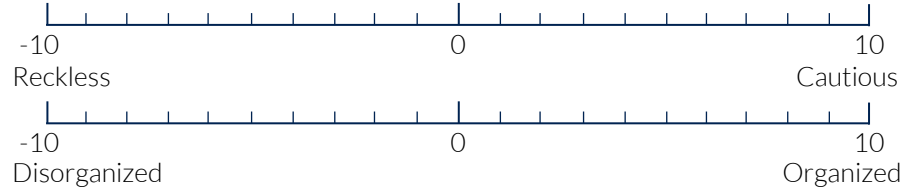
9. What was the purpose of this visit?

10. Rate how satisfied you were with this visit



11. Why (ans 8)?

12. What kind of a person would you consider yourself to be?

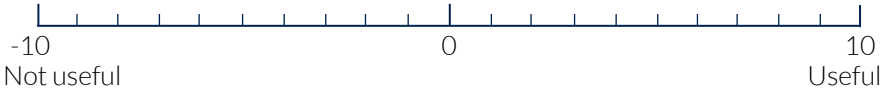


13. How often do you get a routine checkup done?

14. When was the last time you got a routine check up?

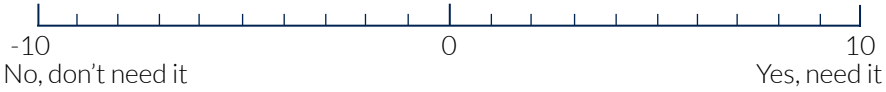
15. Why did you get this check up done? / Why have you not done a Health Check Up?

16. Can you rate the usefulness of this check up on the following scale?



17. Why (ans 13)?

18. Do you think you need routine check ups?



19. Why (ans 14)?

20. System 2 type questions:

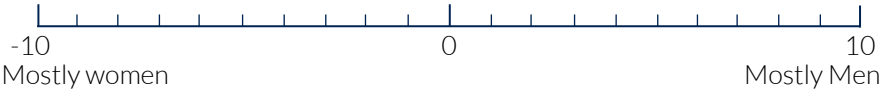
    a. Money/effort/laziness: What if after 5 years of regular tests with no result, the sixth year, your cholesterol levels start rising increasing the risk of heart attack?

        - After many years if the test results yield some result which allow quick recovery, would you consider it useful?
        - Is it important to you to feel safe or to know that everything is okay with you?
        - Wouldn't it be better to take some quick precautions or make some slight changes in lifestyle to reduce or avoid the risk?

    b. God/fate: Don't you think god would want you to take precautions. Isn't it fate for doctors to be able to detect early on that there is a problem?

21. At what age do you think general heart attack risk increases?

22. Which gender is mostly affected by heart attacks?



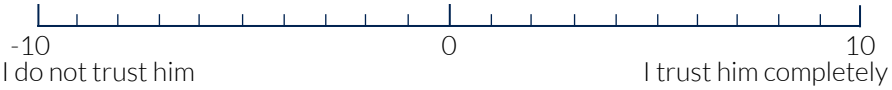
23. What do you think causes cancer?

24. Does anyone in your family/extended family have any health problems?

25. What disease are you very cautious about?

26. What source of health care information do you trust? (hospitals/magazines/ family/friends)

27. Can you rate how much do you trust your doctor(consulted most often)/doctors?



28. Why (ans 21)?

Analysis

The survey results were recorded in a spreadsheet format. All these interviews were done personally and the answers were noted and some were voice recorded. The information was then entered in a spreadsheet.

Analysis of the data was done in the following manner:

All the structured data was entered into a table. This was divided based on the various age groups. The maximum, minimum and average of these categories were calculated for the various age groups. These values were useful for gauging the basic differences amongst the various age groups.

- Health scale
- Doctor's visit satisfaction scale
- Reckless - Cautious scale
- Disorganized - Organized scale
- Health checkup - Usefulness scale
- Health checkup need scale
- Doctor trust scale

		Health scale	Doctor's visit satisfaction scale	Reckless - Cautious scale	Disorganized - Organized scale	Health Checkup Usefulness scale	Health Checkup Need scale	Doctor Trust scale
20-30	User 01	4	7	7	2	0	-5	8
	User 02	8	10	9	9	8	2	8
	User 03	7	9	9	10	9	10	10
30-40	User 04	7	10	4	6	8	5	10
	User 05	-5	8	2	8	9	10	9
	User 06	7	10	-2	8	10	10	10
40-50	User 07	7	8	7	9	6	5	8
	User 08	5	6	7	7	7	8	10
	User 09	7	10	8	5	10	10	5
50-60	User 10	7	-3	-5	5	10	7	8
	User 11	3	5	4	5	6	6	7
	User 12	8	8	6	9	8	8	9
60-70	User 13	5	8	-1	5	8	9	8
	User 14	7	7	7	10	9	8	7
	User 15	7	10	8	9	10	10	9
	Min	-5	-3	-5	2	0	-5	5
	Max	8	10	9	10	10	10	10
	Average	5.6	7.53	4.67	7.13	7.71	6.87	8.4
	Avg (20:40)	4.67	9.00	4.83	7.17	6.80	5.33	9.17
	Avg (40-50)	6.33	8.00	7.33	7.00	7.67	7.67	7.67
	Avg (50-70)	6.17	5.83	3.17	7.17	8.50	8.00	8.00

Analysis of structured responses

Target users:

User 1:

- 0 for usefulness scale, and -5 for need. Feels like young age will take care of all problems.
- Does not take health any precautions or care about diet or exercise

User 2:

- Very cautious, high on health scale, but health check up need is low.
- Works out regularly
- Thinks that he takes enough precautions.
- Also got a routine check up done last year, but need is rated low.

User 13:

- Health scale is low, aware of the importance of a health check up, but still hasn't gone for one in 3 years.
- Thinks he is a little reckless.
- Important to feel safe
- Last health check up was paid for by the company

Difference in extreme age groups

Age group 20-40:

Feel like they are not very healthy. Trust doctors, satisfied after doctor's visits. Need for a health check up is low

Age group 50-70:

- Mostly aware of the benefits of a routine health check up.
- Feeling safe is important to them
- Mostly go for a health check up if there is a trigger
- Often have health benefits by company so go for health check up
- If they are fit, then they do not necessarily go for a routine health check up even if it is due.
- Diabetes and B.P. are the most common problems.
- Often they go to the doctor for regular check ups of these two parameters

Insights:

- Younger people are not inclined to take health checkups since they think youth does not require them to do so.
- Middle aged people usually go for health checkups sporadically. They usually miss these checkups because they have other priorities.
- Most people are aware of the benefits and agree that they need health checkups, but do not get it done regularly.
- Sometimes, there is a lack of satisfaction at the end of the tests. This may happen because of the doctor/nurse's demeanour, lack of information or explanation regarding the various tests, or not following up on the results effectively.
- Most people who go for regular health checkups have mandatory corporate health checkups or have their health insured by the company. Others need to be reminded of health checkups and convinced about spending money on medical tests without any trigger.

Target audience:

- Age group : 50+
- Non-tech solution
- Generally aware of health related issues
- Know the importance of health check ups quite well
- However, as long as they are fine, they don't seem to feel the need to go get a health check up.

Survey method:

For this user study, a combination of the questionnaire method and the interview method was used.

Questionnaire method:

This allowed for structured questions to be put in a manner which allowed the user to give responses which could be recorded and analysed. These questions are usually close ended questions followed by response options.

Advantages:
- Useful for quantitative analysis
- Allows for trend analysis
- Effective for consumer research
- Easy to spread amongst a large number of people without added effort as it can be circulated online and responses can be received online.
- There is no need for the researcher to be personally present for this type of survey.

(Sarah Mae Sincero, 2012)

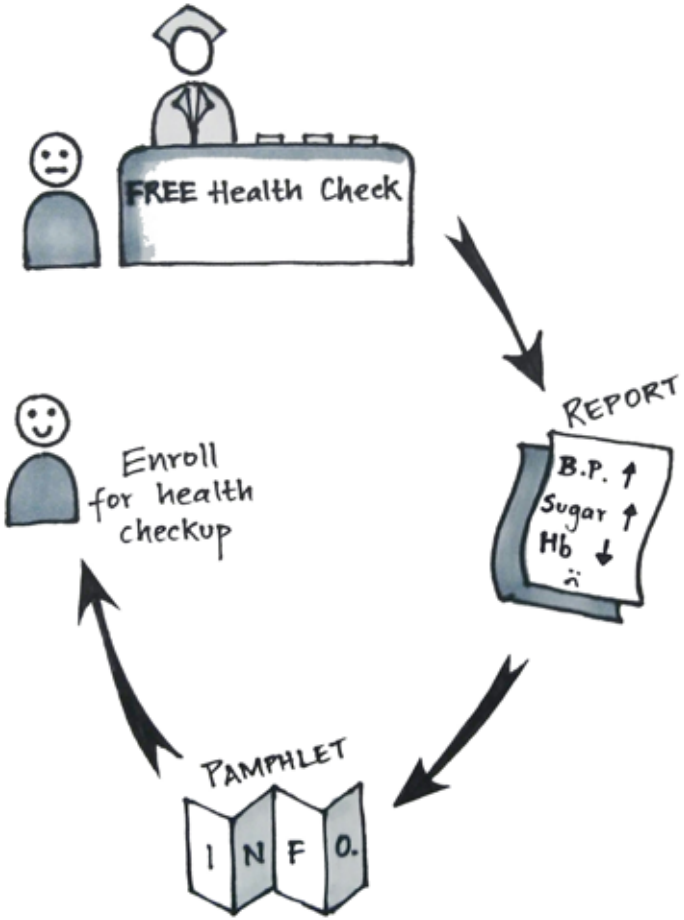
Disadvantages:
- Limits understanding of the user's answers
- Causes of the responses are not communicated from the questionnaire.
- A large number of responses are necessary for the analysis to hold true and for finding any trends.
- The quality of the results may vary depending on the user's interest since it isn't personal. It may be incomplete, hastily completed or incorrect.

Interviews:

The survey had unstructured questions in an interview conducted with all the users. This allowed further probing based on the structured responses from the questionnaire. An interview involves the researcher asking questions personally to the user. This type of surveying allows the researcher to ask follow up questions to the user after every close ended response for more insights, motives, feelings, pre-conceived notions etc. Every answer of the user can be explored and discussed.

Advantages:
Allows for follow up questions and discussions for better understanding

Disadvantages:
Time consuming
Requires the researcher to be present at every interview.



Concepts

Most people interviewed knew the importance of routine health checkups. However, they did not go for them regularly since they always had prior commitments or more important things to do.

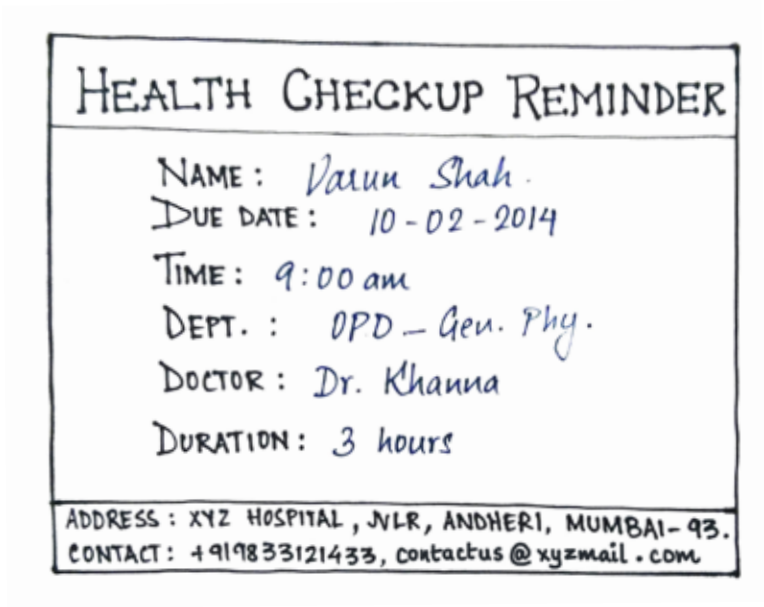
It also seemed possible to explain to people the importance of a health checkup. However, it was difficult to affect action using such information thereby making people take an appointment for such a health checkup and a whole different agenda to make these people keep the appointment.
Thus, nudging at various levels was possible for behaviour modification leading to middle aged people going for routine health checkups.

Providing information

People can be given information regarding health checkups and educated about the importance of health checkups, especially for the age group above 50. This can be done in the following ways:

At the hospital/clinic:

- A counter can be set-up which gives patients, visitors etc some quick non-invasive tests such as checking blood pressure, BMI etc.
- These results can be written down on a form which has standards to compare the results with.
- This gives them a basic idea of what may go wrong or if any vital statistics are wrong.
- They can be asked to enroll for routine health checkups or be explained the importance of routine health checkups.
- A pamphlet with information such as what a routine health checkup includes and why is each test on it important may also be given to every person who visits this counter.



Newsletter:

A person can have the choice of taking a subscription to a health information newsletter at a very nominal amount. This can be supported by the local hospital and information from the hospital can be used in this newsletter. The subscription can be a default opt-out policy subscription. Due to inertia, most people would tend to not discontinue the subscription. Most people have said they reasonably trust their doctors. Thus, they might take the information and precautions provided by their doctors seriously.

- Statistics of current diseases, symptoms of diseases etc. can be found out from this newsletter.
- It can have age specific information, related to ailments that may affect people and what steps must be taken to prevent or cure it.
- It can provide information about nearby healthcare centers which can provide the facilities of a complete routine health checkup.
- It can also have names of doctors, and phone numbers to call for making appointments. This information can be provided to prevent people from not taking action due to inertia.

Reminder system:

For those who are aware of the importance of health checkup benefits, but do not go for them regularly due to the lack of a trigger, feeling too safe and comfortable, reminders can be useful.

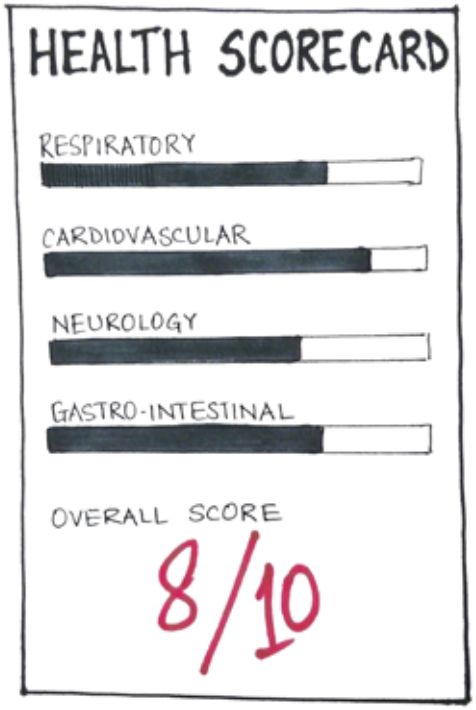
Reminder postcard

- The hospital can send text message reminders to every patient depending on their last health checkup. These can be sent for reminding them to make an appointment.
- Early bird discounts can be advertised.
- The reminders can be sent in the form of postcards too.
- These can have the due date for the health checkup, and phone numbers to call for information and appointments.

Scorecard:

Some of the people interviewed said they felt a little dissatisfied at the end of the health checkup and thus the importance of it was diluted. They also didn't feel like going for a health checkup again and the result in terms of satisfaction wasn't satisfactory.

- Everyone gets medical reports at the end of a health checkup. However, there is no



overall health status.
- A scorecard can be provided by the doctor to every patient at the end of a master health checkup which tells the patient about the status of every organ system in the body and also overall health status.
- It can be graded or scored depending on the results, and a person can know where they stand out of 10.

Incentives for keeping appointments

A pre-paid plan with deposit:

- A person can enroll for a deposit type of plan where he/she is asked to pay an amount up-front for two or more years.
- This amount is more than the cost of a master health checkup in that medical establishment.
- When the person makes an appointment for a health checkup, an amount is refunded in the person's bank account.
- When the person keeps his appointment and completes the health checkup, the rest of the deposit money is refunded to the person.
- By doing this, people have an incentive to go for the appointment even though it isn't extra or earned money.

Insurance premium:

- This can be done in collaboration with health insurance providers.
- The health insurance premium can be revised based on health checkups.
- Someone who regularly goes for health checkups would have a constant insurance premium.
- Those who do not go for regular checkups, or delay them will have their insurance premium increased as they are not caring of themselves so the likelihood of them taking to an illness and needing the insurance increases.

Added parameter in forms:

All subscription forms to sports facilities, government forms, driver's license applications, flights, etc. must ask for last routine health check up date and score as extra parameters. This will eventually make people go for health checkups regularly so that they have this data ready. Also, it automatically raises the importance of regularly going for health checkups.

Conclusion

Pros and Cons of Routine Health Checkups

Health checkups have been considered to be very useful for taking early action against serious diseases thereby preventing a person from excessive deterioration of health and spending large amounts of money on curing illnesses. It has been seen that people are becoming more proactive about their health and know the benefits of such health checkups. A lot of people also try and take these tests regularly. However, since these tests are done without a trigger when the person is not necessarily unwell, it is not a prioritized by everyone. Most people go for checkups only when they have taken to an illness or have been facing a particular problem often.

However, in India which is still unregulated in the healthcare sector, there are a lot of incorrect practices and services being provided by diagnostic centers. There are no guidelines available for which health care centers can provide these health checks (Kalidindi, Dr. S.R., 2012). Also, it has become an extremely commercialized activity in India where it sounds like the more the number of tests; the better it is for the person. However, this is not the case. These excess tests which hospitals provide as standard tests pose added risks to people such as radiation, harm to mental wellbeing due to improper counseling etc. Chest X-rays, CT scans etc have become a regular part of health checks. However, these are not supposed to be conducted without good cause since the radiation dosage from these tests is harmful for people.

Regular Health checkups are extremely beneficial for people in detecting illnesses at an early stage. However, it is necessary to understand the importance of various tests and only do the, at hospitals and healthcare centers which have regulated health checkups and no unnecessary tests.

Ethics of nudging:

Nudging seems like a harmless way of trying to direct people's decisions towards the correct decisions. However, there is always the debate on the ethics of nudging which say that it is basically taking away freedom of choice from people as they are biased towards a particular choice due to nudging. It is also impossible to avoid choice architecture of any kind since it exists in some form or the other anyway. Thus, it may be useful to modify it slightly and make people make healthier choices.
Nudges can be objectionable if they have illicit ends. However, if they are transparent and open to public scrutiny, it's unlikely that they can be considered problematic or autonomic. Nudges should also never take away a person's freedom of choice. They can't be too rigid, prominent or mandatory. Also, nudges do not always give the expected results in very large numbers. Nudges are always mild and may or may not affect change.

Feasibility

The ideas explained in this report have not been evaluated with users. The study would require long term evaluation to check if people make and keep their appointments or not. However, most of them are scalable and can be applied to large sections of urban, middle aged population. It would also be possible to collaborate with establishments such as healthcare centers, diagnostic centers, hospitals, insurance providers, sports clubs, etc. This would however take a lot of time. Small nudges like sending reminder postcards or text messages can be done faster and almost immediately in collaboration with hospitals and healthcare centres.

Learning

The subject Design for Behaviour Modification helped me to understand the variety of ways in which design can impact human behaviour. The various cognitive biases that people have are used daily in their surroundings for various reasons ranging from marketing strategies to decisions regarding healthcare and government policies. Reading about cognitive biases and studying examples of the way nudging is used in various fields allows for better strategy planning for design and application of design. The process of taking interviews and preparing questionnaires was also useful to learn. Various methods of surveying people were explored. As a result of this project, I have gained a new perspective on design thinking and how it can be expanded to include several other human factors.

References

Krogsboll, LT, 2012. General health checks in adults for reducing morbidity and mortality from disease (Review). The Cochrane Collaboration, [Online]. Issue 10, 1. Available at:http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD009009.pub2/pdf/standard [Accessed 08 January 2015].

Medline Plus. 2014. Health checkup. [ONLINE] Available at:http://www.nlm.nih.gov/medlineplus/healthcheckup.html. [Accessed 08 January 15].
Thaler Richard,H, Sunstein Cass, R, 2008. Nudge. 1st ed. Michigan: Caravan Book.

Johnson & Goldstein (2003), Do Defaults Save Lives?, Science, Vol. 302
Altmann, S, et al., 2012. Nudges at the Dentist. Preprints of the Max Planck Institute for Research on Collective Goods Bonn 2012/15, [Online]. 2012-15, 3. Available at:http://www.coll.mpg.de/pdf_dat/2012_15online.pdf [Accessed 15 January 2015]

Giné et al. (2008), Put Your Money Where Your Butt Is: A Commitment Contract for Smoking Cessation,
American Economic Journal: Applied Economics

Volpp et al. (2008), Financial Incentive–Based Approaches for Weight Loss: A Randomized Trial, Journal of the American Medical Association

Banerjee et al. (2010), Improving immunisation coverage in rural India: clustered randomised controlled evaluation of immunisation campaigns with and without incentives, British Medical Journal

Sarah Mae Sincero (Sep 21, 2012). Types of Survey. Retrieved Feb 13, 2015 from Explorable.com: https://explorable.com/types-of-survey

Kalidindi, Dr. S.R., 2012. The good and the bad about 'master health check-up' in India. Times of India, 10 September

Bibliography

Sunstein, Cass R., 2014. The Ethics of Nudging. -, [Online]. -, 1-32. Available at:http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2526341 [Accessed 19 December 2014].

Egan, M, 2014. Nudge Database. -, [Online]. V 1.2, 2-8. Available at:https://www.dropbox.com/s/b7qb5huxu1nbj2d/Nudge%20Database%201.2.pdf [Accessed 15 January 2015].