

Problem Solving and Decision Making Community Engagement - Assignment Two



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MODULE NAME:

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1. EXECUTIVE SUMMARY

The purpose of this report is to provide an analysis of a complex problem in the context of a real world situation through the use of problem solving tools and techniques. The public health service in the United Kingdom is managed by the NHS (National Health Service), now operating for 70 years since it was first established in 1948 by its founder Aneurin Bevan. The NHS is currently facing one of its most difficult periods ever, with the response being critical to its outcome and long term success. One of the many problems, the organisation faces is a shortage of organ donors signed up on the NHS Organ Donation Register; more specifically the 5898 people who are waiting for a transplant compared to the 341 people who have received a transplant since April 2018.

Methods of analysis include using problem solving tools and techniques including Ishikawa's model of the Fishbone diagram, McKinsey's 7S framework used in service industry and Toyota's 5 Why's technique to assist the decision making process for possible solutions to confront the complex problem. It became apparent that these problem solving approaches despite being decades old can be applied to discover the root cause of a complex problem such as the one the NHS is currently facing in relation to organ donation and transplantation activity.

Findings of the analysis shows that prospects of the NHS Blood and Transplant association in its current position are not positive. Once generating actions through problem solving tools and techniques it was possible to assess solutions to tackle the issue the NHS are facing to do with organ donation. One achievable action was selected to solve this complex problem, this was to launch a nationwide campaign across the United Kingdom encouraging members of the public to make a decision to opt-in the NHS Organ Donation Register.

Recommendations:

- The NHS should collaborate with JCDecaux for special coverage in London, England.
- They should produce a creative and innovative advertisement for their campaign to catch the public's attention rather than publishing their usual campaign materials.

2. INTRODUCTION

2.1 REPORT REMIT

This report aims to utilise formal problem solving tools and techniques to fully scope out a complex problem and inform decision making. Problem solving can be defined as: "*the generation and selection of discretionary actions to bring about a goal*" (Scandura, 1977, p.201). This report will focus on analytical thinking to deal with an issue the National Health Service (NHS) is currently struggling to handle; organ donation in particular the number of people who are waiting for an organ transplant against those people who have already received an organ transplant. In addition to highlighting the importance of organ donation as well as discovering the root cause and effects of this complex problem incorporating problem solving approaches by Ishikawa (1990), McKinsey & Company (2008) and Toyoda (1970). Furthermore, to construct solutions and suggest recommendations in correlation with these findings by using these approaches to problem solving.

2.2 BRIEF BACKGROUND OF THE ORGANISATION

The public health service in the United Kingdom is managed collectively by the NHS (National Health Service) with each country within the United Kingdom being operated by their own nation's health service independently for instance NHS Northern Ireland, NHS Northern Scotland, NHS England and NHS Wales. The NHS was established 70 years ago, in 1948, after the second world war as a major social reformation. It created the foundations of a welfare system that brought opticians, dentists, pharmacists, nurses, doctor and hospitals together for the first time to provide services that are "*free for all at the point of delivery*" with funding for the NHS coming directly from taxation; this means people pay into it according to their own wealth (NHS, 2016; NHS Choices, 2015).

3. THE PROBLEM

According to the Nuffield Trust (2018) the NHS is facing one of its most challenging periods ever with the response being critical to its outcome and long term success. In addition to this, with the United Kingdom have voted to leave the European Union (EU) in a snap election last year has caused uncertainty of the entire welfare system. Despite the constant strain on the NHS, one of the many problems that the organisation faces are the increasing number of organ donors required to give an organ to help people who need a transplant which can ultimately save thousands of lives in the United Kingdom. The scope of the problem can be determined as the number of people who are waiting for a transplant compared to the number of people who have received a transplant (NHS Blood and Transplant, 2018). The extent of the impact of the problem are affecting 5,903 people who require an organ transplant and 307 people who have already received an organ transplant since April 2018 (See Appendix A); according to the NHS around 1,095 people die every year in need of an organ transplant impacting society unnecessarily (*ibid.*). As a result of this, the public health service is constantly facing pressure to perform for improved transplantation activity on a national scale as the number of these deaths can be decreased.

3.1 PROBLEM SOLVING TECHNIQUES

Ishikawa (1985), a pioneer of quality management, devised a cause and effect analysis popularly known as the 'Fishbone diagram' due to the completed diagram being similar to the skeleton of a fish; the Ishikawa model is also known as various other names including Herringbone diagram, cause and effect diagram, Fishikawa diagram and more. Although, this diagram was originally developed as a quality control tool it can be used as a problem solving tool to discover the root cause of a complex problem. There are four steps to using this diagram-based approach for analytical thinking, respectively these are: identify the problem, work out the major factors involved, identify possible causes and analyse the diagram (Rampersad, 2001). This problem solving tool may be deemed as complicated and inappropriate for straightforward problems that may have one cause and a number of effects for example the cause of disease which has some effects such as symptoms and even death (Tolga Taner et al, 2007).

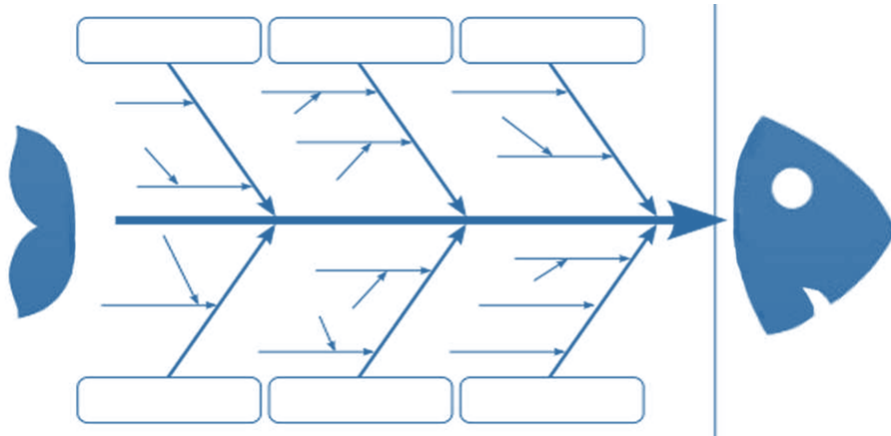


Figure 3-1: Ishikawa Fishbone Diagram

Adapted from source: (Fryrear, 2015)

The 7S's used in service industry were developed by Peters and Waterman from the McKinsey & Company consultancy firm which refers to seven elements, in no particular order these are: strategy, structure, systems, shared values, style, staff and skills (Channon and Caldart, 2015). These interdependent factors can be classified into "hard" and "soft" categories; "hard" elements include strategy, structure and systems whereas "soft" elements include of shared values, style, staff and skills. These mentioned elements take into consideration the internal factors to analyse whether the position of an organisation is sufficient to achieve its intended goal. This model provides a framework to best determine how to implement actions to likely affect future changes and make improvements (*ibid.*).

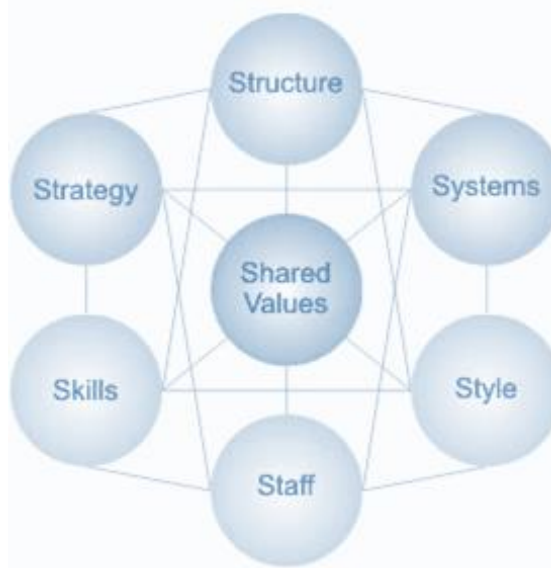


Figure 3-2: McKinsey 7S framework for Service Industry

Adapted from source: (McKinsey & Company, 2008)

Toyoda (1970), an industrialist, inventor and founder of Toyota Industries, originally proposed the 5 Why's technique during the Japanese industrial revolution as a "go and see" philosophy implying that decision making is based on an in depth understanding of what is actually happening on the grounds of the organisation rather than what is happening in the boardrooms. The three main steps in using this problem solving technique respectively is to: define the problem, ask "why is that?" repeatedly five times, until a solution becomes apparent (Alukal, 2007). This problem solving technique may be presumed unsuitable for the complex problem chosen due to a lack of in-depth understanding and basis of information from knowledge and research in addition to the simplicity of this approach. Serrat, (2017) believes this problem solving technique is most effective when the answers to the questions asking "why?" over and over again is derived from an experienced person who is knowledgeable of the problem solving process due to the repeat questions resulting in a solution to prevent the issue from recurring.

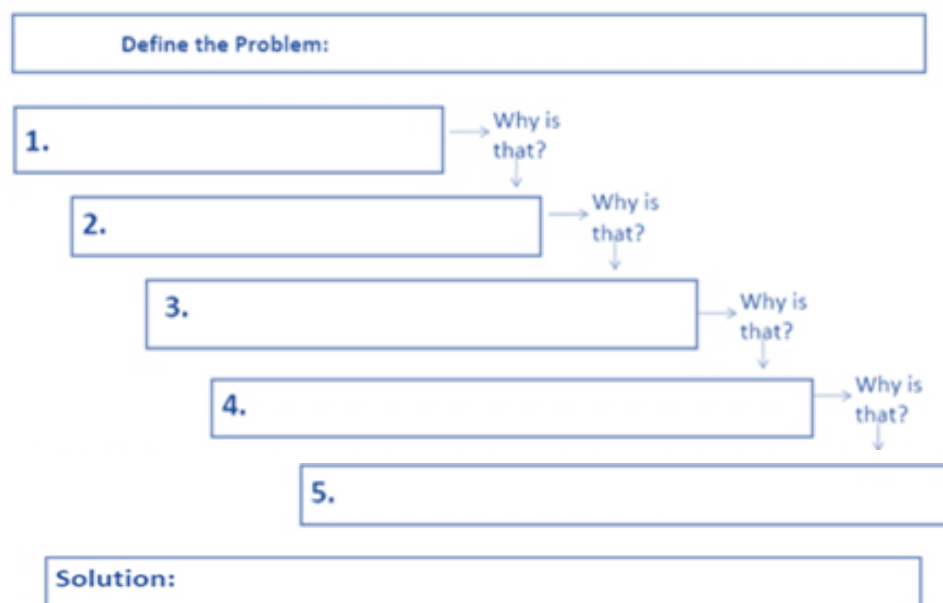


Figure 3-3: Toyota 5 Why's

Adapted from Source: (Alukal, 2007)

3.2 SOLVING THE PROBLEM

These problem solving tools and techniques have been identified to analyse the root cause of the complex problem. The models and theories will be used to evaluate the effectiveness of the solutions described and potentially solve the problem that the public health service is currently facing regarding the number of organ donors required to give an organ to people who need a transplant which can ultimately save thousands of lives in the United Kingdom. According to Channel 5 (2017) there are currently more than 21 million on the NHS Organ Donation Register, however, there are around 65 million people living in the United Kingdom.

The Fishbone Diagram by Ishikawa (1985) identifies many possible causes for an effect or complex problem such as the one faced by the NHS in regard to the shortage of donors signed up on the NHS Organ Donation Register. The effect for the fishbone diagram is: 5,903 people are waiting for an organ or tissue transplant. The causes for the fishbone diagram can incorporate McKinsey & Company (2008) 7S framework for use in service industry due to the model discussing the critical role of coordination rather than structure in regard to organisational effectiveness: the causes are strategy, structure, systems, shared values, style, staff and skills that can be used to sort any issues within the organisation to meet an objective (Singh, 2013).

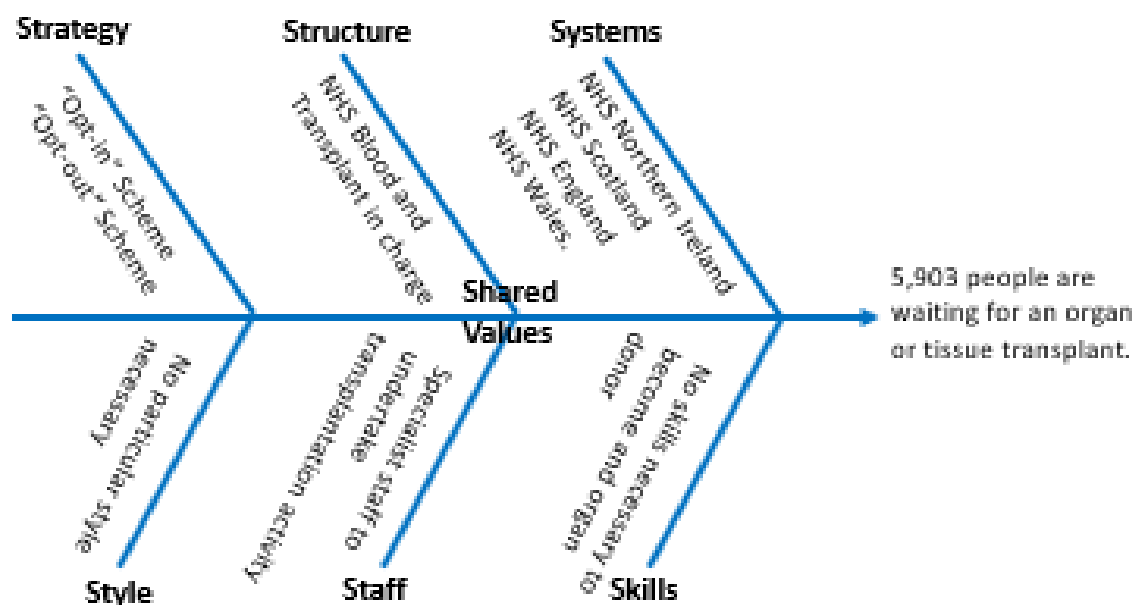


Figure 3-4: Completed Cause and Effect Diagram

The 5 Why's technique by Toyoda (1970) in the first instance seems self-explanatory, however if a solution or the root cause is not found the problem could become a recurring one or appear in another form. This approach to problem solving is still used to date by the car manufacture Toyota Industries for their lean manufacturing and production (Onho, 1988). The problem definition is: 5,903 people are waiting for an organ or tissue transplant. (1) Why is that? There are not enough organs or tissues available to transplant. (2) Why is that? There is a shortage of people signed up to the NHS Organ Donation Register. (3) Why is that? People are undecided on the matter. (4) Why is that? They are concerned about donating their organs and tissues. (5) Why is that? There is not enough awareness about the importance of becoming an organ donor. After conducting the problem solving approaches by Ishikawa (1990), McKinsey & Company (2008) and Toyoda (1970) which all explore the cause and effect analysis of a complex problem; the possible root cause was found through attempting the 5 Why's technique.

3.3 PROBLEM SOLVING IMPLEMENTATION

By the definition of problem solving from Scandura (1977), actions have been generated through problem solving techniques and one action has been selected as an achievable solution to this complex problem. The following action has been selected to tackle the problem: to raise public awareness of the importance of organ donation and transplantation through a national campaign.

JCDecaux (2018) are a multinational corporation who are "*passionate about design, quality and great service and provide [themselves] on consistent approach.*" They are the United Kingdom's number one out-of-home advertising company as well as one of the leading outdoor advertising companies in the world. If the NHS were to collaborate with JCDecaux for a national campaign, coverage across the United Kingdom would enable as many members of the public to engage with the advertisements. Similar campaigns have taken place previously under supervision of the NHS Blood and Transplant association for certain periods of time, however, they constantly campaign throughout the year sharing important messages (Yes I donate, 2018).

Perhaps the long duration of the NHS requires a brand new initiative such as small burst of advertisement located in different places of the country at different periods of time; this innovate approach may adapt to the constant changing needs of society as human being

are naturally curious (Weiner, 1988). In addition to this, the digital possibilities of the advertising resources provided by JCDecaux such as street furniture, transport advertising and billboard advertising would engage the members of public to interactive with the advertising media.

The power of this advertising would be beneficial for the NHS if it were to collaborate with JCDecaux due to the innovation aspect which varies from NHS' usual leaflets and posters. In addition to this, JCDecaux (2018) have recently launched a digital venture at London Bridge in England for brands to reach a large audience in a premium environment. If the NHS were to take advantage of this opportunity and display advertisements on organ donation at London Bridge in a creative and inventive way for the public to view; this could potentially encourage individuals to sign up as an organ donor on the NHS Organ Donation Register.

The success of this national campaign would be monitored and measured by how many people joined the NHS Organ Donor Register with their decision whilst the duration of the campaign took place. One location for the campaign has been suggested which is the capital city of England; the reason for this is because as it stands under the current system people who want to donate their organs have to "opt-in" or agree to donate after their death by signing up as a donor on the NHS Organ Donor Register. Whereas the system in Wales, which was proposed in 2015, people who don't want to donate their organs have to "opt-out." There is one condition with the Welsh legislation that if you do not register a decision at all it is considered as "deemed consent" meaning there is objection to donating an individual's organs after death (NHS Choices, 2018).

4. CONCLUSION

This report aimed to utilise formal problem solving tools and techniques to fully scope out a complex problem and inform decision making. The problem of a shortage of organ donors signed up on the NHS Organ Donation Register can be prevented in order to help someone who needs a transplant to potentially save their life (See Appendix B). Through analytical thinking and the use of problem solving tools and techniques a wide range of solutions have been introduced and developed. Despite this, after conducting an analysis of causes and effect of the root problem; it would be most recommended to strengthen the current activities that the NHS are undertaking to reduce the number of people waiting for an organ transplant.

The NHS are currently running a campaign in London to increase the number of lives saved by encouraging individuals to tell their families they would like to be an organ donor; this could possibly lead to an increase in organ donations across the United Kingdom as well as London as a result of a successful campaign. In addition to this, JCDecaux are currently running a powerful new digital channel at London Bridge which the NHS could take advantage of to advertise about organ donation.

The current message and campaign produced by the NHS Blood and Transplant association could stimulate conversation amongst society, perhaps not a mass amount of people sign up to the NHS Organ Donation Register; on the other hand, with the collaboration of JCDecaux and advertising at the London Bridge could reach 14 million views weekly and even provide coverage on a national scale in areas with the "opt-in" system just like England - it is one discretionary action in the right direction to bring about a goal. Increased transplantation activity because of an increase in the number of organ donations would suggest improved performance by the public health service reducing the pressure it is currently facing.

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CONTENTS

APPENDICES

APPENDIX A – ORGAN DONATION AND TRANSPLANT ACTIVITY FROM 27 APRIL 2018

(UPDATED)

Organ Donation and Transplantation -
Activity figures for the UK as at 27 April 2018



DONOR AND TRANSPLANT ACTIVITY				
	Current year (01.04.18 - 22.04.18)	Previous year (01.04.17 - 22.04.17)	% Change ²	Previous full financial year (2017/2018)
ORGAN DONORS				
Donors after brain death (DBD)	79	45	75.6	958
Donors after circulatory death (DCD)	32	38	-11.1	619
Total deceased donors (DD)	111	81	37	1575
Non-proceeding deceased donors (DD) ³	37	41	-9.8	659
Living donors (LD) - 1 mth in arrears ⁴	0	0		1035
ORGAN TRANSPLANTS				
Deceased donors (DD)				
Kidney	180	128	29	2379
Pancreas	3	0		17
Kidney/pancreas ⁵	13	8		172
Pancreas islets	3	0		22
Heart ⁶	15	8		197
Lung(s)	7	12		201
Heart/lung	0	0		12
Liver/lobe ⁶	74	49	51	991
Intestinal	0	0		25
Other (multi-organ)	2	0		24
Total DD transplants	277	203	36.5	4040
Living donor (LD) - 1 mth in arrears⁴				
Kidney	0	0		1005
Liver	0	0		29
Lung	0	0		0
Intestinal	0	0		1
Total LD transplants	0	0		1035

² % change only given when both counts > 10 ⁴ Living organ donor figures will not be reported until May 2018
³ patients eligible for donation with consent/authorisation where no organ retrieved for transplant
⁵ incomplete national data reporting ⁶ includes 'domino' donors / transplants
⁷ includes kidney & pancreas islets

ACTIVE TRANSPLANT LIST					
	Current at 26.04.18		Previous year	% Change	End of last year
	Total	(Paediatric <18yrs)	at 30.04.17		31.03.18
Kidney	4887	(80)	5002	-8.3	4819
Pancreas	10	(0)	12	-16.7	14
Kidney/pancreas ⁷	182	(0)	198	-8.1	185
Pancreas islets	18	(0)	22	-18.2	19
Heart	278	(27)	259	6.6	281
Lung	338	(4)	358	-5.6	344
Heart/lung	14	(1)	17	-17.6	13
Liver	326	(33)	497	-34.4	333
Intestinal	8	(4)	12		8
Other (multi-organ)	28	(1)	43	-34.9	30
TOTAL	5883	(130)	6418	-8.3	6044

Note: These figures are subject to change as information is updated

APPENDIX B – ORGAN DONATION POSTER

