

## CASE 3:



# ORGAN DONATION CASE

Firm Style	Interview Round
McKinsey	1 / 2

### Case Question:

One of the many functions of the New York State Health Commission is to coordinate organ donation amongst the state's many hospitals. In recent years the demand for organs has been greater than the supply. As a result, many patients die each year because there are not enough organ donations. The Health Commission has hired McKinsey to help it determine how to increase the number of annual organ donations in New York.

For the purposes of this case, assume that only New York residents are involved as donors and recipients.

**Question 1:** What are the factors and drivers that determine the number of organs donated in New York each year?

### Clarifying Information

*Provide the following answers only if the interviewee asks the corresponding questions.*

Information
In New York, organs will be harvested from terminally ill or injured patients just before death only if they are a registered organ donor or if the hospital receives permission from the next of kin. New York residents may choose to register as organ donors when they apply for a driver's license.

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## Sample answer:

**(Terminal patients\*% Registered donors \*organs/donor) + (Terminal patients\*% Not registered\*% Family consent\*organs/donor) = organs donated**

“The number of organs donated is determined by the number of terminal patients times the percent who are registered donors times the number of organs per person, plus the number of terminal patients times the percent that are not registered donors times the rate of family consent times the number of organs per person.

“The number of terminal patients is driven by the age of the population, changes in life spans, medical technology, the size of the population, the overall rate of natural death, plus the rate of accidental death, such as car accidents. The percentage of registered donors is driven by awareness of the donor program, the ease of registering, whether it is opt-in or opt-out, awareness of the benefits of organ donation and personal things such as religious beliefs. The rate of family consent is also driven by awareness of the benefits of organ donation and things such as religious beliefs, along with the information provided by doctors in a time of great grief and assurance that organs will only be harvested after death is certain. The number of organs donated per person is driven by the average number of healthy, usable organs in a donor.

While we've identified a number of factors, it's important to note that we can only really influence the rate of registered donors and the rate of family consent.”

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*Note: This question seeks to test a candidate's breadth of thinking. A good answer will be logical and structured. It will examine the factors as an equation, though not necessarily exactly as presented here. It will be thorough and should include 3-4 drivers for each factor. A great answer examines the implications of the analysis – ie. There are only two factors that we can influence.*

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**Question 2:** The team has decided to focus on increasing the number of registered donors and is specifically interested in kidneys donations. The Health Commission knows that it needs 9,200 kidneys per year. What percent of New Yorkers need to be registered donors in order for 9,200 kidneys to be donated in a year?

The team has already collected some useful information: The population of New York is 10 million. The percentage of people that become terminally ill or injured each year is .1% (one-tenth of one percent). The percentage of families that give consent to harvest organs is 10%.

**Sample answer: The candidate should setup and solve the following equation.**

- $RD = \text{Percent of New Yorkers who are registered donors. } (10,000,000 \cdot .001 \cdot RD) + (10,000,000 \cdot .001 \cdot .1 \cdot (1 - RD)) = 4,600$
- $(10,000 \cdot RD) + (1,000 \cdot (1 - RD)) = 4,600$
- $10,000RD + 1,000 - 1,000RD = 4,600$
- $9,000RD = 3,600$
- $RD = 3,600 / 9,000$
- $RD = .4 = 40\%$

**Note: Set the equation equal to 4,600 because there are two kidneys per person.**

$$4,600 \cdot 2 = 9,200.$$

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*Note: There are other possible ways to setup the equation. What's important is that the candidate takes a structured, analytical approach to the problem and doesn't panic. The candidate should walk the interviewer through the math, either as she solves the equation or afterwards. If the candidate gets stuck, give appropriate hints.*

*A great answer will include implications of the data. For example, they may conclude that 40% seems reasonable based on their personal experiences knowing people who are registered donors. Anything to show initiative and critical thinking without prompting is good.*



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**Question 3:** What are all of the things that the Health Commission should consider doing to increase the number of registered donors?

**Sample answer:** “First, we should conduct benchmarking studies. Internal benchmarking will reveal what they are currently doing well to drive registrations, and external benchmarking of other states or countries will uncover new ways to increase registrations. Second, we should conduct a segmentation of current and prospective registrants. We'll want to determine the segments where we are strong so we can continue to cultivate them, and at the same time find new segments where few people are registering. Third, we should conduct a series of marketing communication tests to determine appropriate messaging and channels to increase awareness and drive registrations. We should consider testing media such as TV, radio, online, direct mail, and may also be able to leverage the word of mouth of our current customers. We'll also want to develop messaging that increases the awareness of the donor program, the benefits of donation and the safeguards that are in place. Finally, we need to optimize our distribution channels. Currently, people can only register when they get their driver's license. We should add ways to register, such as any time someone goes to the doctor or hospital. We should also make it easier to register. For example, if New York currently requires people to explicitly opt-in, we can change to an automatic opt-in with an explicit opt-out.

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*Note: This question is designed to evaluate the candidate's depth of thinking. The above plan is a sample only and there are other approaches. A good plan will be MECE, with discrete categories (ie. "Benchmarking") and multiple items within each category. The plan should demonstrate common sense and sound business judgment.*

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**Question 4:** The team conducted a customer segmentation and your Engagement Manager has asked you to draw some initial conclusions from the data (give candidate the exhibit from the end of the case – candidate should clarify that the data are in millions of people). What would you tell her?  
Follow up question: Which segment represents the best opportunity to increase RDs?

**Sample answer:** “It looks like the Caucasian segment has the largest number of potential new registrants, but at the same time is already highly penetrated. The African-American segment is the opposite: low-penetration but low upside. The Hispanic segment has a slightly higher penetration than African-American, but is a bigger population. Based on this data alone, I would target the Hispanic segment because of the low current penetration and large population. Some of the risks include overcoming the language barrier and dealing with cultural differences.”



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*Note: The data table is designed to present the Caucasian, African-American and Hispanic segments as strong possible targets for different reasons. The candidate should reason through the pros/cons of targeting each segment and come to a firm hypothesis based on this data. It's more important that the candidate selects a target for good reasons and less important that she selects Hispanic.*

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**Question 5:** The team has decided to focus on increasing the registration rate among Hispanics. What are some things we can do to increase registrations of Hispanics?

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*Note: This question is designed to test a candidate's creativity. Hence, a sample answer is not provided. It is likely that the candidate will suggest things such as community outreach, Spanish language marketing materials/registration, etc., classic consumer marketing tactics, having vans drive around Hispanic communities encouraging people to register, etc. A good answer will have a long list of ideas that include typical business tactics along with creative, interesting suggestions. The interview should push the candidate by repeatedly asking "What else?", until the candidate can no longer think of things, and to determine how they respond to pressure*

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## Recommendation

**Question 6:** The head of the Health Commission just walked in and wants a recommendation for what he should do to quickly reach Hispanics. What's your recommendation? Start talking now.

**Sample answer:** "Clearly, there is a big opportunity with Hispanics. We've identified a number of things we can do to increase registrations, and since we're focused on the short term, I recommend that we do X, Y, and Z, because of A and B."

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*Note: A good answer should be short (20 seconds), organized and forceful. The candidate should be firm and not hedge her answer. The recommended steps will likely be things discussed in Question 4, and a good answer will choose tactics that, logically, will make the biggest impact.*



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## Exhibit 1

	<u>Registered Donors(M)</u>	<u>Population(M)</u>
Caucasian	2.600	5.500
African-American	0.075	1.500
Hispanic	0.250	2.500
Other	0.100	0.500