

Future Trends Report
Based on Analysis of the Future Scene in Mid-Term and Final Evaluation

STEP 1. Identify Challenges

Read the Future Scene carefully and generate ideas for challenges, concerns, and possible related problems. Choose the 5 most important challenges and write them in the space provided. Include applicable research with appropriate in-text citations.

Challenge 1: Since the future scene states that technology has been developed to monitor the elderly at home, and that the elderly like Mdm Lee are “uncomfortable” with it (FACT), a potential problem is that the elderly may feel that their privacy is being invaded and become paranoid about being monitored (PROBLEM). This paranoia, which may come along with distrust of the government, could possibly intensify and lead to mental illnesses among elderly (LARGER CONSEQUENCE).

Research 1: According to reolink.com, while discussing the cons of surveillance devices, they stated that several other essays discussed surveillance cameras in public places showing that the cameras may be abused. One example of how a public camera may be misused is that, information gathered by law enforcement can be used as a form of blackmail. Another form of abuse is voyeurism. This could easily be the same for such surveillance technology in the future scene.

Challenge 2: Since the future scene states that Mdm Lee was too used to being alone, and she was even irritated to see her own son (FACT), we can see a potential problem being weaker kinship relations (PROBLEM), which may lead to social isolation leading to loneliness and depression among the elderly given that they do not even enjoy the company of their immediate family members (LARGER CONSEQUENCE).

Research 2: According to Channel News Asia, social isolation will causes depression to worsen and feeds the idea of suicide. It also causes medical conditions to resurge and physical condition to deteriorate.

Challenge 3: Since the future scene states that Mdm Lee was upset over the lack of facilities in the community centre and comments that ‘they cannot even afford to clean up the centre’ (FACT), we can see that there is a lack of facilities for the elderly, so the elderlies end up staying at home not really participating in any mentally or physically engaging activities (PROBLEM), which may lead to elderlies degenerating mentally and physically, causing mental illnesses such as dementia and poor physical health (LARGER CONSEQUENCE).

Research 3: There are three nonpharmacological interventions for dementia that are particularly relevant as they might positively influence cognition, general functioning, and overall quality of life. They are physical exercise, intellectual stimulation, and social interaction. With the absence of these 3 strategies, which can be due to the elderly not participating in much activities, there will definitely be a large increase in the likelihood of getting dementia among the elderly.

Challenge 4: Since the future scene states that government hospitals are plagued with long queues, expensive healthcare costs, extremely limited bed space, and exhausted medical staff, despite the government’s heavy investments in it (FACT), we can see that the labour shortage has caused this rise in labour cost, and the increase in the elderly patients along with the shrinking workforce has caused a serious manpower issue (PROBLEM), which may lead to a degrading healthcare system,

so elderly be unable to go to these healthcare facilities and there will be a more sickly elderly population that are not able to access healthcare (LARGER CONSEQUENCE).

Research 4: According to an article by the Straits Times in 2017, **around 9,000 more people are needed in public healthcare and community care over the next three years**, as demand rises for healthcare services. The Health Ministry is investing \$24 million (see right) to get those making a mid-career switch on board. This works out to around 2,700 more nurses, 4,500 more support staff and an additional 1,800 other professionals, managers, executives and technicians.

Challenge 5: **According to the future scene the “tax rates were increasing as the population of seniors increased and the workforce shrank, placing more burden on adults like him.”(FACT)**. **This may lead to citizens wanting to immigrate to another country with lower tax rates to reduce their living costs(PROBLEM)**, which may consequently cause Singapore, which already has a low Total Fertility Rate, to suffer from lower productivity and a slow economy(LARGER CONSEQUENCE).

Research 5: Multiple taxes have been implemented over the years in Singapore, with one being the Goods and Services Tax (GST). It was first implemented in 1994 at 3%, and subsequently was increased to 4% in 2003, 5% in 2004 and 7% in 2007. There are plans for it to be increased to 9% sometime between 2021 and 2025. **A booming economy and generous offset measures helped to cool the move**. But now, with an ageing population for the government to care for, **it is unlikely that the government can provide enough offset measures as with in 1994** when taxes go up. People may not be willing to accept this tax increase, and may not be able to continue living here.

STEP 2. Select a Fundamental Problem

Using the challenges listed in Step 1, identify a problem of major importance to the Future Scene situation. Write your Underlying Problem making sure your question clearly explains the action that will be taken and the desired results/goal of that action.

Incorporating Challenge(s) # 3, 4, 5.

Given that the elderly of 2050 will be staying at home alone without any activities to do due to a lack of facilities or their family being unavailable, which may lead to physical and mental illnesses (CONDITION PHRASE), how might we improve their physical well-being (KEY VERB PHRASE) so that our pioneer generation can age without burdening the society monetarily and requiring extensive external assistance (PURPOSE) in Singapore, 2050 and beyond (FUTURE SCENE PARAMETRES)?

STEP 3. Produce Solution Ideas

Generate solution ideas to the Underlying Problem in Step 2. Choose the 5 most effective solutions and write the elaborated ideas in the space provided. . Include applicable research with appropriate in-text citations.

Solution 1: An app (on Elderwatch Smartscreen to make it more useful) that allows users to connect with family and friends, and plan/recommend outings that they can go on with friends or family depending on age. This will strengthen the bonds among family members and thus improve the psychological well being of elderly in 2050 and beyond.

Research 1: According to Brunet, the best way to prevent the elderly from feeling lonely is to call the person regularly and encourage them to phone back. Other methods mentioned in the article include encouraging the elderly to stay active by going on walks and doing activities together. The articles also specifically mentions family members and children, people who the elderly enjoy the company of.

Solution 2: Exercise routines organised by community clubs so that elderly will be able to spend their time with peers and lead more active retirement lifestyles. The exercise routines can also be streamed on platforms such as YouTube or Elderwatch, which will be essential in helping elderly who wish to work lead a healthy lifestyle. For such a proposal to succeed, however, funding will be needed to revamp the facilities at community clubs and other similar facilities.

Research 2: According to the World Health Organisation, sedentary lifestyles **increase all causes of mortality, double the risk of cardiovascular diseases, diabetes, and obesity, and increase the risks of colon cancer, high blood pressure, osteoporosis, lipid disorders, depression and anxiety**. Also, around 2 million deaths a year are attributed to physical inactivity, making it one of the top ten killers in the world.

Solution 3: Application that allows them to be able to contact a real-time doctor for minor illnesses/ easily cured illnesses such as fever conveniently, instead of having to go to a clinic to see the doctor, so that elderly can avoid hassle to visit the doctor. Medicine will be delivered via drone. This can also take place simultaneously with a public education programme where the government further advocates methods to avoid getting sick and the importance of healthy lifestyles. (Most Original)

Research 3: There is a gradual increase of 0.3 million (6.67%) of elderly visiting hospitals, over two years. There will be a greater demand for such healthcare services as our population ages. Also, a Straits Times article states how the latest drone is in advance development as of February 9th 2018.

During an inaugural flight demonstration for the media, **the drone managed to land on a station platform, then collect a parcel**.

The team which developed this drone aims to **improve it to collect parcels of more than 4kg, and enable to fly longer distances** by the end of this year.

We can utilise this technology to deliver the medication to patients, as mentioned in our first solution.

Solution 4: Use government programs and campaigns . These include the creation of more skill upgrading courses for elderly to be able to be reemployed and be productive and contributive to the society, and also to be able earn his/her own pay to live independently. The programs can also be in the form of subsidies and privileges for working elderly. This will be able to help curb rising costs of labour.

Research 4: >40% of people aged 65 to 69 were still working in 2015, compared to just 24% a decade ago. Most of them work as cleaners, labourers, machine operators, and service and sales workers, according to MOM statistics. Their average income is \$2000. Also, many elderly have a negative attitude towards skills-upgrading courses even though it can increase their salary. The reasons are:

Taking tests in the course stresses them out.

They feel that they will be passed over higher-ranking jobs since they are nearing retirement.

They are not motivated by pay rises since they are content with having a stable job.

They may not understand new concepts easily.

If they fail, their confidence dips.

Solution 5: Raise re-employment age up from current 67 so that, if elderly are willing, they can continue working, using it as a way to enrich their golden years. Since Singapore provides better healthcare, Singaporeans have a longer life expectancy, making even people in their 70s capable of working. Through this retirement age increase, an elderly can benefit by being able to continue to pursue their passion in their job, enrich his life, and also continue to get a good pay, decreasing the burden on the younger working generation and also to ensure that Singaporeans will.

Research 5: In July 2017, the government raised the re-employment age to 67 from the previous 65. In the same article, it was noted that the reason it took so long to increase the re-employment age is due to the resistance from employers and younger workers. For employers, it was due to possible impacts on their business, mostly because of the stereotype that the elderly are not creative and that they reduce efficiency. For younger workers, it is because they fear that having the elderly stay in their positions longer would make their career progression harder.

STEP 4a. Select Criteria

Generate criteria to determine which solution idea does the best job of solving your Underlying Problem and/or addressing the Future Scene situation. Select the 3 most important criteria for measuring solution ideas and write them in the spaces provided.

Criterion 1: Which solution will be cheapest to implement for the government so that it does not place a further burden on it amid rising costs?

Criterion 2: Which solution will be the most appealing to the elderly so that they will be more receptive to us so that we can help them?

Criterion 3: Which solution can utilise most technology in its functioning so that less manpower is required to operate the solution?

STEP 4b. Apply Criteria

List the solution ideas from Step 3 on the grid. Use each criterion to rank the solutions on a scale from 1 (poorest) to 5 (best). The weighting for one important criterion may be doubled if necessary.

Step 3 Sol'n #	Solution Idea	Criteria			Total
		1	2	3	
#1	Family-bonding app	4	2	3	9
#2	Exercise routines	3	3	4	10
#3	Online doctor	1	5	5	11
#4	Government courses and campaigns	2	4	2	8
#5	Raising retirement age	5	1	1	7

STEP 5. Develop an Action Plan and Evaluate its Feasibility

Develop your top-scoring solution idea into an Action Plan. Thoroughly explain how the Underlying Problem is solved, how the plan will be implemented, and how the Future Scene will be affected. Explain how this Action Plan is feasible with research consulted.

The online doctor app will be coded by programmers at government agencies. This app will allow patients to describe their symptoms to a doctor through the use of technology akin to FaceTime. After the call is over, the doctor will analyse the symptoms and decide if the patient has to go to the hospital or not. If not, the doctor will prescribe the appropriate medication and then have the medication delivered by drone. The patient will be charged via a credit card linked to the account, and normal healthcare subsidies will apply. This will allow patients to get a prescription quicker and easier without needing to leave the house. Of

course, the app will give priority to the elderly. While this can also be done right now, there can be an addition of possible future technology such as a device combining multiple scanners and equipment such as thermometers and blood pressure monitor that can sync data onto the app, to increase accuracy of diagnosis. With supporting equipment, this app could and probably would be like a doctor's visit.

We estimate that we will need approximately 11 months for the app and device, 2 months for the concrete outline of the app and device, 6 months for the first prototype of the app and devices, 1 month for testing and obtaining user experience and the final 3 months will be used to debug and finalise design. We estimate that up to a year will be needed for the app and devices to be adapted into daily life.

Benefits of having such an app include allowing the elderly not needing to leave the house due to medical needs and not having the elderly to key in personal information everytime they require medical assistance. A possible obstacle include organisations discouraging the use of the app, encouraging elderly to go to a physical clinic instead for the exercise. We can convince the organisations opposing the app that letting the elderly have an open mindset to receiving healthcare online is more important. Also, letting the elderly walk a distance to the clinic is counterproductive and increases the chances of an accident.

Another problem would be the public's fear for data leaks. Such an app with their personal data might let them feel vulnerable to hackers and cyber attacks. While there is no possible way to convince everyone that the app is 100% secure, something not possible no matter how advanced the firewall is, we can convince the public that only the medical staff have access to the information and that our cybersecurity is strong enough to fend off most attacks. We will also cite recent cyber attacks that Singapore has been able to fend off, such as the SingHealth attack by sophisticated hackers.

There are many other healthcare services supported by the government such as ActiveSG and the Ten Thousand Step Challenge, which proves that our plan would be in line with the government's best interest and as such, the government would fund the development of the app and device. This would also allow the services to be sold as cheaply as possible, allowing more people to have access to this service.

In addition, a trend today seems to be online doctor consultation, with the emergence of apps such as MyDoc and Doctor Anywhere, which we can build upon to improve the quality of this app.

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Cite the resources you consulted using the APA format.

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