**Please explain the steps in the AHA’s chain of survival. Given this model - why is it important to get CPR training? [~200-400 words] (see here for AHA's chain of survival model:** [**https://www.sca-aware.org/campus/the-chain-of-survival**](https://www.sca-aware.org/campus/the-chain-of-survival)**)**

Sudden cardiac arrest (SCA) is a pulsless state that ocurs suddenly and unexpeectedly, as is brought on by an issue with the electrical activity of the heart. There are multiple reasons why this may occur, like due to a heart attack, electric shock, blut for trauma or sever imbalance in electrolytes. Patients lose consciousness instantly and collapse. The aim of a good SCA treatment is to restore the normal rythim of the heart while retaining a good neurological outcome.

One of the reasons it is **important** for everyone that can to get CPR training is because it is usually bystanders able to act appropriately that end up saving the lives of people with SCA. The time between the beginning of the arrest to when appropriate care is giving to the person is a major factor in determining their survival. If no treatment is provided in the first 10 minutes after the onset of the arrest, the patient will almost certainly die. Given that emergency services are not able to act this fast, it is **important** that the general public gets educated in quick and effective ways of dealing with SCA.

The AHA’s Chain of Survival is a series of steps that should be followed to maximize the likelihood and of a good outcome. The first three steps are geared towards bystanders while the last two are geared towards emergency responders:

1. Immediate recognition of cardiac arrest and activation of the meergency response system
   1. Realizing that the emergency is going on and acting on it. One should get trained on recognizing that SCA is occurring since it is not instantly recognizable to the untrained eye.
   2. The first steps are calling for professional help (911, on-site emergency response, etc.) and getting to the closest automated external defibrillator (asking someone or getting it themselves if they are alone).
2. Early CPR with an emphasis on chest compressions
   1. Chest compressions should be started immediately to maximize the likelihood of survival. A cycle of 30 compressions follow by two breaths should be followed until the AED or EMS arrives. It is important to recoil completely between compressions and to make sure that each compression has the appropriate depth for the patient. Adults victims should receive compressioins of at least two inches in depth while kids (1-8 y/o) should receive compressions of around two inches.
3. Rapid defibrillation
   1. Once the AED arrives the rescuer should follow the instructions on the device. These devices will only send a shock to the patient if they need it, so it is incapable of harming anyone. They are made so anyone can use them without prior instruction. Two things to not is that a “dose-attenuator” should be used on kids (age 1-8) if available (but not necessary) and that no one should be touching the body while the AED is at work or they might also receive a shock.
4. Effective advanced life support
   1. EMS should provide high-quality CPR, early defibillation and use the devices and drugs available to them.
5. Integrated post-cardiac arrest care
   1. Providing post-arrest “comprehensive” and “multidisciplinary” system of care, including mild therapeutic hypothermia, amongst others.

**Do you think CPR training should be mandatory for all individuals (e.g. for all high school students as pre-requisite for graduation)? Why or why not? If yes - how would you implement this training? If no - how would you address CVD risk and ensure adequate preparedness? [<500 words]**

I believe it should be must democratize access to this information (and any other that helps people stay alive). However, the implementation of making it “mandatory” to receive would be extremely hard to implement without recognizing the economics disparities in countries and neighborhoods all around the world.

Schools must be provided with the resources they need to be able to provide this teaching at no cost to the student, since it would otherwise put undue unequal economic stress on people from low-income background that have to finance their own training because the school is not able to do it.

Other economic and accessibility constraints should also be considered, such as scenarios where due to economic hardship, illness, religious reasons, the student is not able to physically reach the teaching center. Virtual adaptations to the training should be provided that maximize what can be learn in an online fashion.

We can also leverage spaced repetition to increase retention of the theoretical information and practical skills taught during th etrainings. After every repetition of a fact, the brain recognizes as increasingly important and stores that information in a readily accessible fashion for more time. By providing yearly trainings grades 1 through 12 and then onces every 5 years, we could ensure that almost everyone that went through the national education system is aware of the appropriate CPR techniques.

**Should other interventions to reduce mortality from CVD similarly be made mandatory (e.g. low sodium diets, eliminating sugar-sweetened beverages, reducing smoking rates)? Why or why not? Why might it be more difficult to implement these interventions? [<500 words]**

I do not think so. These kinds of personal interventions would primarily place an incredible high burden on individuals and not on the organizations/structural factors that influence these problems (grocery stores, manufacturers, logistics companies, income levels, etc.).

By removing the option of individual choice you are adopting coercive measures that infringe upon personal liberties.

There are also situations and contexts in which access to high sodium or high sugar foods is beneficial. For example, individuals with low glucose need high sugar foods/ingredients (like high fructose syrup) to be able to be able to leady lifes in a comfortable manner (i.e. not eating as much food or without taking a lot of care about their intake).

Some cultural practices also require foods or diets that are not necessarily the healthiest. Indigenous people, japanes people and some religions conform to diets that now fall outside the recommended dietary guidelines. Banning these foods would infringe on their personal rights, such as the right practice whatever religion one wants.

We should instead address the structural issues that contribute to obesity and the other leading factors that decrease our cardiovascular health, such as the public healthcare system and more affordable healthy foods. It is worth noting that by doing this we are affecting the life of organizations or companies that are way more resilient to hardship or change than individual families who could be having trouble affording enough food as is.