Reading Summaries 1 (Iñaki Arango)

# Typhoid Mary

1. **What are the three major points made in the paper?**
   * A researcher in the frist decade of the 1900s made the discovery of the first healthy carrier of Salmonella: Mary Mallon, an Irish immigrant. He published information about her and tried to perform follow up research and prove his theory by collecting her excrement, but was not successful in doing so.
   * Eventually it became apparent that Mary was the cause of many infections around New York, so she was taken into custody. There, samples of excrement were taken, which proved that she was indeed a carrier for Salmonella. To prevent here from spreading the disease any more, she was sent to North Brother Island.
   * The department of health never communicated with her directly and treated her as a laboratory pet, instead of as a fellow human, which could collaborate with them to solve the situation (more on this in **3.**).
2. **What are the possible future directions of the study?**

This paper is not a study, but a summary of Typhoid Mary’s story, so there is not future direction of study.

1. **What could have been done better?**

This is not as much a recommendation for the authors of the paper as it is for the people belonging to the department of health in the story. As stated, Mary was never informed of the significance of being a “carrier”. She was just persecuted, taking into custody, and then offered to have her gallbladder removed.

Patient-Doctor communication is extremely important, and even more so if a life-changing decision is on the table for the patient (like being encarcerated or undergoing surgery).

They should have explained to “Mary” why she was a danger to the public and maybe then she would have voluntarily had her gallbladder removed.

# Swedish Twins and Smoking

1. **What are the three major points made in the paper?**
   * A study was performed on male-male and female-female pairs of monozygotic (MZ) and dizygotic (DZ) twins from Sweden born between 1890 and 1958, raised together and appart, to figure out if there was a correlation between genetic and environmental factors, and the risk of regular tobacco usage (RTU).
   * Since monozygotic twins spend more time together than dizygotic twins, the share more peer groups. Tobacco is usually adopted because an introduction within a friend group during a kids teenage years. Because MZ twins share more friends, it is likely that if one is exposed to tobacco, the other one will too. This might overestimate then the heridetability of RTU, since itl will increase the correlation between one twin smoking and the other one smoking, even though it is due to social factors and not genetic ones.
   * With this study it was proven that the twins that have grown together compared to the ones that have grow apart have a similar vulnerability to RTU. This means the potential issue brought up in the previous paragraph is not a significant issue in these types of studies.
2. **What are the possible future directions of the study?**
   * Since it has been proven that vulnerability to RTU is genetic, in the future studies could be performed to “identify the specific loci and alleles that that influence these vulnerabilities”.
3. **What could have been done better?**
   * They could try to find a big group of twins from a more diverse geographical area, and whose date of separation whas more or less the same, both of which did not occur in this paper.
   * The study relied on self-reported measures of tobacco used. They could have used medical records perhaps, which are more accurate, although that my subject them to selection bias for the participants in the study.

# NEJM Obesity Myths

1. **What are the three major points made in the paper?**
   * False and/or unsustantiated beliefs around weight loss/gain are widely promulgated online.
   * There are the myths (held as true even though they have been proven false):
     + “Small sustained changes in energy intake or expenditure will produce large, long-term weight changes”
     + “Setting realistic goals in obesity treatment is important because otherwise patients will become frustrated and lose less weight”
     + Large, rapid weight loss is associated with poorer long-term weight outcomes than is slow, gradual weight loss
     + Assessing the stage of change or diet readiness is important in helping patients who seek weight-loss treatment
     + Physical-education classes in their current format play an important role in preventing or reducing childhood obesity
     + Breast-feeding is protective against obesity
     + A bout of sexual activity burns 100 to 300 kcal for each person involved
   * Presumptions (commonly shared even though they are unproved):
     + Regularly eating (vs. skipping) breakfast is protective against obesity
     + Early childhood is the period during which we learn exercise and eating habits that influence our weight throughout life
     + Eating more fruits and vegetables will result in weight loss or less weight gain, regardless of whether one intentionally makes any other behavioral or environmental changes
     + Weight cycling (i.e., yo-yo dieting) is associated with increased mortality
     + Snacking contributes to weight gain and obesity
     + The built environment, in terms of sidewalk and park availability, influences obesity
   * Facts (held as true because there is sufficient evidence):
     + Although genetic factors play a large role, heritability is not destiny; calculations show that moderate environmental changes can promote as much weight loss as the most efficacious pharmaceutical agents available
     + Diets (i.e., reduced energy intake) very effectively reduce weight, but trying to go on a diet or recommending that someone go on a diet generally does not work well in the long-term
     + Regardless of body weight or weight loss, an increased level of exercise increases health
     + Physical activity or exercise in a sufficient dose aids in long-term weight maintenance
     + Continuation of conditions that promote weight loss promotes maintenance of lower weight
     + For overweight children, programs that involve the parents and the home setting promote greater weight loss or maintenance
     + Provision of meals and use of meal-replacement products promote greater weight loss
     + Some pharmaceutical agents can help patients achieve clinically meaningful weight loss and maintain the reduction as long as the agents continue to be used
     + In appropriate patients, bariatric surgery results in long-term weight loss and reductions in the rate of incident diabetes and mortality
2. **What are the possible future directions of the study?**

Given that there is a lot of misinformation out there, it should be a priority for th enational health institutes around the world to compile in an easy to understand and compact manner, all the basic information that people need to know about dieting and exercise. These websites should be optimized to be placed at the top of Google Search so that people find those first instead of th erroneous resources.

1. **What could have been done better?**

The study could have been more explicit on what website this information was mostly found on. There is always going to be bad information online, but the paper would be a lot more relevant if more quantitative data was given on how many wrong sites are out there. More data should also have been given on the actual sources. It would be especially worrying if this wrong information came out of official government websites.