

A Theoretical Framework for Understanding Cancer Treatment and Outcomes

Chapa G*

Tulane University New Orleans, Los Angeles, USA

*Corresponding author: Griselda Chapa, Tulane University New Orleans, Los Angeles, USA, E-mail ldgchapa@tulane.edu

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Cancer Treatment and Outcomes

The first time I heard the term enabling factors, I was in a health behavior class and we were discussing how two people can have the same clinical profile but one will have better outcomes because of variables that are not related to the treatment but do affect the outcome. I meant things related to social networks. This can include a relationship with a doctor who is truly invested in a patient or a politician who could make changes to the environment, such as disability access. Perhaps the most commonly known social influence is a caregiver – who is often a family.

Two years ago, an uncle of mine was diagnosed with late stage prostate cancer, which had spread to his bones. He was 75. When he retired from a welding job, he began welding as an adolescent, he became the parish janitor. Sundays he helped the Spanish-speaking Nigerian priest put on his robe. Before that, he unfolded more than a hundred chairs for parishioners who were directed to the church basement because the church was full. They heard mass on speakers. After mass he folded the chairs and put them in piles. During the week, the parish basement was used for other activities so the chair folding and unfolding was almost a daily task albeit, weekdays it wasn't as many chairs. He also kept the floors and bathrooms and floor spotless.

Like most Mexican men of his generation, his body received less attention than his car. His belief was very much; if it isn't broken don't fix it. I don't completely disagree with him. While someone can perform activities of daily living and successfully do additional hard work, why worry about illness?

One day, he began to complain about pain. His wife, my mother's sister, gave him Acetaminophen and applied over the counter pain patches. They didn't relieve the pain but he continued working. Although my family has a kind and experienced doctor, who is Mexican-American and speaks perfect Spanish, punctuated with jokes to help his patients relax, my uncle didn't like to see him. Given that nothing seemed to relieve the pain, his wife and children made the doctor's appointment. His daughter is a nurse and his son is a pharmacy technician.

I would say he is especially lucky because unlike most Mexican-American immigrants, he was surrounded by people who understood medical care. Also, he had health insurance. Because he was folding those chairs, none of us expected anything beyond aging and arthritis. The doctor's first inclination, given that after a battery of questions my uncle said the only change he had noticed was pain, was to prescribe medication.

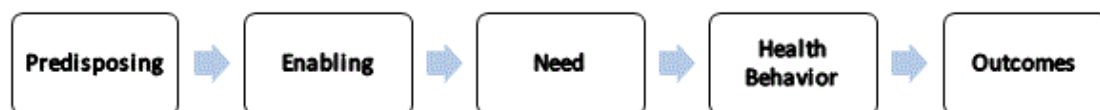


Figure 1: Anderson Model of Health Services Utilization

My uncle started the medicine but the pain did not go away. It was getting worse. The epidemiologist in me didn't think about his prostate, I thought about all the environmental exposures he had over decades of welding. He wasn't a smoker. In my lifetime I remember him having a beer maybe five times. He was proud of his children and in love with his wife. I couldn't build an econometric model; I didn't have enough observable variables. I only had age, years welding, and the number of chairs he folded and unfolded varied, but he had done it for ten years almost daily. I had no clinical variables. However, I did have a literature review indicating bone cancer could be secondary to prostate cancer.

I spoke to my cousins and my aunt. We all agreed he needed to see the doctor again. A bone scan revealed tumors. His prostate-specific antigen, PSA, test, came back 700 – the normal range stops at four. His cancer was late stage and the future was unknown. Still, we had the present.

Besides a clinically educated family, he had the Nigerian priest. The priest had special masses for his sick parishioners. He prayed over them, flung incense around them, and anointed them with holy oil.

My cousins took him to his chemotherapy sessions armed with an IPAD full of his favorite movies. I made him soups with chard or kale

or cabbage. I told him to stay away from anything candy-like. His daughter monitored his vitals, his son watched for medication effects, his wife took on my recipes, and the family dog, Bobby, whimpered outside his bedroom. Finally, my 83-year-old mother and family cheered him on through treatment.

He survived. His formerly straight grey hair came back in dark ringlets. He still works. He mops the floors, cleans the bathrooms, attends to the priest – and he folds the chairs. How is this possible?

In 1974, Ronald Andersen, a medical sociologist at the University of Chicago, outlined a health behavior model that did not blame the victim. His model addresses the patient's demographic profile, variables that can affect outcomes, and the patient's perceived need. He called them predisposing, enabling and need variables, respectively [1,2]. The model is still relevant (Figure 1).

Mathematically, it has been denoted: $\text{Health status} = f(p,e,n)$

A visual representation includes health behavior and outcomes.

In the example I provided my uncles predisposing factors were age, gender, ethnicity, primary language and ideally, a measure of years folding chairs*quantity. The enabling factors included the family support I detailed, insurance, and relationship with a doctor who spoke Spanish. The need was his pain. These three concepts allowed him to behave in a manner intended to improve his health. The outcome, to date, two years after diagnosis – he is alive and folding chairs.

References

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