**Introduction**

To help any business with making decisions it is very important that research be done to investigate specific target points of interest for the business. With this project the team did just that. The purpose of this research was to investigate and provide feedback to our client based upon a list of specific topics that he presented to us. This research will help us in the final phase of our project where we put together a full presentation for our client. The focus the client was looking for was information that could contribute to a feasibility summary for an Alzheimer’s and Dementia Facility. The subtopics that the client provided for us to investigate further were the use of electronic health records utilizations, academic affiliations, hospice services, outcomes and clinical assessments, lab services, direct care per patient and the use of PA’s, costs, fees, daily rates and schedules, rehab options, market saturations, and the services that the best facilities provide.

**Purpose and Sourcing**

With ten focus points to research and five team members we as a team decided to take two topics each and focus on them. One reason for that was we would be able to get much more in depth on the two topics rather than all try to gather information on each topic and having information overlap. All members goals when conducting research was to find credible, reliable sources. This included talking to nurses, health care administrators and internet research. Our sources include but are not limited to universities, non-profit organizations, journals posted among many others. This was done by internet research as well as some in person and virtual interviews. After the team compiled all its research, we had 19 pages of research compiled. We then broke that down to highlight the most important and relevant information and it will be provided below.

**Electronic Health Record Utilization**

Like most current technological advances Electronic Health Record (EHR) systems have made the migration from on site systems to cloud based software that is mostly capable of following patient activity wherever it goes. Popular EHR systems handle assessment management, bereavement management, care planning, electronic medical records, medication tracking and scheduling. Because most systems are cloud based, they are also adaptable from PC to mobile phone or ipad so that care partners have access to the same comprehensive information at the point of care be that in the home, hospital or specialty facility. Most software is also adaptable for varying sizes of organizations and range from relatively inexpensive to a sizable investment depending on the needs of the organization. (Ibisworld) Some of the most popular software systems include WellSky Home Health (Formerly Kinnser), Careficient AMS, Brightree, Axxess and McKesson Homecare.

**Academic Affiliations**

In Southeast Michigan there are many palliative care fellowship programs that offer academic affiliations in the hospice community. These programs are offering their fellows the opportunity to provide care in the various settings that palliative, hospice and/or memory care are offered including in-patient, emergency care, home environments, pediatric care centers as well as in specialty centers. The fellows are gaining experience providing care, leading care teams and participating in Inter-Disciplinary Team (IDT) meetings in those different environments. A few local programs that offer this kind of academic collaboration are the University of Michigan, Wayne State University and Henry Ford Health System. (Wayne State University, Henry Ford Health System, University of Michigan)

**Hospice Services**

Romulus, Michigan, is the 49th and 1,857th largest City in the State and the Country, respectively. According to the US Census Bureau (2020), the city had a population of 23,457 persons. Special Tree offers a plethora of neurorehabilitation services to both children and adults, a majority of the patients visiting the facility have sustained brain or spinal cord injuries or multiple trauma. Henry Ford Health Care Center is one of the competitors in the region, HFHC offers a wide array of patient-focused services matching patient needs, the majority of which revolve around clinical assessments and management. Beaumont Health is also a worthy competitor in Romulus. The organization boasts eight hospitals spread across the country and employs over 5,000 physicians (Beaumont, 2020). Beaumont’s neurology department uses a host of diagnostic tools to diagnose neurological disorders for all patients.

**Outcomes and Clinical Assessments**

Neurological disorders have been ranked first in the disability-adjusted life in years metric in the United States and the second leading cause of death globally. While there are many neurological disorders, dementia has the highest prevalence, accounting for between 40.2 and 52.7 million cases (Feigin et al. 2017). In the US, the prevalence of dementia among persons above 71 years is 14 %, men have a higher incidence rate of dementia. Prevalence figures vary with age, ethnicity, and gender. Hospital readmission for dementia patients in the same year was at 23.4%, while the mortality rate was at 3,771, an increase of 129% since 2000. In Michigan, dementia was the 6th leading cause of death. In 2018, Medicaid spent $1.368 billion on healthcare costs for persons with dementia in the state and anticipates the cost to escalate by a further 24.8% between 2018 and 2025.

**Lab Services**

The Alzheimer’s association is the world's largest nonprofit funder of Alzheimer’s research (“Our Commitment to Research”). It is through groups like this as well as universities that a large amount of money is raised to help fund research into Alzheimer’s and Dementia. Labs doing research play a huge role in trying to find ways to try and treat and eliminate these diseases. It is also important to try to gain an understanding of what may be the root causes for these diseases. If this can be discovered, it could lead to better ways of treatment and prevention. One of the research ventures that the Alzheimer’s Association funded was research by Steven Arnold, M.D at Massachusetts General Hospital. This research was done to look specifically into how calcium affects the body. “Calcium plays a critical role in the health, survival and actions of many types of cells in the body, and especially in nerve cells and immune cells. Previous studies suggest calcium imbalances in the brain disrupt nerve cell communication and may contribute to cognitive symptoms in Alzheimer’s” (Arnold, S). This clinical trial then moved forward with testing a FDA-Approved drug that was originally used for organ transplants could be repurposed as a potential therapy for Alzheimer’s. This study is just one of many that are being done to help generate ideas on new treatments, improve treatments and discover new things about the diseases. It is likely that breakthroughs for treatment and prevention of these diseases are likely going to come from lab services and university research, so they do play a very crucial role.

**Direct Care Per Patients and Use of PA**

Through research conducted and interviews with personnel in the medical field one will be able to find some good baselines for direct patient care. Through an interview with a nurse at a hospital who wished to remain anonymous the information of direct care for patients at that hospital was as follows, with doctors there was a 1-15 ratio, and the ratio for nurses is 1-4 (ratio (personal communications: interview. Feb. 2020). This makes sense as the doctors spend a little less time with the patients, so they are able to handle more patients and the nurse does much of the work with patients, so they have less charges. An interview with Mr. Danny Orozco works with helping facilitate finding homes for elderly patients who need some assistance. He provided information that stated when it comes to dementia and Alzheimer’s the ratios can very largely be based upon the size of the facility. Some facilities only have 6 patients while some may have over 75 patients (D. Orzoco, Personal Communication, Feb. 25, 2020). With those varying so much in patient numbers he stated that at a facility with 50-75 patients you could expect a personal care ratio to be at 1-6 to 8 patients (D. Orzoco, Personal Communication, Feb. 25, 2020). This is not far off from the numbers given from the regular hospital. PA’s can have a large role in memory care units as many of them do not have a full-time doctor within the facility so they will lean on PA’s to handle much of the primary care as well as deciding when a doctor consult is needed.

**Costs, Fees, Daily Rates and Schedules**

Nursing home care costs in Detroit, Michigan range from around $152 up to $313 per day, with a median cost running approximately $241. The monthly expense averages roughly $7,230 and ranges between $4,560 and $9,390. Annually, the average cost is about $87,783, which is greater than the nationwide average of $77,380. Dementia care costs in Michigan range from around $36 up to $379 per day, with an average cost running approximately $155. The per month cost averages around $4,640 and ranges between $1,087 and $11,382. On a yearly basis, the median cost is about $55,680, which is under the US average of $60,900. (SeniorAdvice)

**Rehab Options**

Rehab services include psychiatric services, palliative care, administration of injections, 24-hour monitoring, and pain management services. Woods Care & Beyond Boundaries Services provide structured treatment plans that are developed in collaboration with the patient while in a nurturing environment, it can also be the patients home away from home with home cooked meals. Also includes transportation to and from day programs, counseling, psychiatric appointments and other medical appointments.

**Market Saturation**

There were numerous care facilities in the Romulus area. There are 21 nursing homes and 17 assisted living facilities. This does indicate that the market is being served. However, all but one of the senior living centers was north of interstate 94 which indicates that there is room for expansion in this area towards the south. There are some key differences between nursing home’s and assisted living facilities. “Residents in a nursing home require around the clock care and monitoring. They typically live with more complex health care conditions that require the assistance of a skilled nurse or a physical or speech therapist. Some require respiratory care services.” This can be contrasted by people who live in assisted living facilities. “Residents in an assisted living community generally require custodial care. It might be a person who lives with memory loss and isn’t safe living alone. Or an adult with mobility problems who needs a little help transferring from their bed to their favorite chair.” (Five Star Senior Living, n.d.).

**Services the Best Facilities Provide**

Due to how fast the market is expanding it is important to distinguish what services the best nursing home and assisted living facilities are providing. According to Costa (2016), there are five key qualities that make a nursing home good. The qualities are making everything about the resident, allowing the resident to make choices, having lots of nurses and professionals, flexible visiting hours, and a plethora of meaningful activities to offer. It is also paramount that the care facilities are considerate of the familial, spiritual, dietary, and medical needs of each patient. Alzheimer’s and Dementia care require additional care in addition to the services that good nursing homes typically provide. The majority of care for Alzheimer’s and Dementia is actually geared to making that individual’s home safe for them. Placing individuals with Alzheimer’s and Dementia in nursing homes can be very jarring for them. However, individuals generally reach the point where they will need round the clock care. This is generally done by placing them in a memory care unit. “Generally, these units group residents together on their own floor or wing of a larger care residence. Memory care staff have received specialized training in care needs for people with Alzheimer’s and programming caters to the needs of people with memory problems and includes safety measures like secured exits.” (Wegerer, 2019).

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