



GABRIEL CALAR, JERMAINE FORREST, KATRINA HIPPLEHEUSER, STEVEN MICHAELIS

NAVIGATING A PATH TO INTEGRATED HEALTH CARE¹

“Helping those in need is not charity, it’s humanity.” – Abhijit Naskar

Dr. Mark Sears, the Chief Medical Officer for Orange Blossom Family Health (OBFH), walked into the lobby of the company’s Kissimmee, Florida location on a typical morning and froze in his tracks. The room was filled with first-time patients, as evident by the 15 pages of health records and consent forms they were hurriedly filling out so they could be seen. He approached an older gentleman and asked him how long he had been waiting. The man expressed his frustration as he explained his process of waiting for an hour, much of it taken filling out all the forms and looking up the required data. “Isn’t there an easier way to check in?” the man asked Dr. Sears.

When he got back to his office, Mark Sears sat at his desk in deep contemplation. How could his office properly care for its target market of under and uninsured patients when they were getting stuck in the waiting room trying to fill out paperwork? Added to the time of filling out the paperwork, his staff then manually entered the information into the Electronic Medical Record system. As far as Mark saw it, there was one option: fix their client-care relationship, and quickly. They had considered implementing Epic, an all-in-one digital solution for clients to virtually check-in, self-schedule, and complete pre-visit tasks electronically. But how should he implement Epic with little experience in such an undertaking?

If Sears implemented the software incorrectly, it might cause patients and staff to leave. As a nonprofit Federally Qualified Health Center (FQHC), they had to consider current and forecasted funding from government grants to pay for software or certain features and choose the most impactful ones correctly. To guarantee funding from grants, the number of patients and quality care metrics needed to be maintained at a certain level. If OBFH mismanaged or overspent its attempt to implement an industry-disrupting technology, their customers might be lost, grants would dry up and OBFH could go under.

Sears knew they had their work cut out for them since the cost, the risk of failure, software options and the implementation would all make the decision far from simple. But as he reflected on the frustration seen in the patient lobby that morning, he knew the current process was not viable for a growing number of clients and they owed it to their patients and community to do better. Could he deliver on his promise to his patients?

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The Federally Qualified Healthcare Industry

The nonprofit FQHC industry played a vital role in ensuring equitable access to comprehensive healthcare services for the under and uninsured populations in the United States. Through their community-centered approach, federal support, collaboration, and commitment to preventive care, they contributed significantly to improving overall population health and reducing healthcare disparities. They provided access to essential healthcare services, particularly in underserved and economically disadvantaged communities by bridging the gap in healthcare disparities offering comprehensive medical, dental, behavioral, and preventive services. According to the Health Resources & Services Administration (HRSA), which validates FQHCs, in 2022 more than 30.5 million people (about the population of Texas) relied on HRSA-funded health centers. This included children, the uninsured, rural residents, those experiencing homelessness, agricultural workers, and veterans. FQHCs fund nearly 1,400 health centers and operate more than 15,000 service delivery sites in communities across the country (Health Center Program, 2023).

FQHCs were known for their strong commitment to providing community-oriented care, which revolved around tailoring healthcare services to meet the unique needs and preferences of the local populations they served. This approach went beyond just medical treatment and considered the social, economic, cultural, and environmental factors that impact a community's health and well-being. These facilities worked to build trust in the communities they served by focusing on cultural competence training, hiring staff from diverse cultural backgrounds, providing language and interpreting services, and ensuring that healthcare services were delivered in a culturally sensitive manner. Further, FQHCs actively engaged with community members to gather information and understand health priorities. This information informed the development of targeted healthcare programs and initiatives. Through community-oriented care, FQHCs strived to achieve health equity by reducing disparities in healthcare access and outcomes. They advocated for policies that promoted equitable distribution of resources and services, with a focus on reaching marginalized populations. Dr. Sears and his staff regularly collaborated with local schools, businesses, churches, and other community organizations to extend their reach and impact to the community. These partnerships enabled them to address health issues holistically and offer a more comprehensive set of solutions.

FQHC is a designation given to organizations that provide primary and preventative care to individuals without health insurance and regardless of their ability to pay. Exhibits 1 and 2 show that 12.7% of the population in Florida was uninsured in 2021, which included over 175,000 people located in Orange County. FQHCs do not turn away patients because of the inability to pay, but they are not completely free. The medical centers charge copays well below the cost of normal healthcare, and donations are used to cover the minimal fees when patients cannot pay. Despite collecting sliding scale copays based on income, these health centers are primarily funded by competitive federal grants from the United States Department of Health and Human Services. Due to the competitive nature of the grants, OBFH could increase the amount awarded each year based on a variety of factors. The number of patients served, patient satisfaction ratings of the medical centers, and medical outcome metrics related to quality of care are reviewed annually to receive continued government funding.

Position and Key Competitors

Of the thirty-five Federally Qualified Health Centers in Central Florida, Orange Blossom Family Health held a substantial position. Their market presence meant that OBFH serviced approximately 20% of the total FQHC customer base in the area, underscoring their considerable influence. The comprehensive

range of services they provided, including Primary Medicine, Oral Health, Behavioral Health, and Vision, echoed their commitment to addressing the comprehensive healthcare needs of underserved populations. OBFH's financial makeup was comprised of government grants, private contributions, and in-kind donations, which together constituted over 81% of their overall income, demonstrated their ability to secure diverse funding sources. See Exhibit 3 for OBFH's financial summary for 2022. Their dedication to delivering quality care to communities in need was highlighted by this robust monetary backing.

OBFH's closest competitor was True Health, which operated nine facilities in the same area. Exhibit 4 helps illustrate, in terms of patient volume, that OBFH served 35,442 patients across their services in 2022, while True Health attended to 48,664 patients in 2022 according to their annual report (True Health Annual Report, 2022). It was crucial to Dr. Sears that OBFH maintain and exceed their competitive position with True Health and to do so, he felt the need to expedite the implementation of the Epic software. The presence of True Health as a competitor emphasized the demand for FQHC services in the region. The presence of healthy competition fostered innovation and improvement in both organizations' service delivery.

Sears relied heavily on federal grant applications which required meticulous patient records management to maintain OBFH's operations in accordance with regulations. Federal grant applications were of paramount importance as they secured the financial foundation for FQHCs, supported their day-to-day operations, expansion efforts, and technological advancements. Continuous improvement allowed them to reach a wider breadth of community members in need. Innovation and collaboration with community partners was encouraged by securing grants, while also ensuring financial stability. Additionally, proper patient records maintenance was equally vital, serving as the backbone of compliance with regulations such as HIPAA and Medicare/Medicaid requirements. Sears knew grants and solid patient records maintenance fostered transparency and accountability in resource allocation. Accurate patient records were essential for delivering high-quality care, ensuring care continuity, and safeguarding legal interests. Furthermore, aggregated patient data from well-maintained records were pivotal for research, data analysis, and community health initiatives. Sears and his colleagues' federal grant applications and meticulous patient records management were essential elements that upheld their ability to provide comprehensive and compliant healthcare services to underserved populations.

Electronic Medical Records All-In-One Software

An all-in-one Electronic Medical Records (EMR) software integration was a substantial disruptor to the operations of Federally Qualified Health Centers (FQHCs) in many impactful ways. For instance, the overall operational efficiency would be increased with the technology's ability to streamline essential processes like check-in, scheduling, and pre-visit tasks. Not only would it reduce paperwork and make administrative tasks more efficient, but also immediately make the process easier for patients to manage. Additionally, the staff would get back valuable time, enabling them to channel their focus and efforts more on patient care. Exhibit 5 provides an example of Epic's Patient Digital Experience interface. Exhibit 6 illustrates some key aspects of EMR systems, including what is driving the need for these systems, along with some associated opportunities and challenges.

Orange Blossom Family Health

Helping Patients

The wait times that patients usually experienced could be noticeably reduced by introducing virtual check-in and electronic pre-visit tasks. Sears thought of his waiting room and imagined patients moving in and out like a well-oiled machine. Visits would go much smoother for patients and their overall experience would be better. If OBFH could attract more patients for their healthcare needs, because of this technology, they could become even more useful and have a bigger impact in the community.

The technology did not stop at reducing wait times, it also empowered patients to take an active role in their own healthcare. Sears thought of all his patients being able to schedule their own appointments and complete necessary tasks before they even entered the waiting room. These patients would have more control over their healthcare journey which would lead to better outcomes and an overall better experience with the healthcare system.

Helping Staff

Something Dr. Sears' staff wrestled with on a regular basis was the possibility and probability of error when manually entering patient data into an outdated system. Reliance on automated data entry would ensure the accuracy and currency of patient information reducing the susceptibility to errors manual data entry methods posed. OBFH would be able to elevate their quality of care with this heightened data accuracy, which was something all the staff wanted. Though initial costs associated with this implementation were inevitable up front, there was potential for significant cost savings in the long term. Improvement in administrative overhead, paper-related expenses, and the amplification of overall operational efficiency all contributed to financial sustainability.

With improved processes, OBFH would be able to strategically allocate resources allowing their staff to focus on more important actions such as clinical care, patient education, and community engagement, which were all true to the core mission for Dr. Sears. The mobile-friendly aspect of the technology would improve access to care for those who lacked ready transportation access or lived in rural areas. If implemented properly, Sears was certain OBFH would improve its customer experience and be better positioned for the future.

Mission

The mission of a FQHC is to provide comprehensive, high-quality, and accessible primary healthcare services to underserved and vulnerable populations. FQHCs play a critical role in expanding access to healthcare services, particularly in low-income and medically underserved communities. The following were some of the key components of Dr. Sears' mission:

1. **Access to Care:** FQHCs aim to ensure that all individuals, regardless of their ability to pay or insurance status, have access to essential healthcare services. They often serve as a safety net for individuals who might otherwise face barriers to receiving medical care.
2. **Comprehensive Services:** FQHCs offer a wide range of healthcare services, including primary medical care, dental care, mental health services, and often pharmacy services. They provide a "medical home" for patients, addressing both their acute and chronic healthcare needs.

3. **Quality Care:** FQHCs are committed to delivering high-quality care that meets recognized medical standards. They strive to provide evidence-based, patient-centered care to improve health outcomes and prevent and manage chronic conditions.
4. **Culturally Competent Care:** FQHCs recognize the importance of cultural competence in healthcare delivery. They aim to provide care that is respectful of patients' diverse cultural backgrounds and linguistic needs.
5. **Community Focus:** FQHCs are deeply rooted in their communities. They actively engage with the local population to understand and address the unique healthcare needs and challenges of their service area.
6. **Cost-Effective Care:** FQHCs work to control healthcare costs by emphasizing preventive care, early intervention, and management of chronic conditions. This approach can help reduce the overall healthcare burden and costs.
7. **Education and Outreach:** FQHCs often engage in health education and outreach activities to promote health literacy and preventive care within their communities.
8. **Patient-Centered Care:** FQHCs prioritize the needs and preferences of their patients. They aim to involve patients in their healthcare decisions and provide care that is responsive to individual needs.
9. **Care for Vulnerable Populations:** FQHCs serve populations with higher rates of chronic diseases, poverty, and other health disparities. They play a crucial role in addressing health equity and reducing disparities in healthcare access and outcomes.
10. **Compliance with Federal Standards:** FQHCs must adhere to specific federal regulations and meet certain performance standards to maintain their designation and receive federal funding. These standards are designed to ensure that they provide quality, accessible care to underserved communities.

FQHC Business Model

OBFH had five business units: Primary Medicine, Oral Health, Behavioral Health, Pharmacy, and Vision. These business units were present in each of the seven medical centers operated by OBFH. The key factor in adding patients, and more grant revenue, was to reach the underserved to provide services. OBFH had to reach these underserved patients; both with the knowledge that an FQHC is available to help them and have the individuals find transportation to the facilities. Expanding the number of centers OBFH runs was an option to increase revenue, but the organization would need excellent metrics to outcompete other FQHCs such as True Health, which had more locations than OBFH.

Dr. Sears' background had always been medicine. As the Chief Medical Officer of OBFH, his primary concern had been to advocate for high quality of care for his underserved patients. A key competitive advantage of OBFH was their excellent quality of care metrics but how could those metrics alone be used to increase revenue and allow more patients to be helped? How could he get more patients through the doors to support the mission of OBFH?

All-In-One Digital Solutions for Medical Records

Dr. Sears saw the obvious: the pile-up of forms being filled out in his lobby could be solved with a digital tool, and that COVID-19 had recently started clinics' use of digital tools worldwide. The use of many digital platforms suddenly became commonplace due to lockdowns and distancing. This is true of medical records management, as more healthcare facilities moved toward digital tools to schedule and complete forms prior to arrival.

Avoidance of manual paper forms would become the rule rather than the exception, so his patients should not be denied this ability if OBFH was able to provide it. But what other features were possible within his budget? He knew state-of-the-art features like Artificial Intelligence (AI) features which required additional manpower and high-priced consultants to map all his processes probably wasn't realistic. But since the application of digital tools for medical records were becoming ubiquitous, Dr. Sears felt confident that a plug-and-play solution like Epic could meet their needs and improve the customer experience greatly.

Identifying Epic and other software was easy, as the market for electronic medical records solutions was growing at an extremely high rate and would probably triple within three years (Exhibit 7, Electronic Medical Records Trends and Exhibit 8, Forecast of EHR in the US). Dr. Sears read online brochures, feature comparison matrices and reviews to understand what was possible and the best fit for his application. He familiarized himself with the lingo used within the medical records industry, and how the different software options differed.

He saw that this technology was marketed for gathering, storing, and accessing data across the healthcare spectrum. Some advanced options promised the ability to interact with connected medical devices, allow interoperability across providers, and enhanced portals for the patients and providers to access. A variety of "internet of medical things" options were shown with trendy brand names to link data from devices worn by patients or taking data from them, directly to medical records and ultimately to health care providers. As more data is stored and managed electronically, AI can search for trends or raise issues which need to be brought to a doctor's attention. There are also trends towards the future expansion of technologies such as blockchain and virtual reality as ways to manage and access health-related data for both the patient and the providers. See Exhibit 9, Future EHR Trends.

EMR vs. EHR

Many software options refer to a patient's Electronic Medical Record (EMR) and Electronic Health Record (EHR) synonymously, while some distinguish features for each. An EMR is a digital copy of a patient's health chart that a healthcare provider will use during an appointment. This will typically focus on the patient's needs for a specific visit, such as symptoms, diagnoses, medications etc.

A patient's Electronic Health Record (EHR) covers a broader amount of information which might include a full medical history, previous doctors, scheduling information, payment methods or any other data taken from previous visits. Also, an EMR typically includes health data at a specific provider, while an EHR is a record across providers and locations over time. An electronic chart during one visit could be an example of an EMR, but a full history of all charts over time with other relevant information such as medications, procedures and other data would be present in an EHR. Dr. Sears considered the wide scope of an EHR system, the benefits of an integrated system became evident.

System Features

The team at OBFH needed to solve the wait time and continuity of care issues which were painfully evident every day, but bringing in a new system could bring other wide, long-lasting improvements.

Cloud-based storage could allow 24/7 access to records, scheduling or other data and would allow more wireless capabilities to be brought on. But would sensitive records be more vulnerable in an online format? Other hospitals were certainly on board, but what was the cost of cybersecurity for the convenience of having data at our fingertips?

The ability for patients to log in and providers to access data from mobile devices was another key feature which Dr. Sears found incredibly attractive. He envisioned tablets being used at check-in or during a consultation. This would ease the process for both the provider and the patient and would likely avoid a lot of manual record-keeping. Similar cybersecurity concerns would exist, along with the cost for more hardware.

Dr. Sears knew an integrated system had numerous benefits due to the streamlining of information and elimination of some paperwork by automating reports or information field completion. Doctors would not have to ask for a history on each visit because accurate data for past medications and ailments would be easily accessible. This had to improve a doctor's ability to deliver appropriate treatments quickly and continue the accurate chain of history. Benefits to the business activities could also benefit, as information on billing, scheduling and

The drawbacks of a new system and some individual features included the up-front cost but also came with a need to maintain the system or needing additional personnel to keep security and implementation running smoothly. Dr. Sears needed to evaluate what, if any, cybersecurity service or additional support he needed to bring in parallel with a new EMR system. The risk of data breaches in the medical industry could have huge financial and reputational consequences, which a small firm like OBFH could not survive.

Implementation Analysis

The Epic all-in-one Electronic Medical Records (EMR) system had the potential to revolutionize patient care, but it required a substantial financial investment. Initial estimates indicated that the health center's initial costs would range between \$350 and \$500 thousand. In addition to ongoing maintenance fees, these expenses included software licensing, staff training, and prospective hardware upgrades. This was a primary budgetary concern because more than 81 percent of OBFH's funding originated from government grants and donations.

Dr. Sears and his CIO were deeply familiar with the ins and outs of OBFH's financials, and as a small business they were directly involved in conversations with vendors. OBFH focused on an upfront investment at the higher end of the budget, because a good ROI (Return on Investment) was forecasted. The administrative staff alone spent an average of 20 hours per week on tasks that could be automated, according to OBFH's internal time-tracking reports. This was clearly an area where streamlined operations could allow reallocation of resources to patient care.

Dr. Sears recognized that an investment in the appropriate technology would yield substantial returns over the long term also. For example, a streamlined check-in procedure would drastically reduce the hours

devoted to administrative duties, resulting in cost savings. Enhanced patient satisfaction may also increase patient volume, thereby increasing the clinic's prospective eligibility for performance-based grants.

In a perfect world, Dr. Sears would bring on Epic, implement all its wonderful features and have a budget to maintain it fully. But given his obvious financial constraints he wrestled with what the best approach would be for implementing features of the software while watching cost carefully and providing the biggest benefits to patients. If there were overruns, he thought he could spread the cost across multiple fiscal years or attached to specific grant cycles, thereby reducing the immediate financial burden.

HRSA Federal Grant Writing Process

Obtaining a grant from the Health Resources and Services Administration (HRSA) began with a comprehensive search for a funding opportunity that corresponded with a project's objectives. It was crucial to thoroughly examine the eligibility requirements to ensure the organization and project were eligible. Once a suitable opportunity has been identified and a Notice of Funding Opportunity (NOFO) has been published, OBFH thoroughly scrutinized the NOFO to determine what HRSA seeks in a grant proposal.

After understanding the NOFO, OBFH conceptualized their project by delineating its objectives, methodology, required resources, and success metrics. They used this information to construct an outline incorporating all the elements required by the NOFO, such as the project summary, needs statement, goals and objectives, and budget. Then they commenced composing the application per the outline, adhering to any formatting or length requirements specified in the NOFO.

Before submitting the grant proposal, an internal assessment was conducted. OBFH solicited team members' input to ensure that the application is concise, accurate, and compliant with NOFO guidelines. They will rewrite the proposal as necessary and proofread it thoroughly for errors, and compile all required documents, attachments, and supplementary materials per the submission requirements once the application has been refined.

Most HRSA grants were submitted via Grants.gov or the Electronics Handbook (EHB), both requiring registration and a valid account. Upon successful submission, OBFH received a receipt of confirmation. Online, they monitored the status of their application. If the grant is awarded, they received a Notice of Award (NOA) that describes the terms and conditions of the grant. OBFH then entered the project implementation phase, during which they required adherence to HRSA guidelines for quarterly, semi-annual, and annual performance reporting and financial accounting. Even if not awarded the grant, OBFH received feedback that could be invaluable for future applications.

Risk Analysis

The path to digital transformation was treacherous. During the transition, there was an ever-present risk of software flaws, security vulnerabilities, and service disruptions. Inaccurate or hasty implementation would result in severe setbacks, such as compromised patient data, which would have legal repercussions and severely harm OBFH's reputation. Such circumstances would give competitors like True Health an unintended advantage, jeopardizing current and future grants.

Being a part of the team that handled the last major software upgrade, Dr. Sears knew firsthand how any change can introduce vulnerabilities if not managed correctly. Talks were initiated with his IT (Information Technology) department and cybersecurity team to conduct a vulnerability assessment

before beginning the transition. Given the sensitivity of the healthcare data handled by the organization, which included data that belonged to friends, family, and neighbors in Central Florida, the stakes could not be higher. A multidisciplinary implementation team comprised of IT specialists, healthcare providers, and external EMR experts evaluated the risks and weighed options for how to navigate pitfalls, stringent FQHC regulations and industry standards.

Besides the legal and regulatory risks, a new system such as this comes with the risk of service interruptions or increasing frustration with staff and patients while the “bugs” are being worked out. Once the new system is put into practice, the workload for staff can initially increase or become more cumbersome as technical difficulties require repeated work, or unfamiliarity with the system results in a slowdown of performing tasks which were simpler prior to the change. This can have a ripple effect to the customers, who could experience even longer wait times or inaccuracies in the service provided.

Patient Perspective

The diverse clientele at OBFH included marginalized communities, seniors, and non-English speakers, all requiring a user-friendly system accommodating varying degrees of technological proficiency. The efficacy of the Epic system’s intuitive user interface was rigorously tested in real-world conditions. Dr. Sears conducted a small-scale pilot program to assess how well the system met the unique needs of their patient population.

To ensure the system was accessible and intuitive for everyone, OBFH included community members and patient advocates in the pilot phase. Their feedback was instrumental in making necessary system adjustments, thus ensuring that they met their patient community’s full range of needs.

Employee Perspectives

Employees of OBFH, many of whom had previous experience with various EMR systems at other healthcare institutions, were also critical stakeholders in this transition. The collective feedback from their staff was instrumental in customizing the Epic system to suit the organization’s unique operational needs.

The team, led by Dr. Sears, developed training modules to assist staff in navigating the new system effectively. The goal was to ensure that the transition was as smooth as possible for their employees, thereby enhancing workflow, minimizing disruption, and maximizing system utilization.

Metrics for Achievement

Implementing the new system would not define success; measurable results do. Dr. Sears and his team identified several Key Performance Indicators (KPIs) to monitor the initiative’s impact.

In partnership with the providers, the Quality Assurance team developed a set of KPIs explicitly tailored to the organizational objectives. These KPIs were not just pulled from industry standards and were rooted in OBFH’s mission to provide equitable healthcare. The team reviewed the metrics as a routine part of monthly staff meetings. This was not just a top-down evaluation; every voice, from nurses to admin staff, contributed to the ongoing assessment.

The KPIs comprised of:

- Decreased patient waiting periods.

- Quantity of data entry mistakes.
- Patient satisfaction ratings.
- Staff feedback and experience.
- Return on Investment (ROI) over a particular time.

Continuous monitoring and data collection was essential to comprehend the tangible benefits of the system. Periodic reports were generated to evaluate the system's efficacy, feeding into a continuous improvement feedback cycle.

Dr. Mark Sears was aware of the gravity of the situation. The decisions made in the approaching months would substantially affect OBFH. However, navigated carefully and strategically, the challenges presented an unprecedented opportunity to redefine healthcare delivery, bringing the organization closer to its core mission of providing equitable, high-quality healthcare to underserved communities in Central Florida.

Despite the complexities, one thing is evident: inaction was not an option. The path ahead was fraught with obstacles, but the potential benefits, which included enhanced healthcare, increased efficiency, and a stronger, more resilient OBFH, were too significant to disregard.

Dr. Sears aimed to successfully navigate this complex landscape by methodically evaluating costs and benefits, meticulously assessing risks, focusing on user experience, setting measurable goals, and actively engaged the community. Whether they could genuinely revolutionize healthcare delivery for the better in an underserved community depended on his leadership, the efforts of his team, and the community they serve.

The Decision

The challenge of an inefficient check-in and health records process was troubling for both patients and staff. Sears recognized the need for change as he witnessed his waiting room filled with patients who were struggling because of a dated process and systems. Sears knew integrating the cutting-edge Epic software that allowed virtual check-ins, self-scheduling, and electronic completion of pre-visit tasks via an app was necessary. The challenges, however, were significant. Considering their reliance on government grants, Dr. Sears and the rest of the executive staff had to be judicious in the OBFH financial decisions. Further, improper implementation could have an adverse impact on patient satisfaction, quality care metrics, and ultimately the center's funding which was their lifeline. Sears considered how service could be improved by the implementation of the software to address the long-needed technology upgrade, while addressing the risks associated with the change.

The Options

1. **Everything all at once:**

The most aggressive strategy would be to implement the Epic EMR system simultaneously. This would necessitate the simultaneous implementation of the new system across all departments, personnel, and patient services. This option was enticing due to Dr. Sears' desire for speed and potential for instantaneous transformation. He was aware that a complete change could cause chaos, but it would require everyone to adapt rapidly without reverting to the old methods. Nevertheless, the dangers were substantial. A total, immediate switch would place immense stress on staff in this "sink or swim" approach.

2. Phased approach:

Given the limited resources of OBFH and the need for caution, a phased approach seemed prudent. This entailed implementing the full Epic system department by department over several weeks. Dr. Sears would prioritize staff groups based on their imminent need for the system's capabilities or their adaptability to modern technology. Patients could also be introduced to the system in phases based on visit frequency and age. This alternative reduced risk but delayed full implementation. It would give staff and patients time to adjust but could result in a protracted period of adjustment and blended systems, complicating the transition for staff working between the old and new systems.

3. Combined Soft Launch:

This option involved launching only key features of the Epic system to select departments and patient groups based on metrics such as need, adaptability, and priority. The advantage was that it permits Dr. Sears and his team to troubleshoot issues on a lesser scale before a larger rollout. Essentially, it is a live beta tryout. Nonetheless, this strategy would require meticulous planning and a framework for contingencies. This soft launch would be live and involve actual patients and essential healthcare services, so minor hiccups could become significant problems if they were not closely monitored. To mitigate risks, the most important portions of the old system could be done in parallel for a month or two with additional personnel until the processes were proven.

4. Pilot:

The most careful course of action was to conduct a pilot program with volunteer staff and patients. This was the most secure method for identifying unanticipated obstacles and measuring the system's impact without influencing the entire organization. The disadvantage was the time and resources required for potentially little real value added. In addition, Dr. Sears questioned whether the pilot would be truly representative, given those who volunteer may be more acquainted with technology or more tolerant of potential system glitches.

5. Wait for sufficient funding:

Finally, OBFH could have done nothing until they determined a sufficient grant or funding was captured which mitigated the risks if funding coincided with their large system change. They could hire the proper consultants or additional help for a period to effectively launch the system if the resources were used wisely. The timeframe for this was undetermined since grants were not guaranteed. Also, the risk of poor implementation was still a possibility if the changeover was not properly managed.

As he sat quietly in deliberation, Dr. Mark Sears thought of the future of OBFH. The transition phase would surely present challenges, but these hurdles would be addressed with careful planning, training, and regular feedback from both patients and staff. OBFH had to solidify its reputation as a model institution, always aiming for the betterment of its community and the patients they served. Sears knew he was on the right path to accomplish this.

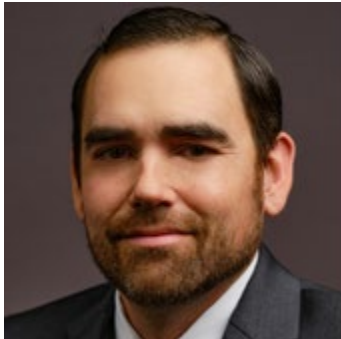
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Acknowledgements

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Biography



Gabriel Calar is a program director at General Dynamics Ordnance and Tactical Systems, a global aerospace and defense company. Calar leads multi-disciplinary teams to execute large programs from proposal to delivery. Before becoming program director, Calar worked as a program manager and a systems/production engineer, serving as the lead engineer for development and production programs at General Dynamics. Calar earned a bachelor's degree in Industrial and Systems Engineering from Mercer University.



Jermaine Forrest is the chief operating officer at Orange Blossom Family Health in Orlando, Florida. In this role, he is responsible for the smooth and efficient operation of the company, including oversight and evaluation of the center's day-to-day operations. He has over 14 years of combined experience at various nonprofit organizations, including two previous Federally Qualified Health Centers, one of which he served as the chief technology officer. He earned a Master of Science in Management Information Systems from Nova Southeastern University in Fort Lauderdale, Florida. He has also completed the Leadership Strategies for Information Technology on Health Care at the Harvard T. H. Chan School of Public Health in Boston, Massachusetts.

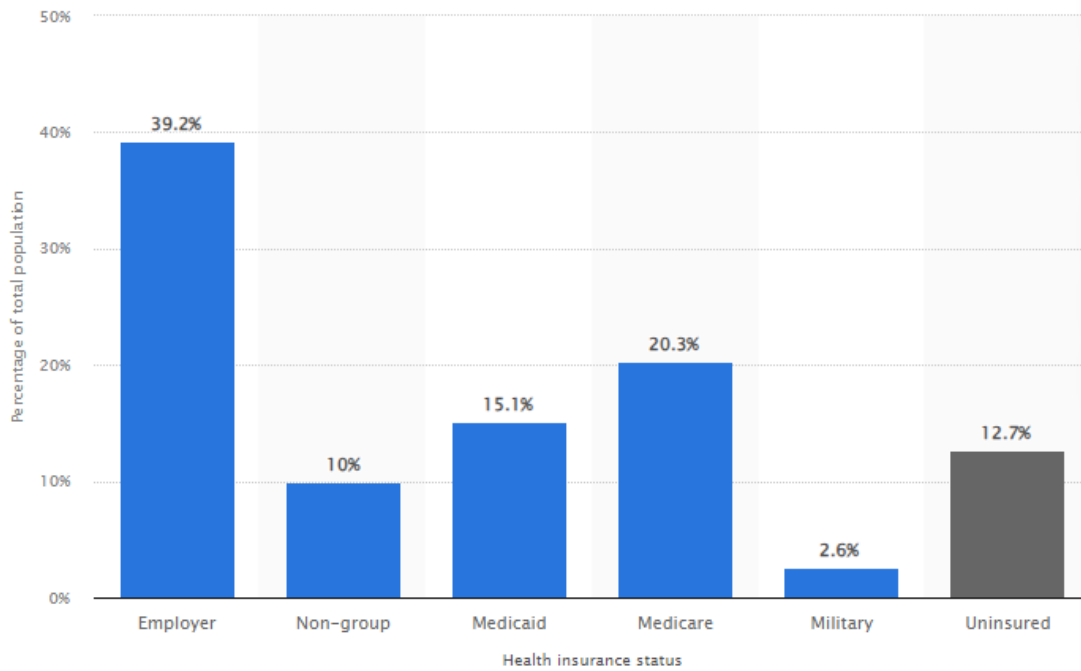


Kati Hippleheuser is the Chief Executive Officer of Seaside Innovations, a Government Contracting firm in Tampa, FL. She has supported the Defense Industry for more than 18 years as an Intelligence and Project Management expert. She was as a Captain of Military Intelligence in the U.S. Army where her positions included J2 Watch Officer, Senior Intelligence Advisor, Space Support Crew Manager, Company Commander, and Operations Analyst. She has served in Afghanistan, South Korea, and Japan. She has a bachelor's degree in criminal justice from the University of Central Florida. She serves on the board of the Women in Defense Tampa Bay Chapter and volunteers throughout her community.



Steven Michaelis is Senior Revenue Agent in the Large Business and International division of the Internal Revenue Service. Prior to the IRS, Michaelis worked as a senior international tax consultant for Veritiv Corporation and was a senior associate for international tax at Grant Thornton, LLP. Before becoming a CPA, he served as a flight officer in the U.S. Navy. He earned a master's degree in accounting from the University of North Carolina's Kenan-Flagler Business School and a bachelor's degree in biology from the University of North Carolina at Chapel Hill.

Exhibit 1: Health Insurance Status, FL 2021



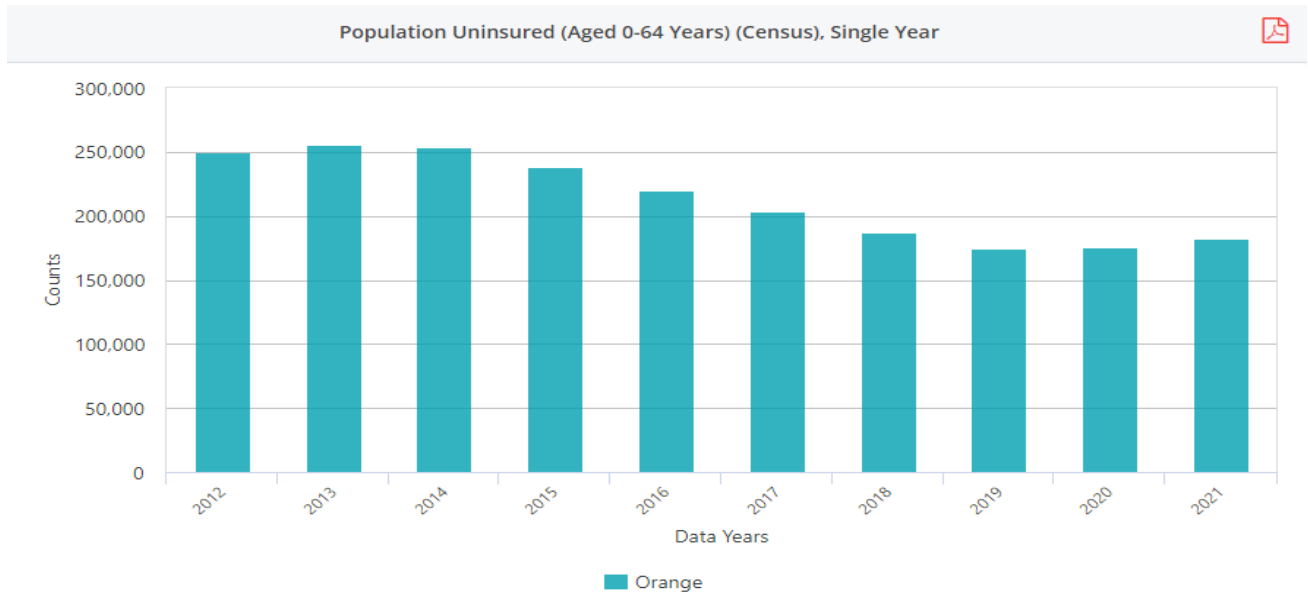
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<https://www.statista.com/statistics/238737/health-insurance-status-of-the-total-population-of-florida/>

Exhibit 2: Uninsured Orange County, FL (Aged 0-64 Years)



<https://www.flhealthcharts.gov/ChartsDashboards/rdPage.aspx?rdReport=NonVitalIndNoGrpCounts.Dataviewer>

Exhibit 3: Statement of Activities

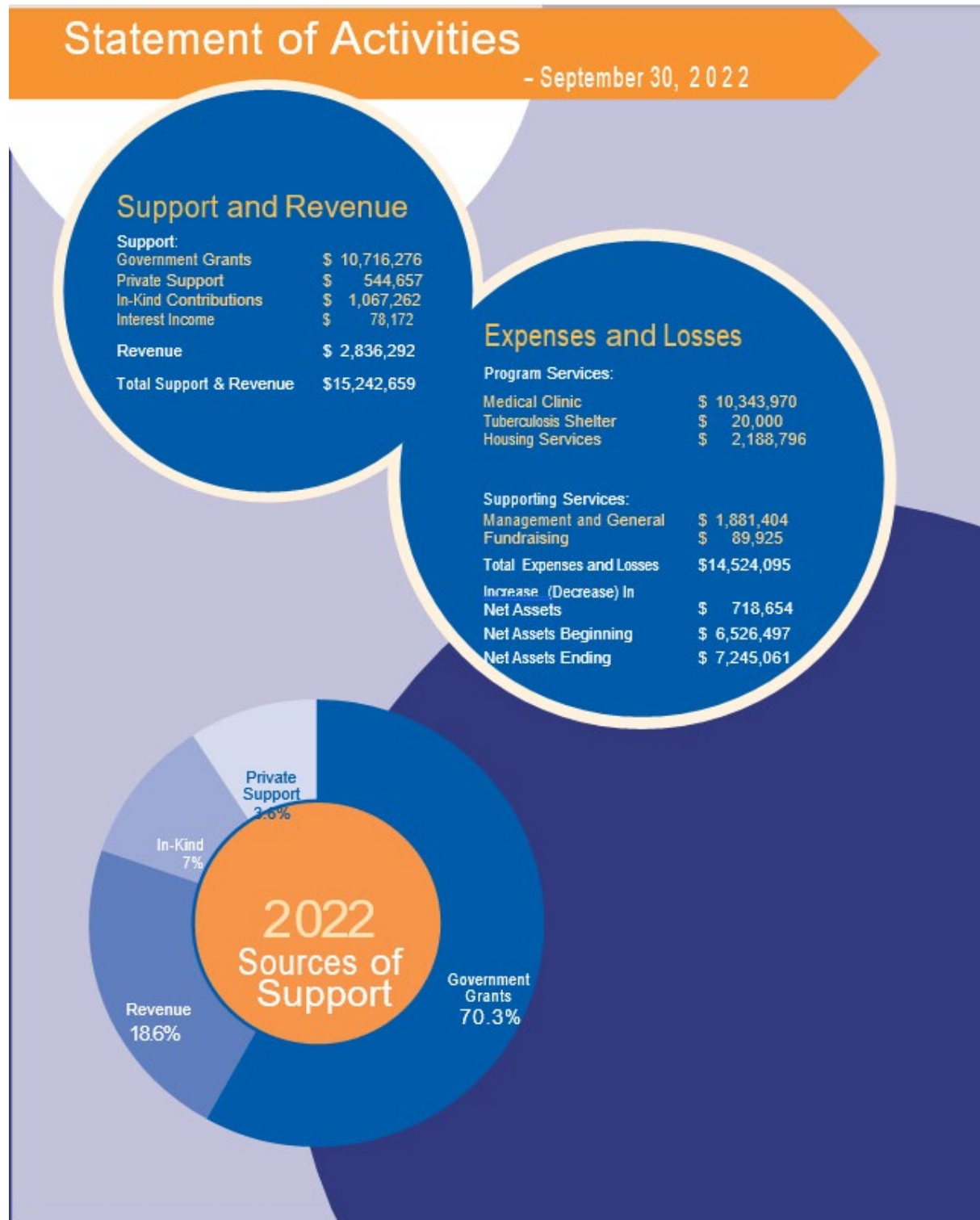


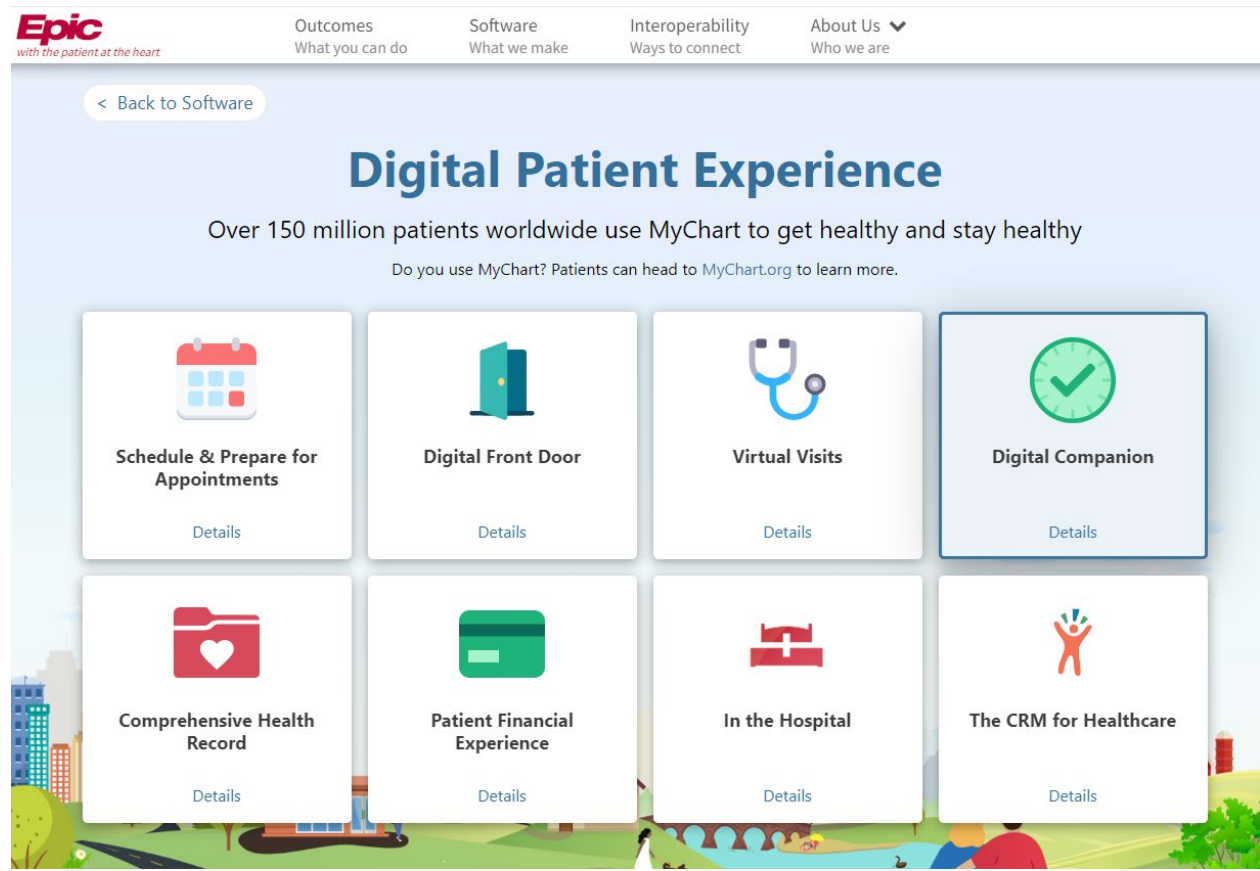
Exhibit 4: OBFH Profit & Loss Information

Support & Revenue		Expense & Losses	
Government Grants	\$ 10,716,276	Medical Clinic	\$ 10,343,970
Private Support	\$ 544,657	Tuberculosis Shelter	\$ 20,000
In-Kind Contributions	\$ 1,067,262	Housing Services	\$ 2,188,796
Revenue	\$ 2,836,292	Management and General	\$ 1,881,404
Interest Income	\$ 78,172	Fundraising	\$ 89,925
Total Support & Revenue	\$ 15,242,659	Total Expenses and Losses	\$ 14,524,095
		Increase(Decrease) In Net Assets	\$ 718,654
		Net Assets Beginning	\$ 6,526,497
		Net Assets Ending	\$ 7,245,061

HCCH Board of Directors
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Esmeralde Serrano
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McGregor Love
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Our 2022 Numbers	
Total Unduplicated Patients Seen	13,534
Primary Medical Encounters	20,127
Oral Health Encounters	12,553
Behavioral Health Encounters	2,762
Total Patient Encounters	35,442

Exhibit 5: Epic Electronic Medical Records Management

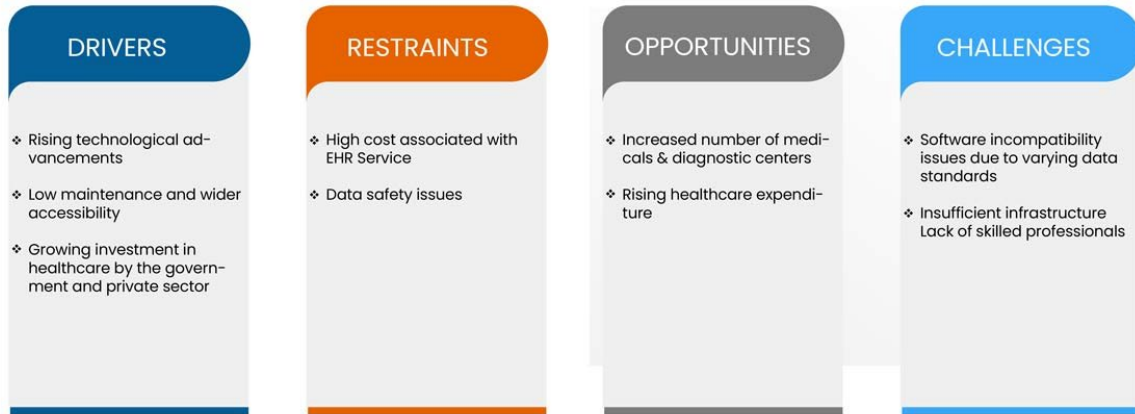


Source: <https://www.epic.com/software/digital-patient-experience> (2023) *Digital Patient Experience*.

Exhibit 6: Key Insights of EMR

Key Insight

Low maintenance & wider accessibility to EMR software are the major driver expected to boost total market demand.



DMCA Protected © DataBridge

<https://www.businessinsider.com/electronic-health-records-benefits-challenges>

Exhibit 7: Electronic Medical Record Trends

<https://www.databridgemarketresearch.com/reports/global-electronic-medical-records-emr-market>

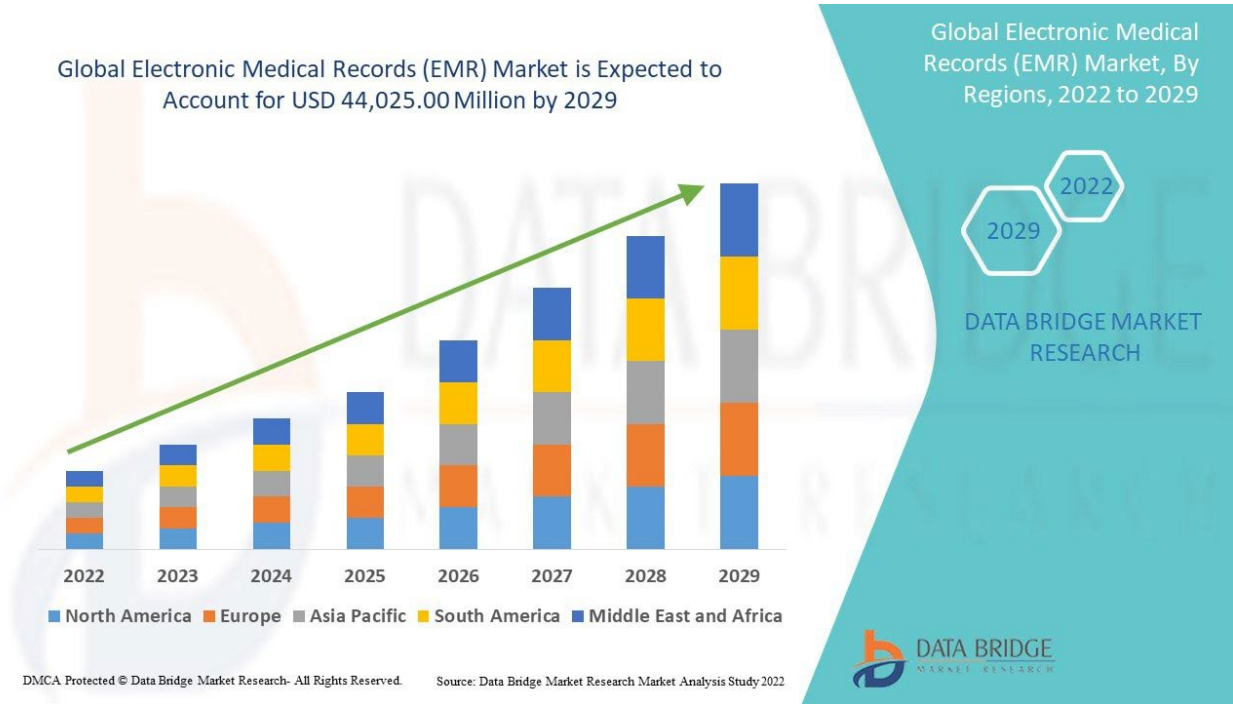
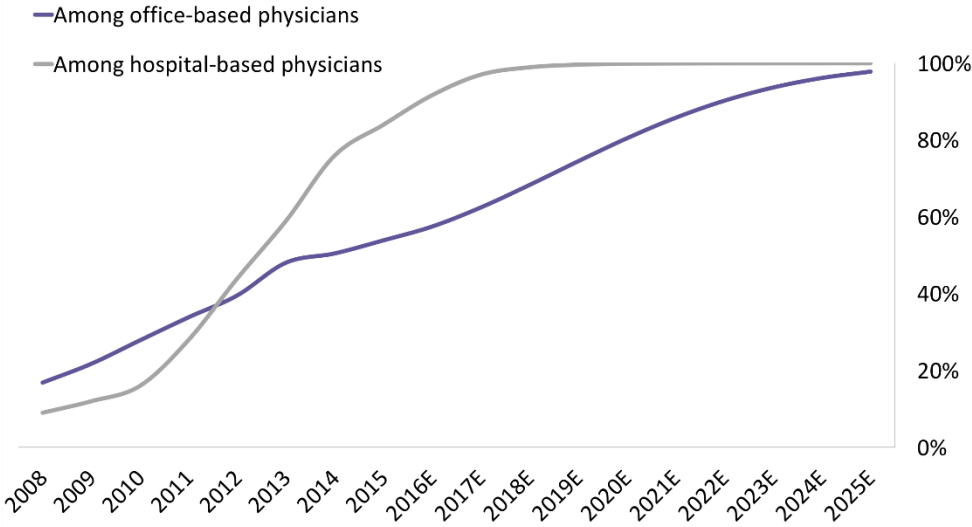


Exhibit 8: Forecast of EHR in US

FORECAST: Penetration Of Electronic Health Record Systems In The US



BUSINESS INSIDER INTELLIGENCE


Source: Business Insider Intelligence estimates; Office of the National Coordinator for Health Information Technology, 2016

<https://prognocis.com/ehr-top-trends/>


Exhibit 9: Future EHR Trends




FUTURE EHR TRENDS 2022




Use of Artificial Intelligence:
Artificial Intelligence assisting doctors and recognizing historical trends have already shown signs of success.




Influence of 5G:
Increased speed of 5G when incorporated in health systems will have an impact on the overall dimensions of the quality and application of care delivery.




Blockchain and EHR:
Blockchain Technology establishes security as it prevents insurance fraud, confidentiality, and scalability. It also reduces human involvement by taking actions based on predetermined results.




Push for Interoperability:
Interoperable systems can eradicate time-consuming and redundant tasks. Implementing interoperability can improve communication with other medical facilities. Medical errors such as misdiagnosis can be prevented if providers can gather and analyze necessary information in time with the help of interoperable systems.




Enhanced Patient Access:
As the healthcare industry shifts to electronic records, secure access for patients to their own health data is becoming increasingly important. By accessing their medical records, patients become more informed and engaged in their healthcare journey. This leads to greater health outcomes and increased trust with their provider.



Internet of Medical Things:
IoMT (Internet of Medical Things) allows clinicians to supervise their patients from any part of the world. Other connected devices make sure patients are taking medication as prescribed, monitor blood pressure, oxygen levels, keep track of fitness and weight, and more.



Virtual Reality:
The healthcare industry is among the Top 3 industries that have adopted virtual reality. According to Accenture, pieces of evidence state that 82% of healthcare professionals believe that virtual reality makes it convenient to access and learn information for medical students and practicing healthcare professionals.



Digital Therapeutics:
Digital therapeutics is software that uses interventions to bring about behavioral changes in patients, to help treat their conditions. DTx usually are done over smartphones and tablets. These products aim to be patient-centric and are growing in popularity as they meet industry requirements, publish clinical trial results in peer-reviewed journals.