



DATA MANAGEMENT CASE STUDIES

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ABOUT ME

I am Nikhil Kshirsagar, an esteemed IT professional boasting over 12 years of expertise in delivery and management, specialized in Data stream. Throughout my tenure with my current organization, I have spearheaded and overseen numerous pioneering projects tailored for esteemed entities such as the Health Resources and Services Administration (HRSA), NASA, and the U.S. General Services Administration (GSA).

Beyond the realms of my professional endeavors, I am a vibrant individual with a myriad of passions. I relish quality time spent indulging in my diverse array of hobbies. A wordsmith at heart, I find solace in the art of writing and poetry, enriching the Marathi community in Washington DC through my dedicated volunteer work. As an avid reader, I am endlessly fascinated by the realms of literature. Music also holds a special place in my heart; I enjoy playing the guitar for pure enjoyment and self-expression.

Additionally, I find serenity amidst nature's embrace, often enjoying parks, small hikes alongside my cherished family. Speaking of which, my beloved wife, Poornima, along with our delightful 8-year-old daughter, Ovee, and spirited 4-year-old son, Yash, complete the tapestry of joy in my life.



PROJECTS

- AI Based projects – PCHP Analytics
- Modern Data Analytics Platform (MDAP)
- Program Oversight Module (POM)



PCHP ANALYTICS USING AI

PROBLEM STATEMENT



The government had funded specialized hospitals for HIV transmission prevention. According to reports from Primary Care HIV Prevention (PCHP) grantees, the allocated funds were not fully utilized. The Health Resources and Services Administration (HRSA) expressed willingness to support the grantees.

DELIVERY IDEA



Received detailed reports from all grantees outlining the barriers to fund utilization. Employed the AI's NER model to categorize these barriers and delivered the analytics to HRSA.

PCHP ANALYTICS USING AI

What are PCHP Reports

- Primary Care HIV Prevention (PCHP) is a supplemental funding opportunity that will expand HIV prevention services that decrease the risk of HIV transmission
- PCHP reports capture the project status, activities supported, lessons learned, planned activities for the use of funds and issues or barriers encountered in use of funds

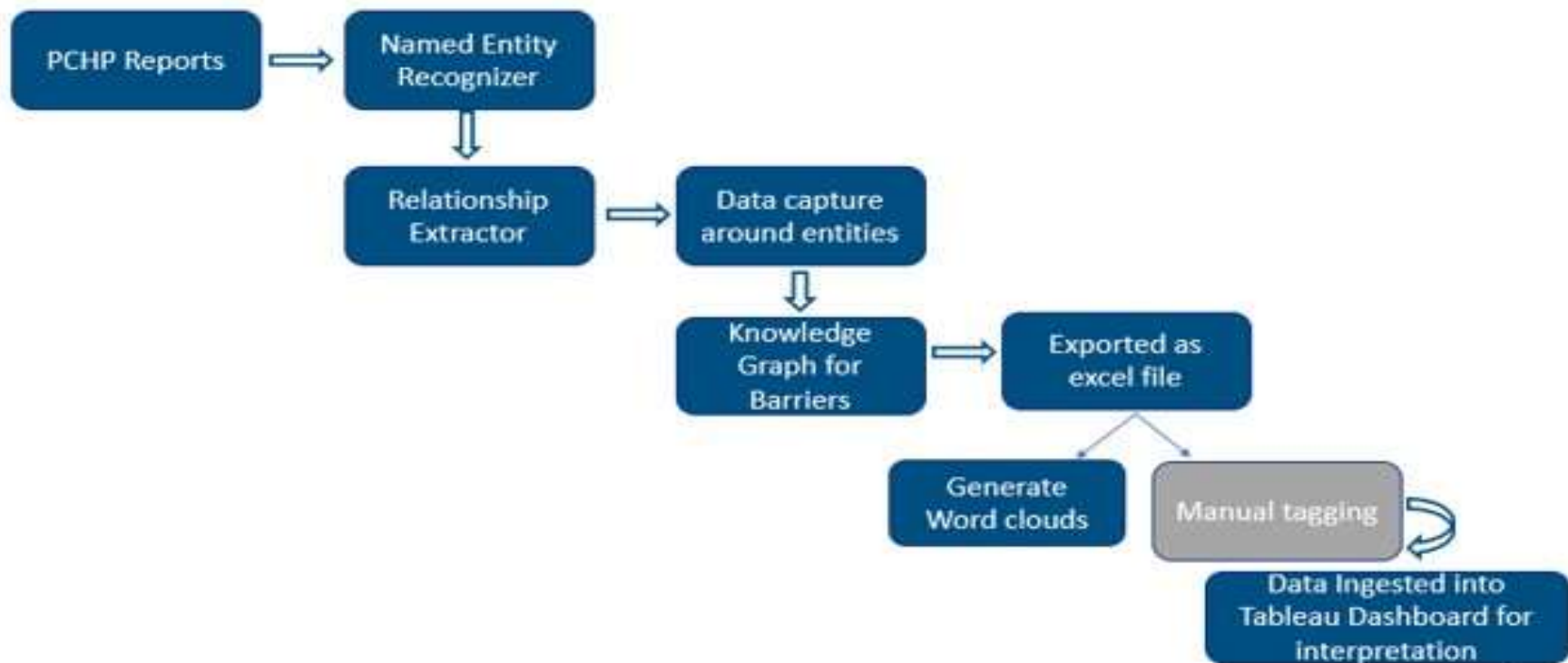
Purpose of the project

- Capture the current big barriers that grantees are facing in implementing activities that are supported with the PCHP
- Identify the trainings and technical assistance to be provided to grantees
- Identify the problems that were encountered due to COVID shutdowns and a shift in focus from HIV prevention to COVID
- Understand the impact change in project workflows and protocols for the grantees
- Identify any other problems ranging from staffing needs and work schedules, lack of training, inability to capture data
- Determine the problems regarding telehealth, tele prep and the stigma around HIV and, to identify more such qualitative information that could help with the decision making of funding opportunities

Data Science Algorithm

- Raw Input text data (barriers encountered field from PCHP Reports) > NER Model > Output

HIGH LEVEL APPROACH

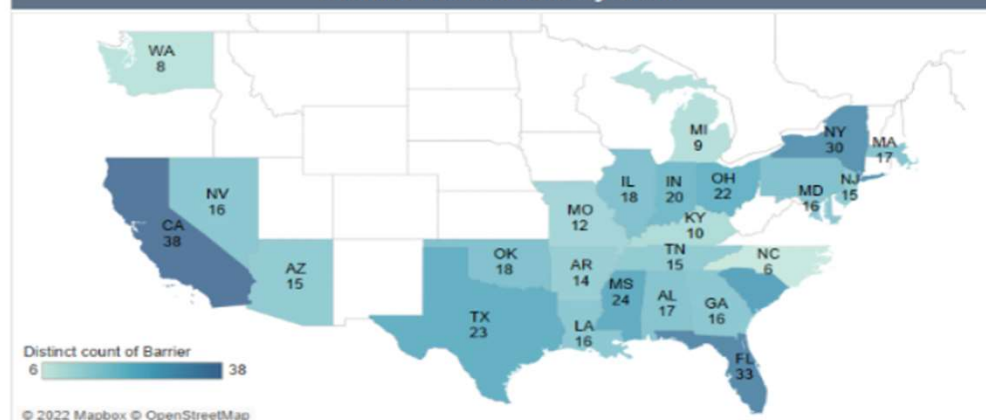


FINAL PRODUCT

Summary Dashboard

Report Number/Year All State All Barrier Multiple values Organization Name All

Number of Barriers by State



Number of Organizations

195

Number of Barriers

59

Organization Details

Organization Name	Grant Number	State	City
<i>Sensitive data masked</i>		MS	Clarksdale
		IL	Chicago
		LA	Luling
		SC	Rock Hill
		FL	Jacksonville
		AL	Huntsville
		CA	Oakland
		AL	Birmingham
		CA	Commerce


Barriers Summary

No Barrier Reported 167	Lack of in-person outreach opportunities 145	Less in-person visits 101	Delay or lack of training and educational activities for staff 79	Decline in patient engagement 45	Accessibility to care and services for PrEP customers 30		Limited in-person outreach	Fear of	Lack of HIV related
Hiring and staffing issues 145	Limited HIV testing opportunities 102	No Barrier Derived 81	Shift in focus from HIV prevention to COVID 71	Change in workflows and protocols for PrEP navigation 42	HIV associated stigma 26	Data capture from EMR and EHR	Low		
				Reduced patient willingness towards PrEP use 31	Hindrances to making community partnerships	Decrease in new patient enrollment			
					Service delivery due to the sudden shift towards telehealth and	Technical issues with			

ACHIEVEMENTS

- ✓ Minimized the manual effort required to review thousands of quarterly reports.
- ✓ Simplified the analysis of extensive descriptive text fields.
- ✓ Delivered a visually rich experience for senior client management, enhancing outreach.
- ✓ Automated the entire end-to-end process.





MODERN DATA ANALYTICS PLATFORM (MDAP)

PROBLEM STATEMENT



Government agencies had onboarded a cohort of new Federal Analysts tasked with extracting meaningful insights from terabytes of datasets. However, amidst this ocean of data, analysts were encountering challenges in effectively filtering and refining the datasets to develop robust analytical models and compelling visualizations. The lack of streamlined processes and tools hindered their ability to efficiently navigate through the data landscape, thereby impeding the timely delivery of actionable insights crucial for informed decision-making. Huge capacity of resources were expended on training and knowledge transfer sessions.

DELIVERY IDEA



Delivered a streamlined process focused on robust filtering mechanisms to efficiently extract relevant data subsets from the vast datasets, thereby making them readily available for ease of access and analysis. By identifying and employing advanced filtering algorithms and data categorization, the product should aim to streamline the data preparation phase, enabling analysts to focus their efforts on deriving actionable insights and developing sophisticated analytical models, further enhancing the analysts' ability to derive meaningful insights from the available data.

STRATEGY AND ROADMAP

- Proposed redesigning of the existing Operation Data Store
- Bucketing data into multiple business streams and schemas
- Tagged it with subject areas and modules



ACHIEVEMENTS

- ✓ Achieved a 60% reduction in analysts' time spent on developing new analytical models and visuals.
- ✓ Decreased data downtime from 6 hours to approximately 1.5 hours.
- ✓ Achieved a 75% reduction in data size.
- ✓ Successfully shifted the client mindset from indiscriminate data consumption to tailored data utilization as per requirements.





PROGRAM OVERSIGHT MODULE (POM)

PROBLEM STATEMENT



Data essential for decision-making for hospitals or grantee organizations was distributed across various data stores, leading to inefficiencies in access and utilization. Accessing these disparate data elements used to necessitate navigating through multiple levels of approvals and cumbersome UI/UX page switches. Consequently, the productivity of internal federal officers tasked with making critical decisions for hospitals or grantees was significantly hampered. This fragmented data access environment not only impeded the speed of decision-making but also introduced unnecessary complexities, hindering the efficient allocation of resources and implementation of strategic initiatives.

DELIVERY IDEA



Delivered a centralized product named the Program Oversight Module (POM) within the Electronics Handbook (EHBs) of the Health Resources and Services Administration (HRSA). This module serves as a unified platform where core information spanning across various business units can be seamlessly visualized and accessed, thereby mitigating the restrictions associated with disparate data stores and approval workflows.

STRATEGY AND ROADMAP

- Determine essential data components frequently needed.
- Identify Personally Identifiable Information (PII) and security obstacles.
- Propose the implementation of a centralized data staging/Master Data Management (MDM) system in the background to facilitate rapid data movement.
- Suggest implementing role-based security measures to access the Program Oversight Module (POM) page.
- Aggregate comprehensive numbers and information from various modules.
 - Offer navigational links to access detailed information seamlessly.

ACHIEVEMENTS AND ROI

- ✓ Centralized data without compromising data governance principles
- ✓ Delivered a robust process to avoid any security breach
- ✓ Increased productivity by 90%
 - ✓ Traditionally with the privileges and SLAs, data used to be available within 8 days
 - ✓ Now available immediately based on role





THANK YOU

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