

FEASIBILITY OF BENCHMARKING
POPULATION CHARACTERISTICS AND
SERVICES ACROSS PROGRAMS IN A
LOCAL PUBLIC HEALTH DEPARTMENT

USING STANDARDIZED DATA

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Overview

- Significance & Setting
- Methods
- Results
- Discussion



Significance & Setting

- Terminologies and metrics are needed to support the development of a national population health infrastructure
- There are numerous challenges in data identification and management
 - Data quality
 - Data characterization
 - Data interpretation
 - Data visualization
 - Real-time data

Significance & Setting

- Developing a data source from clinical documentation in public health departments may be a resource for population health surveillance and evaluation
- Data source: Washington County Minnesota Department of Public Health and Environment

The Omaha System

Solving the Clinical Data-Information Puzzle

Methods

- Collected 10 years of data from a local public health department
- Initial status:
 - data stored in 39 separate spreadsheets that were archived for program evaluation purposes
 - 36 spreadsheets for various clinical problems
- Designed and built a MySQL Database Management System (DBMS)

Methods

- There were two main challenges to effectively managing the data:
 - data was exported from the Omaha System into multiple Excel spreadsheets with thousands of records and tens of fields, which makes it tedious to organize, restructure, and manage.
 - redundant and incomplete data among the excel spreadsheets, which were misleading when running statistical algorithms.

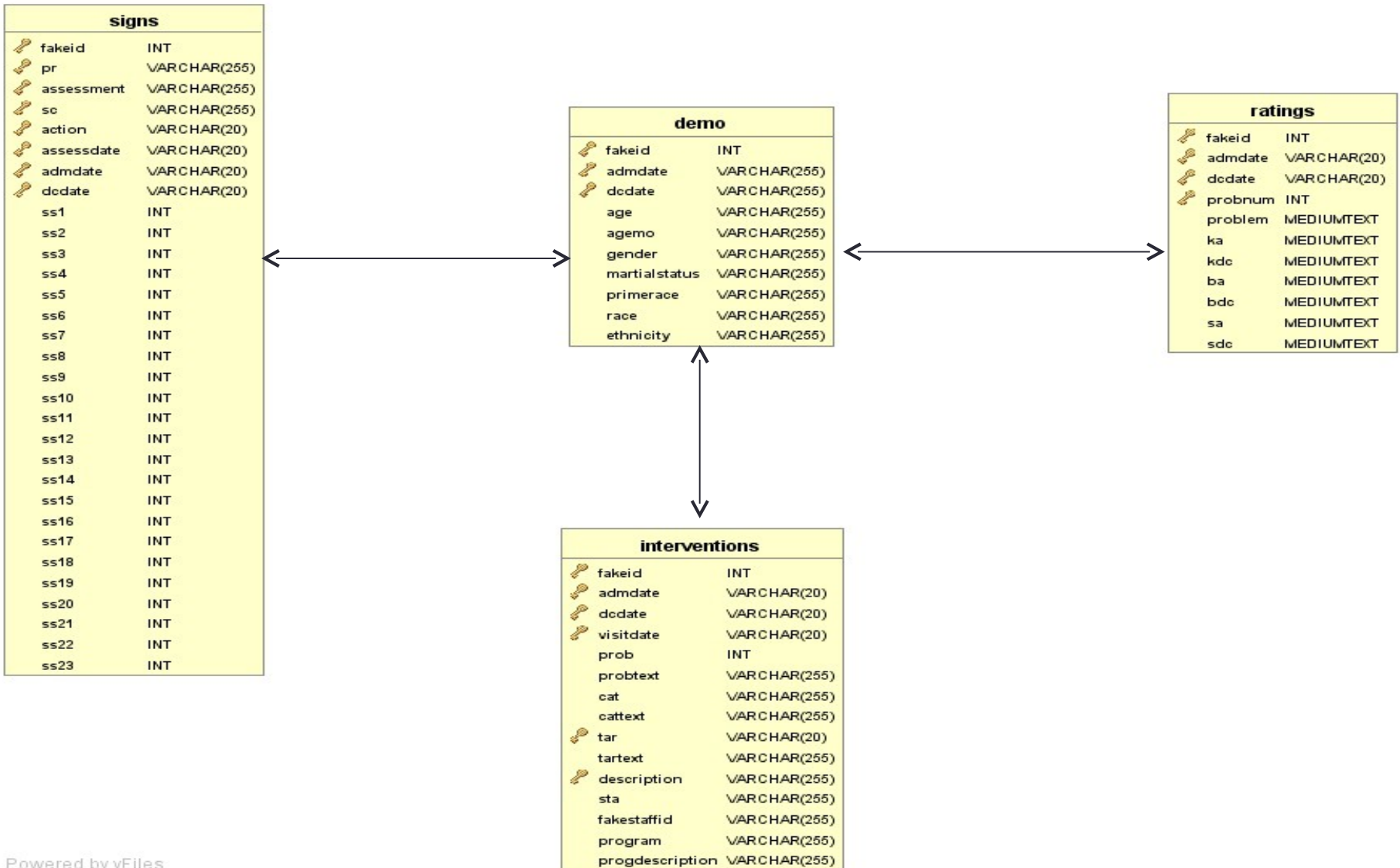


Methods

FakeID	AdmDate	DCdate	VisitDate	Prob	ProblemText	CareDescription	Sta	FakeStaffID
111508368	11/10/1998	9/14/1999	11/10/1998	22	Finances	Use of Community Resources	Y	22947
111508368	11/10/1998	9/14/1999	11/10/1998	22	Finances	Crisis Intervention	Y	22947
111508368	11/10/1998	9/14/1999	11/10/1998	40	Other Community Resource	Resource Options	Y	22947
111508368	11/10/1998	9/14/1999	11/10/1998	1	Anatomy/ Physiology	Normal Physiological Changes	Y	22947

Identify each patient entry through an aggregate key

Results



Results

- De-identified clinical data for 2406 clients (individuals, families, and community groups) consisting of 197,000 records for several public health department programs
- Searching for records, identifying patterns and associations, and running queries take seconds compared to minutes.

Discussion

- Utilize descriptive and inferential analysis to benchmark population characteristics, services, and outcomes and to look for associations within each program and between programs
- The Omaha System has potential to enable benchmarking of population characteristics and outcomes across programs and jurisdictions
- This feasibility study will be replicated with large multi-agency data sets to further develop national population health informatics data architecture and benchmarking

Thank you

