

**Methods:** Beginning in 2009, the research department at Kaiser Permanente in the Mid-Atlantic States (KPMA) has developed an Oracle-based VDW according to the HMORN v3 specifications. In order to take advantage of the strengths of relational databases, KPMA introduced an interface layer to the VDW data, using views to provide access to standardized VDW variables. In addition, KPMA has developed SAS programs that provide access to SQL pass-through processing for first-pass data extraction into SAS VDW datasets for processing by standard VDW scripts. **Results:** We discuss both the design and performance considerations specific to the KPMA Oracle-based VDW. We benchmarked performance of the Oracle-based VDW using both standard VDW scripts and an initial pre-processing layer to evaluate speed and accuracy of data return. **Conclusions:** Adapting the VDW for deployment in an Oracle environment required minor changes to the underlying structure of the data. Further modifications of the underlying data structure would lead to performance enhancements. Maximally efficient data access for standard VDW scripts requires an extra step that involves restricting the data to the population of interest at the data server level prior to standard processing.

**Keywords:** Infrastructure, Database, Performance

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### **Papanicolaou Tests and Data at Group Health**

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**Background:** The Cancer Screening Effectiveness and Research in Community-based Healthcare (SEARCH) project aims to create infrastructure to support conducting comparative effectiveness research in cancer screening. As a proof of principle, we have created a multi-site VDW-like PAP data structure and populated it at the Group Health Research Institute (GHRI). **Methods:** In this poster, we provide the PAP table structure that has been defined by SEARCH and the extract, transform, load (ETL) process employed at GHRI to populate the table. We report basic descriptives on the loaded data including the rates of PAP testing over time by population groups. **Results:** Group Health enrollees whose primary care clinics are owned and operated by Group Health (referred commonly as the Group Practice Division (GPD)) appear to have complete data capture of PAP tests and results. The rate of testing among the population seems to have declined in the most recent years, likely due to changes in cervical screening guidelines. In primary care clinics not owned and operated by Group Health (referred commonly as the Network), the number of PAP results found is considerably lower. This low rate of PAP resulting is due to incomplete data capture. **Conclusion:** Our findings show that research projects like the SEARCH cervical proof of principle that use PAP results as a key component of their study must define their population of interest based on the individual person's primary care clinic and its relationship with Group Health to ensure complete data capture. This data structure, while created under the SEARCH project, has been designed for future use in other studies.

**Keywords:** PAP test, VDW

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### **VDW Patient Medical Record Report -Detailed Information on Patient Utilization**

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**Background/Aims:** Project teams often require itemized patient information for their research and often engage a medical record technician to help them understand the details of a patient's utilization. The authors suggest that project teams can either supplant or augment their abstracting efforts by using this person-level VDW (Virtual Data Warehouse) patient medical record report. This report is an inexpensive, quick, and well-organized method to produce a patient medical record using VDW data. Another important benefit of this report is that it also has additional information (such

as claims) not readily found in the electronic medical record. **Methods:** Users of the VDW patient medical record report have access to a wide array of content: diagnosis; DRG and procedure codes and descriptions; outpatient dispenses described by generic name; lab test results; BMI; weight; height; blood pressure; provider department; inpatient admitting source; and discharge status. Users can also opt to include cancer site from the VDW tumor registry. More variables can be added over time. This report includes all encounter types (e.g., inpatient, outpatient, emergency, long-term care, telephone, e-mail) found in the VDW files. In addition, the header includes gender and birth/death year, and users specify a time period. Each data value adds an additional line. It is designed for local review as the report contains PHI. **Results:** This report is easy to create. Because the layout follows chronological order, the reviewer can quickly understand the patient's utilization over a specified time period. Analysts, investigators, and providers have used this report. Programmer analysts use this information to guide their coding. Providers and investigators like it because they can quickly review patient utilization. We also often give this report to abstractors as a supplement to the traditional electronic medical record. Caveats: The report only contains information from the VDW, so it is only as complete as a site's VDW files. The electronic medical record contains much information that is not in the VDW patient medical record report. **Conclusions:** The VDW patient medical record report is an efficient way for research teams to view and understand patient-level utilization found in the VDW.

**Keywords:** VDW, Patient medical record report

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