

VIRGINIA HEALTH INFORMATION

DATA DIRECTORY
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FROM NUMBERS TO KNOWLEDGE®



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FROM THE EXECUTIVE DIRECTOR'S DESK



Welcome to **Virginia Health Information!**

We are the private nonprofit legal repository of Virginia's licensed hospital Patient Level Data Base System (PLD). Since 1993 **VHI** has collected, analyzed and distributed the public use files (PUFs)

as valuable health care information tools. Those who have used these flexible, easy to manipulate files under license to **VHI** have been satisfied with the results and many continue to obtain quarterly or yearly updates.

In response to the growing demand from **VHI's** PLD licensees for more information on hospital health care quality, we now offer the Readmissions and Transfers Supplemental Data Set (RATs)—a significant enhancement to the hospital discharge data files.

When linked to the PLD files, RATs offers you the unique ability to track episodes of care through readmission cycles and transfer patterns. RATs enables you to perform more sophisticated performance measurements and comparative analyses when studying trends and assessing options. RATs is a powerful evaluation tool that facilitates sound, fact-based research and decision-making.

This product directory has been designed to give you a brief background on the over 800,000 discharges and over 3 million entries that comprise the data sets you will be licensing. Included are:

- **Record layouts** of the PLD and RATs
- Detailed **data dictionaries** describing aspects of available fields

- A description and record layout of the **support files** and
- **Licensing Agreement**

Because many of **VHI's** customers have multiple staff, department and location needs, **VHI** offers multi-site licenses. Some users generate revenue from reports derived from **VHI's** PLD, so if you have potential multi-site or distribution opportunities, please see the appropriate section of the license agreement. **VHI** is proud to describe these products in this directory and believes you will find this information important to you now and in the future.

Michael T. Lundberg
Executive Director

DESCRIPTION OF PATIENT LEVEL DATA (PLD)

These files contain all submitted processed and verified inpatient hospital discharges in the Commonwealth of Virginia. Collected quarterly, the basis for these data is

hospital-submitted billing claims forms. These forms are the National Uniform Billing UB 92. The UB-92 replaced the UB-82 and was phased in during 1993 and 1994.

GENERAL TYPES OF DATA FOUND ON THE DISTRIBUTION FILES

ADMINISTRATIVE data includes from where the patient originated, the urgency of the admission, when the patient was treated and the hospital in which care was provided.

health planning region and district code, county code and state of the patient's residence allow for geographic analysis at many levels.

CLINICAL data available provides up to nine diagnoses and six diagnostic or surgical procedures. **Virginia Health Information** calculates the patient's length of stay as well as the number of days a patient is hospitalized before and after the reported principal procedure. Using the diagnosis codes, values are created which note if the patient has any reported co-morbid conditions. These conditions are not the primary reason for the hospital stay but have been found to influence the length of time the patient is hospitalized, total charges and other factors. A complication indicator is also calculated. The field patient status reports whether the patient was discharged to return home, transferred to another hospital, expired or was discharged to another facility's care.

FINANCIAL data includes total charges for the stay as well as a series of 14 calculated groupings by type of care. These groupings are as general as room and board and as specific as charges for anesthesiology.

PHYSICIAN data provides the Unique Physician Identification Number (UPIN or NPI) of the attending and operating (where principal procedure is reported) physician who are primarily responsible for the care received by any individual patient. This data is available for discharges on and after April 1, 1996.

DEMOGRAPHIC data describe the patient's age; in days for newborns, years for patients one year or older. Information on the patient's gender and race (when available) are also collected. A five-digit patient zip code as well as the Virginia

The federal government has created a new provider (hospital, physician and others) identifier called the National Provider Identifier (NPI). **VHI** will phase in use of the NPI replacing the UPIN which will be discontinued. VHI is accepting both the UPIN and the NPI effective with discharges on and after January 1, 2007, through March 31, 2008. Inpatient discharges occurring on and after April 1, 2008, must contain a valid NPI when reported to VHI.

CLASSIFICATION SYSTEMS

To facilitate meaningful analysis of this data, **Virginia Health Information** provides two types of classification systems. The first of these systems, Diagnosis Related Groups (DRGs), was developed under contract for the federal government for use in classifying Medicare patients by resource use for reimbursement purposes. They are very

useful for the analysis of care provided to elderly patients. A DRG is assigned to each discharge.

The All Patient Refined DRG (APR-DRG) classification system developed by 3M Company differs from the DRG system in two key ways. First, the APR-DRGs were

designed to classify patients of all age groups. There are many more categories for children and infants in the APR-DRGs. Second, 3M provides indicators of the patient's severity of illness and risk of mortality. These indicators further classify patients using reported co-morbid conditions, complications, age and other available data.

Providing both classification systems allows the user more flexibility in the analysis of

SUPPORT FILES

Five support files are included with each order to facilitate the use of Virginia's patient level data. A record layout for each support file may be found in Appendix A.

DRG FILES

Provided for both the CMS DRGs and 3M's All Patient Refined DRGs. These files include the DRGs with an English description and other relevant information.

Effective with discharges between October 1, 2007, and September 30, 2008, VHI uses Version 25 of the 3M APR-DRGs. Effective with discharges between October 1, 2006, and September 30, 2007, VHI uses Version 24 of the 3M APR-DRGs. This change by 3M Health Information Systems was timed to coincide with the HCFA DRG release. According to 3M, no APR-DRGs were added or deleted. The following modifications were made to the methodology:

- Changes to code assignments and underlying logic for APR-DRGs 001 and 004
- New ICD-9-CM codes as of October 1, 2006
- Modifications to discharge status codes
- Updates to the severity-of-illness and risk-of-mortality logic
- New relative weights and trim points
- Modifications to birth weight logic
- Removal of E-code affect for severity of illness and risk of mortality

data. A day outlier threshold is also present in the DRG support file. This code enables the user to identify cases with a very high length of stay. By providing this information, the user can choose to include or exclude outliers from analysis. Major Diagnostic Categories (MDC) are also assigned and available. MDCs categorize patients into larger groups than either DRGs or APR-DRGs.

GEOGRAPHIC FILE

Connects zip codes to their corresponding health planning regions and districts and city/county codes and is essential in geographic analyses. This file is useful in studying patient origin or geographic differences in patterns of care.

HOSPITAL FILE

Provides basic hospital data including name, address, identifier, teaching status, IRS profit/nonprofit designation as well as the number of licensed and staffed beds, discharges submitted by quarter and discharges on the tape after editing.

PAYER FILE

Lists the **VHI** payer code with its associated English description for the field. Current Payer Codes are:

- 1 Medicare
- 2 Medicaid
- 3 Trigon/BC/BS
- 4 Tricare/Champus
- 5 Self Pay
- 6 Aetna/US Healthcare
- 7 United Healthcare (was MetraHealth)
- 8 Cigna
- 9 Other Commercial
- 10 Indigent/Charity
- 11 Worker's Comp
- 13 Prudential
- 14 State Farm
- 16 Local Government
- 17 State Government
- 18 Other Government

19 Govt Assistance
 20 Jail/Detention
 21 Black Lung
 24 Allstate
 25 Research/Donor
 26 Foreign
 27 Hospice-Unspecified
 28 John Hancock
 29 HMO/PPO-Unspecified
 31 Medicaid Out-of-State

32 BC/BS Out-of-State
 33 GWU Health Plan
 34 Kaiser Permanente
 35 MAMSI
 36 Nylcare
 37 QualChoice
 38 Sentara
 39 Southern Health
 99 Unknown

DATA QUALITY

VHI edits all data at the record level for integrity. Certain records are automatically excluded from tapes. These are records which contain a “fatal” error in:

- admission date
- discharge date
- patient status at discharge
- date of birth
- principal diagnosis or
- principal procedure.

Duplicate records are also excluded. To assist in projecting actual volume of discharges by quarter, both the number of records submitted and the number of records written to file are made available on tape and can be found in the hospital file. For other fields in error, **VHI** has collapsed invalid entries into “unknown” or designated error values. We believe this allows for maximum use of the data while affording exclusions of records with serious errors.

ORDERING VHI PATIENT LEVEL DATA

To order the inpatient data Public Use File (PUF) and the PUF with the supplemental Readmissions and Transfers (RATs) file, complete the license agreement found in Appendix C. Download and complete the Order Form for PLD and RATs Quarterly Hospital Data in Adobe Acrobat Format from the Data Directory page on the Downloads section of www.vhi.org. Enclose payment in full and mail to **Virginia Health Information**. *Note: Sales tax should be added to orders for individual or multi-site licenses only. Taxes apply only to in-state sales.*

DESCRIPTION OF READMISSION AND TRANSFER FILES (RATS)

GENERAL TYPES OF DATA FOUND ON THE SUPPLEMENTAL FILES

The RATs file is an optional supplement to the PLD file that facilitates longitudinal analysis of multiple episodes of inpatient hospital care through readmission cycles and transfer patterns. **VHI** defines a readmission as a hospital stay that follows an earlier hospitalization by at least one day but within 90 days. Transfers are defined as a hospital stay in which the discharge date of the first admission is the same as the admission date of the second admission. A transfer may take place within a hospital (generally between specialty units) or across hospitals. **VHI** provides detailed information on each hospital stay to allow the user to define a related readmission according to their own criteria of time between hospital stays, diagnoses, procedures, All Patient Refined-Diagnostic Related Groups (APR-DRGs) or other criteria.

The RATs file contains information on whether the case is the first or second admission in a RAT pair, to what hospital the earlier or later case originated as well as the days between, principal diagnosis and procedure. The VHIkey of earlier/later admission is also included to allow even more detailed analysis of the data.

Each quarter **VHI** takes the most recent file and looks forward and backward 90 days, within that quarter and up to 90 days in the previous and following quarters. So, for any discharge between October and December 2005, we would look within that quarter, in the previous quarter's discharges between July and September 2005 and in the following quarter's discharges between January and March 2006. Although this spans nine months, we only look 90 days forward and backward for each discharge. Patients must match on Social Security Number (SSN), date of birth and patient

sex. Because **VHI** does not require SSN for patients three years old or younger, RATs information is not complete even though some hospitals do provide this information when available.

To utilize the RATs files, you must first obtain **VHI** quarterly patient level data (PLD) files. The PLD files provide the denominator for calculating percentages of patients readmitted or transferred. You then obtain a RAT file for the same quarter. By linking this information, you can develop profiles at the state, region, county, hospital, physician or zip code level. These profiles may be by disease or any other variable you choose that is in the data file. The RATs record layout and data element descriptions are found in Appendix B.

APPENDIX A—PLD RECORD LAYOUTS AND DATA DICTIONARY

PLD RECORD LAYOUT

Virginia Health Information							
Updated 10/31/2007				Public Use File-PUF1 PLD Record Layout for Discharges 1Q07 to Present			
Field	Name	Label	Length	Format	From	To	Description
1	MPN	Hospital ID Number	6	A	1	6	Medicare Provider Number
2	ProvNPI	Provider's NPI	10	N	7	16	National Provider Identifier for the hospital
3	Ageday	Age in Days	3	N	17	19	Age in Days up to 365 Days
4	Age	Age in Years	3	N	20	22	Age in Years for Individuals >= 1 Year Old
5	Sex	Sex	1	A	23	23	Values: M (Male), F (Female), U (Unknown)
6	Race	Race	1	A	24	24	Values: 0 (White), 1 (Black), 2 (Other), 3 (Asian), 4 (Am. Indian), 5 (Hispanic), 6 (Blk. Hispanic), 9 (Unknown)
7	OYA	Quarter/Year of Admission	3	A	25	27	Example: 306 = Third Quarter 2006
8	OYD	Quarter/Year of Discharge	3	A	28	30	Example: 107 = First Quarter 2007
9	Asrce	Admit Source	1	A	31	31	UB-92 form locator 20 Values: 1 (Physician Referral), 2 (Clinic Referral), 3 (HMO Referral), 4 (Transfer from Hospital), 5 (Transfer from SNF), 6 (Transfer from other Health Care Facility), 7 (Emergency Room), 8 (Court/Law Enforcement), 9 (Unknown) **Please see UB manual for complete listing of codes
10	Atype	Admit Type	1	A	32	32	UB-92 form locator 19 Values: 1 (Emergency), 2 (Urgent), 3 (Elective), 4 (Newborn), 5 (Trauma), 9 (Unknown) **Please see UB manual for complete listing of codes
11	Zip	Patient Zip Code	9	A	33	41	U.S. Postal Service Zip Codes
12	LOS	Length of Stay	3	N	42	44	Note: If Adate = Ddate, LOS = 0; Subtract Units from Rcode 180-189
13	Pstat	Patient Status	2	A	45	46	UB-92 form locator 22 Values: 1 (Home or Self Care), 2 (Transferred to another Hospital), 3 (Transferred to a SNF), 4 (Transferred to an ICF), 5 (Transferred to another type of institution), 6 (Home Under Care of Home Health Service Organization), 7 (Left), 20 (Expired), 43 (Discharged/transferred to Federal Facility), 50 (Hospice-Home), 51 (Hospice-Medical Facility) **Please see UB manual for complete listing of codes including valid newborn codes
14	DX1	Principal Diagnosis Code	8	A	47	54	ICD-9-CM code
15	DX2	1st Secondary Diagnosis Code	8	A	55	62	ICD-9-CM code
16	DX3	2nd Secondary Diagnosis Code	8	A	63	70	ICD-9-CM code
17	DX4	3rd Secondary Diagnosis Code	8	A	71	78	ICD-9-CM code
18	DX5	4th Secondary Diagnosis Code	8	A	79	86	ICD-9-CM code
19	DX6	5th Secondary Diagnosis Code	8	A	87	94	ICD-9-CM code
20	DX7	6th Secondary Diagnosis Code	8	A	95	102	ICD-9-CM code
21	DX8	7th Secondary Diagnosis Code	8	A	103	110	ICD-9-CM code
22	DX9	8th Secondary Diagnosis Code	8	A	111	118	ICD-9-CM code
23	DX10	9th Secondary Diagnosis Code	8	A	119	126	ICD-9-CM code
24	DX11	10th Secondary Diagnosis Code	8	A	127	134	ICD-9-CM code
25	DX12	11th Secondary Diagnosis Code	8	A	135	142	ICD-9-CM code

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Public Use File-PUF1 PLD Record Layout for Discharges 1Q07 to Present

Field	Name	Label	Length	Format	From	To	Description
26	DX13	12th Secondary Diagnosis Code	8	A	143	150	ICD-9-CM code
27	DX14	13th Secondary Diagnosis Code	8	A	151	158	ICD-9-CM code
28	DX15	14th Secondary Diagnosis Code	8	A	159	166	ICD-9-CM code
29	DX16	15th Secondary Diagnosis Code	8	A	167	174	ICD-9-CM code
30	DX17	16th Secondary Diagnosis Code	8	A	175	182	ICD-9-CM code
31	DX18	17th Secondary Diagnosis Code	8	A	183	190	ICD-9-CM code
32	PX1	Principal Procedure Code	7	A	191	197	ICD-9-CM code
33	PX2	1st Secondary Procedure Code	7	A	198	204	ICD-9-CM code
34	PX3	2nd Secondary Procedure Code	7	A	205	211	ICD-9-CM code
35	PX4	3rd Secondary Procedure Code	7	A	212	218	ICD-9-CM code
36	PX5	4th Secondary Procedure Code	7	A	219	225	ICD-9-CM code
37	PX6	5th Secondary Procedure Code	7	A	226	232	ICD-9-CM code
38	PRLOS	Pre-Op LOS	3	N	233	235	PX1date - Adate
39	PSLOS	Post-Op LOS	3	N	236	238	Ddate - PX1date
40	DRG	DRG Code	3	A	239	241	DRG as per CMS
41	MDC	MDC Code	2	A	242	243	MDC as per CMS
42	APRDRG	APRDRG Code	5	A	244	248	3M All Patient Refined DRG Code
43	Tchg	Total Charges	7	N	249	255	NOTE: For all charges, if value is > 7 digits, default to 9999999
44	RBchg	Room and Board Charges	7	N	256	262	100-171
45	RCchg	Routine Care Charges	7	N	263	269	176-199,220-232,235-239,500-529,550-569,650-659, 910-919, 990-999
46	SCchg	Special Care (Intensive Care)	7	N	270	276	172-175, 200-219, 233-234
47	Aneschg	Anesthesiology Charges	7	N	277	283	370-379
48	Phrchg	Pharmacy Charges	7	N	284	290	250-269
49	Radchg	Radiology Charges	7	N	291	297	320-339, 400-409
50	MRICT	MRI/CT Charges	7	N	298	304	350-359, 610-619
51	NMchg	Nuclear Medicine Charges	7	N	305	311	340-349
52	CLchg	Clinical Lab Charges	7	N	312	318	300-319
53	LDchg	Labor/Delivery Room Charges	7	N	319	325	720-729
54	ORchg	Operating Room Charges	7	N	326	332	360-369, 490-499, 710-719
55	Oncchg	Oncology Charges	7	N	333	339	280-289
56	MSSchg	Med/Surg Supplies Charges	7	N	340	346	270-279
57	Othchg	Other Charges	7	N	347	353	All Other Revenue Codes

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Public Use File-PUF1 PLD Record Layout for Discharges 1Q07 to Present

Field	Name	Label	Length	Format	From	To	Description
58	Payer	Payer Type 1	2	A	354	355	VHI Payer Codes
59	Cnty	County Code	3	A	356	358	U.S. Postal Service County Code
60	HPR	Health Planning Region	1	A	359	359	Va. Health Planning Region Codes
61	HPD	Health Planning District	2	A	360	361	Va. Health Planning District Codes
62	Comp	Complication Code	1	A	362	362	1 = Complication Present
63	CCA	Cancer CoMorbid	1	A	363	363	1 = Comorbidity Present
64	CCV	Chronic Cardiovascular Disease	1	A	364	364	1 = Comorbidity Present
65	CLV	Chronic Liver Disease	1	A	365	365	1 = Comorbidity Present
66	CRN	Chronic Renal Disease	1	A	366	366	1 = Comorbidity Present
67	CDI	Chronic Diabetes	1	A	367	367	1 = Comorbidity Present
68	COP	Chronic Pulmonary Disease	1	A	368	368	1 = Comorbidity Present
69	CCE	Cerebrovascular Degeneration	1	A	369	369	1 = Comorbidity Present
70	Filler1	Filler1	9	A	370	378	
71	State	Patient State	2	A	379	380	Not available for discharges prior to July 1, 1994
72	Ecode1	1st External Injury Code	8	A	381	388	ICD-9-CM Diagnosis Code not available for discharges prior to July 1, 1994
73	Ecode2	2nd External Injury Code	8	A	389	396	ICD-9-CM Diagnosis Code not available for discharges prior to January 1, 2007
74	Ecode3	3rd External Injury Code	8	A	397	404	ICD-9-CM Diagnosis Code not available for discharges prior to January 1, 2007
75	InfBWT	Infant Birth Weight	4	N	405	408	Weight in Grams not available for discharges prior to July 1, 1994
76	VHIKey	Key Number	10	A	409	418	Unique Record Identifier not available for discharges prior to July 1, 1994
77	APHY	Attending Physician ID	10	A	419	428	Attending Physician UPIN or NPI not available for discharges prior to April 1, 1996
78	OPHY	Operating Physician ID	10	A	429	438	Operating Physician UPIN or NPI not available for discharges prior to April 1, 1996
79	OthPHY1	Other Physician 1	10	A	439	448	Other Physician 1 UPIN or NPI not available for discharges prior to April 1, 1996
80	OthPHY2	Other Physician 2	10	A	449	458	Other Physician 2 UPIN or NPI not available for discharges prior to April 1, 1996
81	Filler2	Filler 2	8	A	459	466	
82	Filler3	Filler 3	8	A	467	474	
83	APHYWRN	Attending Phys. ID Warning	1	A	475	475	Values: 0=UPIN/NPI is valid format and in CMS UPIN/NPI table, 1= UPIN/NPI is valid format only
84	OPHYWRN	Operating Phys. ID Warning	1	A	476	476	Values: 0=UPIN/NPI is valid format and in CMS UPIN/NPI table, 1=UPIN/NPI is valid format only
85	OthPHY1WRN	Other Phys. 1 ID Warning	1	A	477	477	Values: 0=UPIN/NPI is valid format and in CMS UPIN/NPI table, 1=UPIN/NPI is valid format only
86	OthPHY2WRN	Other Phys. 2 ID Warning	1	A	478	478	Values: 0=UPIN/NPI is valid format and in CMS UPIN/NPI table, 1=UPIN/NPI is valid format only
87	RAT	Readmission and Transfer	1	A	479	479	1=Record is eligible for inclusion in the Readmission and Transfer File
88	CRLF		2	N	480	481	End of Record

PLD DICTIONARY OF DATA ELEMENTS

The following information describes each data element contained in the patient level data public use files. These descriptions can be used with the above record layout for information pertaining to VHI data elements. For complete and updated information, VHI recommends subscribing to the National Uniform Billing Committee to obtain updates to the UB Data Specifications Manual. More information may be found at www.nubc.org

MPN--MEDICARE PROVIDER NUMBER

Pseudo numbers have been assigned where a hospital is not a Medicare provider. Records are excluded if there is a known error in this field. A file containing the MPN, hospital's name, address, number of licensed and staffed beds, teaching status, hospital type and tax status is provided and labeled PROVIDER.SDF.

PROVNPI--PROVIDER NPI NUMBER A file containing the MPN, hospital's name, address, number of licensed and staffed beds, teaching status, hospital type and tax status is provided and labeled PROVIDER.SDF.

AGEDAY--AGE IN DAYS Calculated in days for children up to one year old. The calculation is based on date of birth and date of admission. Age in days is equal to zero if the admission date and date of birth are the same. This field is blank for patients one year of age or older. Records are excluded if there is a known error in any of the fields used for this calculation.

AGE--AGE IN YEARS Calculated for individuals one year of age or older. The calculation is based on date of birth and date of admission. Records are excluded if there is a known error in any of the fields used for this calculation; however, some questionable ages may still result.

SEX--PATIENT SEX Values are: M = Male, F = Female, U = Unknown. Records with a missing or known invalid entry are assigned a default value of U.

RACE--PATIENT RACE Values are: 0 = White, 1 = Black, 2 = Other, 3 = Asian, 4 = American Indian, 5 = Hispanic, 6 = Black Hispanic, 9 = Unknown. Records with a missing or known invalid entry are assigned a default value of 9.

QYA--QUARTER/YEAR OF ADMISSION

Admission date is converted to the calendar quarter and year the patient was admitted. Records are excluded if there is a known error in the admission date.

QYD--QUARTER/YEAR OF DISCHARGE

Discharge date is converted to the calendar quarter and year the patient was discharged. Records are excluded if there is a known error in the discharge date.

ASRCE--ADMISSION SOURCE

Values for patients other than newborns are: 1 = Physician Referral, 2 = Clinic Referral, 3 = HMO Referral, 4 = Transfer from a Hospital, 5 = Transfer from a Skilled Nursing Facility, 6 = Transfer from Another Health Care Facility, 7 = Emergency Room, 8 = Court/Law Enforcement, 9 = Unknown. However, if the admission type is 4, indicating a newborn, the values are: 1 = Normal Delivery, 2 = Premature Delivery, 3 = Sick Baby, 4 = Extramural Birth and 9 = Unknown through October 7, 2007; after October 7, 2007, the newborn values are: 5 = Born inside this hospital and 6 = Born outside this hospital. Any record with a missing or known invalid entry is assigned a default value of 9.

ATYPE--ADMISSION TYPE Priority of the admission. Values are: 1 = Emergency, 2 = Urgent, 3 = Elective, 4 = Newborn, 5 = Trauma Center, 9 = Unknown. Records with a missing or known invalid entry are assigned a default value of 9.

ZIP--UNITED STATES POSTAL SERVICE ZIP CODE A 5 digit zip code is provided. A value of XXXXX indicates an unknown zip code and a value of YYYYY indicates a foreign zip code. Records with a missing or known invalid value are assigned a default value of blanks.

LOS--LENGTH OF STAY Calculated by subtracting the admission date from the discharge date. If the admission date is the same as the discharge date, the length of stay is defined to be 0. You may wish to exclude cases with a length of stay equal to 0 from average length of stay calculations or other analyses. Furthermore, if a patient took a leave of absence, indicated by a revenue center code of 180-189, those days are subtracted from the length of stay. Records with a known error in either the admission date or discharge date are excluded from the data base.

PSTAT--PATIENT DISCHARGE STATUS

Values are: 1 = Discharged to home or self care, 2 = Discharged/ Transferred to another short term general hospital, 3 = Discharged/Transferred to a skilled nursing facility, 4 = Discharged/Transferred to an intermediate care facility, 5 = Discharged/Transferred to another type of institution for inpatient care or referred for outpatient services to another institution, 6 = Discharged/Transferred to home under the care of an organized home health service organization, 7 = Left against medical advice or discontinued care, 20 (Expired), 43 (Discharged/transferred to Federal Facility), 50 (Hospice-Home), 51 (Hospice-Medical Facility) Records with a missing or known invalid entry are excluded from the data base.

DX1--PRINCIPAL DIAGNOSIS Based on the ICD-9-CM coding system. Records with a missing or known invalid entry are excluded from the data base.

DX2-DX18--SECONDARY DIAGNOSIS FIELDS Based on the ICD-9-CM coding system. Records with a known invalid entry are assigned a default value of "00000".

PX1--PRINCIPAL PROCEDURE Based on the ICD-9-CM coding system. Records with a known invalid value are excluded from the data base.

PX2-PX6--SECONDARY PROCEDURE FIELDS Based on the ICD-9-CM coding

system. Records with a known invalid value are assigned a default value of "0000".

PRLOS--PREOPERATIVE LENGTH OF STAY Calculated by subtracting the admission date from the date of the principal procedure. Records with a known invalid value in the principal procedure date field are assigned a default value of blanks. Note: Some software will convert blanks to zeros. If this occurs, various calculations and statistics you perform could be distorted. You should determine your software default and exercise caution.

PSLOS--POSTOPERATIVE LENGTH OF STAY Calculated by subtracting the principal procedure date from the date of discharge. Records with a known invalid entry in the principal procedure date field are assigned a default value of blanks. PSLOS will be blank filled even though it is defined as a numeric field. Note: Some software will convert blanks to zeros. If this occurs, various calculations and statistics you perform could be distorted. You should determine your software default and exercise caution.

DRG--DIAGNOSIS RELATED GROUP

Based on the CMS (Centers for Medicare & Medicaid Services) DRG grouping software. This software utilizes the principal diagnosis, secondary diagnoses, surgical procedures, age, sex and discharge status. A file containing the English descriptions is provided and labeled DRG.SDF.

MDC--MAJOR DIAGNOSTIC CATEGORY Assigned based on the CMS definition. A separate file containing the English descriptions is provided.

APRDRG--ALL PATIENT REFINED-DRG Based on the 3M definition. The version used with 4Q97 through 4q03 is version 15.0. The version used with 1Q04 through 3q06 is version 20.0. The version used with 4q06 through 3q07 is version 24.0. **VHI** uses version 25.0 beginning with discharges on and after October 1, 2007. **Virginia Health Information** provides a support file that will allow the user to map the current

discharges to the earlier version of APR-DRGs if they wish. Values contain 5 characters. The first three characters are the actual APR-DRG. The fourth character is an assigned severity index and the fifth is the risk of mortality subclass. For the severity index and risk of mortality, a label of "1" indicates the least severe or lower risk cases, while a label of "4" indicates the most severe or higher risk cases, respectively. For APR-DRGs 955 and 956, a 0 is assigned for both the severity of illness and risk of mortality subclasses. A definitions manual for the 3M APR-DRGs is available. A file containing the English descriptions is provided and labeled APRDRG.SDF.

TCHG--TOTAL CHARGE Determined by the revenue center code 0001. If this code is present, the corresponding revenue center charge is the total charge. There are 23 possible revenue center code and charge fields. Values are in whole dollar amounts. For ALL charges, if the amount is greater than 7 digits, the default value is 9999999. Records not reporting a revenue center code value of 001 or containing a missing or known invalid value in the required RCode1 field will have total charges reported as blanks. Note: Some software will convert blanks to zeros. If this occurs, various calculations and statistics you perform could be distorted. You should determine your software default and exercise caution. You may wish to exclude cases from charge analyses if total charges are equal to 0.

RBCHG--ROOM AND BOARD CHARGES Calculated by summing revenue center charge fields that have associated revenue center code fields containing values: 100 - 171, inclusive.

RCCHG--ROUTINE CARE CHARGES Calculated by summing revenue center charge fields that have associated revenue center code fields containing values: 176 - 199, 220 - 232, 235 - 239, 500 - 529, 550 - 569, 650 - 659, 910 - 919 or 970 - 999.

SCCHG--SPECIAL CARE (INTENSIVE CARE) Calculated by summing revenue

center charge fields that have associated revenue center code fields containing values: 172 - 175, 200 - 219 and 233 - 234.

ANESCHG--ANESTHESIOLOGY CHARGES Calculated by summing revenue center charge fields that have associated revenue center code fields containing values: 370 - 379, inclusive.

PHRCHG--PHARMACY CHARGES Calculated by summing revenue center charge fields that have associated revenue center code fields containing any of the values: 250 - 269, inclusive.

RADCHG--RADIOLOGY CHARGES Calculated by summing revenue center charge fields that have associated revenue center code fields containing values: 320 - 339 or 400 - 409.

MRICT--MRI/CT CHARGES Calculated by summing revenue center charge fields that have associated revenue center code fields containing values: 350 - 359 or 610 - 619.

NMCHG--NUCLEAR MEDICINE CHARGES Calculated by summing the revenue center charge fields that have corresponding revenue center code fields containing values: 340 - 349, inclusive.

CLCHG--CLINICAL LAB CHARGES Calculated by summing revenue center charge fields that have associated revenue center code fields containing values: 300 - 319, inclusive.

LDCHG--LABOR/DELIVERY ROOM CHARGES Calculated by summing revenue center charge fields that have associated revenue center code fields containing values 720 - 729.

ORCHG--OPERATING ROOM CHARGES Calculated by summing revenue center charge fields that have corresponding revenue center code fields containing values: 360 - 369, 490 - 499, 710 - 719.

ONCHG--ONCOLOGY CHARGES Calculated by summing revenue center charge fields that have associated revenue

center code fields containing values 280 - 289, inclusive.

MSSCHG--MEDICAL/SURGICAL SUPPLIES CHARGES Calculated by summing revenue center charge fields that have associated revenue center code fields containing values 270 - 279, inclusive.

OTHCHG--OTHER CHARGES Calculated by summing remaining revenue center charge fields that have corresponding revenue center code fields containing any value not listed above.

PAYER--PAYER TYPE A **VHI** assigned numeric value indicating the primary health plan responsible for reimbursing the hospital for the services provided. Values were calculated by converting text names of payers provided by hospitals to codes. A file containing the English description is provided and labeled PAYER.SDF.

CNTY--COUNTY CODE A United States Postal Service county code. A file containing Virginia's county codes, zip codes, health planning regions and health planning districts is provided and labeled GEOG.SDF.

HPR--HEALTH PLANNING REGION Based on Virginia's Department of Health planning regions. The geographical descriptions are provided in a separate file labeled GEOG.SDF. This file contains the zip code, health planning region, health planning district and the city or county code of the patient's place of residence. Zip codes were mapped to the HPR by the Central Virginia Health Planning Agency (CVHPA). A value of 9 indicates that the patient resides outside Virginia or the zip code was invalid or unknown.

HPD--HEALTH PLANNING DISTRICT Based on Virginia's Department of Health planning districts. A file containing the geographical descriptions is provided and labeled GEOG.SDF. Zip codes were mapped to the HPD by the CVHPA. A value of 99 indicates that the patient resides outside Virginia or the zip code was invalid or unknown.

COMP--COMPLICATION CODE If any diagnosis field contains a value of 9950, 99520-99529, 9954 or in the range of 996 to 999 a value of 1 is assigned indicating the presence of a complication. Otherwise, the default value is blank.

CCA--CANCER COMORBID If any diagnosis field contains a value falling within these ranges: 141 - 1609, 162 - 1729 or 174 - 20891, a value of 1 is assigned indicating the presence of the comorbidity. Otherwise, the default value is blank.

CCV--CHRONIC CARDIOVASCULAR DISEASE If any diagnosis field contains a value falling within these ranges: 412.0 - 414.9, 426.0 - 429.1, a value of 1 is assigned indicating the presence of the comorbidity. Otherwise, the default value is blank.

CLV--CHRONIC LIVER DISEASE If any diagnosis field contains a value falling within the range 571.0 - 572.8, a value of 1 is assigned indicating the presence of the comorbidity. Otherwise, the default value is blank.

CRN--CHRONIC RENAL DISEASE If any diagnosis field contains a value falling within the ranges: 582.0 - 583.9, 585.0 - 587.0 or is equal to 403.01, 403.11, 403.91, 404.02, 404.03, 404.12, 404.13, 404.92 or 404.93, a value of 1 is assigned indicating the presence of the comorbidity. Otherwise, the default value is blank.

CDI--CHRONIC DIABETES If any diagnosis field contains the value 25001 or falls within the range 2501 - 25093, a value of 1 is assigned indicating the presence of the comorbidity. Otherwise, the default value is blank.

COP--CHRONIC PULMONARY DISEASE If any diagnosis field contains the value 496.0 or falls within the range 491 - 49392, a value of 1 is assigned indicating the presence of the comorbidity. Otherwise, the default value is blank.

CCE--CEREBROVASCULAR DEGENERATION If any diagnosis field

contains a value falling within the ranges: 290.0 - 290.9, 294.0 - 299.9, a value of 1 is assigned indicating the presence of the comorbidity. Otherwise, the default value is blank.

STATE--PATIENT STATE United States Postal Service assigned state code. Zip codes received are edited for validity. Valid zip codes are then assigned the appropriate state and county code. Records with a missing or known invalid zip code are assigned a default state value of XX. State codes are provided for discharges on and after July 1, 1994.

ECODE1-ECODE3--EXTERNAL CAUSE OF INJURY CODES Base on ICD-9-CM coding system. Ecode 1 provided for discharges on and after July 1, 1994; Ecodes 2-3 provided for discharges on and after January 1, 2007.

INFBWT--INFANT BIRTH WEIGHT Recorded for newborns. The range included is 160-7999 grams; improbable weights have been changed to blanks. The user may wish to further restrict this range. Provided for discharges on and after July 1, 1994.

VHIKEY--VHI UNIQUE RECORD IDENTIFIER This field allows linking of records to other records if developed with adjunct information. Provided for discharges on and after July 1, 1994.

APHY--ATTENDING PHYSICIAN UPIN or NPI Federally assigned unique physician identification number. The attending physician is defined in the Virginia UB-92 manual as the physician who has primary responsibility for the patient's medical care and treatment. Individual hospitals and their medical staffs determine how to make this determination. Provided for all hospitals on and after July 1, 1996.

OPHY--OPERATING PHYSICIAN UPIN OR NPI Federally assigned unique physician identification number. Provided for all hospitals on and after July 1, 1996.

OTHPHY1--OTHER PHYSICIAN 1 UPIN or NPI Federally assigned unique physician identification number.

OTHPHY2--OTHER PHYSICIAN 2 UPIN or NPI Federally assigned unique physician identification number.

APHYWRN--ATTENDING UPIN OR NPI WARNING The addition of this field allows the data user to determine whether the UPIN OR NPI will be included in an analysis. A value equal to "0" indicates that the submitted Attending Physician UPIN or NPI for a hospital discharge was on the CMS National UPIN or NPI table. A value of "1" indicates that the value was not on the CMS National table but was in the proper UPIN or NPI format (Alpha character followed by five numbers). A value of "1" may indicate a physician recently assigned a UPIN or NPI, a physician who seldom submits claims for Medicare patients or a possible error. A blank (" ") reflects that no value was submitted or it was in an incorrect format. Available for discharges beginning with 4q98.

OUWARN--OPERATING UPIN OR NPI WARNING The addition of this field allows the data user to determine whether the UPIN or NPI will be included in an analysis. A value equal to "0" indicates that the submitted Operating Physician UPIN or NPI for a hospital discharge was on the CMS National UPIN or NPI table. A value of "1" indicates that the value was not on the CMS National table but was in the proper UPIN (Alpha character followed by five numbers) or NPI format. A value of "1" may indicate a physician recently assigned a UPIN or NPI, a physician who seldom submits claims for Medicare patients or a possible error. A blank (" ") reflects that no value was submitted or it was in an incorrect format. Available for discharges beginning with 4q98.

RAT--READMISSION AND TRANSFER Indicates whether the discharge is eligible to be used for Readmission and transfer calculations when valid SSN, Bdate, Adate, Ddate, MPN and sex are provided. When

available, Readmission and Transfer (RAT) files can be used to accurately calculate readmission or transfer rates by determining which records in the patient level data file were considered a possible readmission/transfer record (e.g. met the listed criteria). A label of "1" indicates that the record met those criteria. When publicly

available, readmission and transfer information can be linked to the public use data files and correctly identify the denominator by including only those cases with a "1" in the RAT field. Populated beginning with discharges on and after January 1, 1999.

SUPPORT FILE RECORD LAYOUTS

APR-DRG SUPPORT FILE RECORD LAYOUT

APRDRG.SDF Record Layout				
Description	Start	Stop	Length	Comments
APRDRG Value	1	3	3	3M value of APRDRG
Filler	4	4	1	
APRDRG Description	5	93	89	3M description of APRDRG
Filler	94	94	1	
APR MDC value	95	96	2	99 - Unassigned

APR-DRG VERSION 20 AND VERSION 24 KEY SUPPORT FILES RECORD LAYOUT

APRDRG-v20_key.SDF and APRDRG-v24_key.SDF Record Layout				
Description	Start	Stop	Length	Comments
VHIKEY	1	10	10	VHI unique identifier
Filler	11	11	1	
APRDRG	12	16	5	APRDRG value + Severity + Risk
Filler	17	17	1	
APR MDC	18	19	2	
Filler	20	20	1	
Principle Diagnosis	21	25	5	(may be used for validation)

DRG SUPPORT FILE RECORD LAYOUT

<i>Updated July 1, 2008, re 4q07 discharges</i> DRG.SDF Record Layout				
Description	Start	Stop	Length	Comments
DRG Value	1	3	3	CMS DRG value
Filler	4	4	1	
DRG Description	5	72	68	English description
Filler	73	73	1	
MDC value	74	75	2	99 - Unassigned
Filler	76	76	1	
DRG Version	77	78	2	Version # of software
Filler	79	79	1	
DRG Weight	80	86	7	Implied decimal after 3rd position

GEOG SUPPORT FILE RECORD LAYOUT

GEOG.SDF Record Layout *				
Description	Start	Stop	Length	Comments
Zip Code	1	5	5	U. S. Postal Service zip code
Filler	6	6	1	

GEOG.SDF Record Layout *				
Description	Start	Stop	Length	Comments
District Code	7	8	2	VA Department of Health # for health planning district
Filler	9	9	1	
Region Code	10	10	1	# for health planning region
Filler	11	11	1	
County Code	12	14	3	County Code
Filler	15	15	1	
HPD Description	16	35	20	Text of District
Filler	36	36	1	
Region Description	37	58	22	Text of Region
Filler	59	59	1	
County Description	60	84	25	Text of County <i>(increased from length of 19 to 25 effective with 1q07 discharges)</i>

MDC SUPPORT FILE RECORD LAYOUT

MDC.SDF Record Layout				
Description	Start	Stop	Length	Comments
MDC Value	1	2	2	CMS MDC Value
Filler	3	3	1	
MDC Description	4	91	88	English text description

PAYER SUPPORT FILE RECORD LAYOUT

PAYER.SDF Record Layout				
Description	Start	Stop	Length	Comments
Payer Value	1	2	2	VHI payer code
Filler	3	3	1	
Description	4	28	25	Text of payer/payer type

PROVIDER SUPPORT FILE RECORD LAYOUT

PROVIDER.SDF Record Layout				
Description	Start	Stop	Length	Comments
Hospital Number	1	6	6	Medicare provider number
Filler	7	7	1	
Hospital Name	8	42	35	
Hospital Address	43	87	45	
Hospital City	88	102	15	
Hospital State	103	104	2	Abbreviation of state
Filler	105	105	1	
Hospital Zip	106	110	5	Hospital zip code
Filler	111	111	1	
Hospital Type	112	120	9	
Filler	121	121	1	
Licensed Beds	122	125	4	Number of licensed beds
Filler	126	126	1	
Staffed Beds	127	130	4	Number of staffed beds
Filler	131	131	1	
Tax Status	132	146	15	Description of tax status
Filler	147	147	1	

PROVIDER.SDF Record Layout				
Description	Start	Stop	Length	Comments
Teaching Status	148	177	30	Description of teaching status
Filler	178	178	1	
Q393 - # Submitted	179	185	7	# Records submitted to VHI
Q393 - # In File	186	192	7	# Records in Distribution file
Q493 - # Submitted	193	199	7	# Records submitted to VHI
Q493 - # In File	200	206	7	# Records in Distribution file

The support file continues in the above pattern for each additional discharge quarter.

*VHI appreciates the assistance of the Central Virginia Health Planning Agency for mapping zip codes to health planning regions and districts.

APPENDIX B—RATS RECORD LAYOUT AND DATA DICTIONARY**RATS RECORD LAYOUT**

Readmissions and Transfers (RATs) Data							
Field	Name	Label	Length	Format	From	To	Description
1	VHIKey	Key Number	10	A	1	10	Unique Record Identifier; available for discharges after July 1, 1994
2	VHIKey_b	VHIKey before	10	A	11	20	If a record is the second of a RAT pair, then VHIKey_b identifies the first record in the RAT pair.
3	VHIKey_a	VHIKey after	10	A	21	30	If a record is the first of a RAT pair, then VHIKey_a identifies the second record in the RAT pair.
4	RT1	RT1 Flag	2	A	31	32	RT1 identifies a record as the first in a readmission or transfer pair. The possible values are R1 for a readmit pair and T1 for a transfer pair.
5	RT2	RT2 Flag	2	A	33	34	RT2 identifies a record as the second in a readmission or transfer pair. The possible values are R2 for a readmit pair and T2 for a transfer pair.
6	Days_b	Days before	3	A	35	37	If a record is the second of a RAT pair, then Days_b contains the number of days between this record and the first record of the RAT pair.
7	Days_a	Days after	3	A	38	40	If a record is the first of a RAT pair, then Days_a contains the number of days between this record and the second record of the RAT pair.
8	DX1_b	Principal diagnosis code before	5	A	41	45	If a record is the second of a RAT pair, then DX1_b contains the principal diagnosis code of the first record in the RAT pair.
9	DX1_a	Principal diagnosis code after	5	A	46	50	If a record is the first of a RAT pair, then DX1_a contains the principal diagnosis code of the second record in the RAT pair.
10	PX1_b	Principal procedure before	4	A	51	54	If a record is the second of a RAT pair, then PX1_b contains the principal procedure code of the first record in the RAT pair.
11	PX1_a	Principal procedure after	4	A	55	58	If a record is the first of a RAT pair, then PX1_a contains the principal procedure code of the second record in the RAT pair.

Readmissions and Transfers (RATs) Data							
Field	Name	Label	Length	Format	From	To	Description
12	MPN_b	Medicare provider number before	6	A	59	64	If a record is the second of a RAT pair, then MPN_b contains the Medicare Provider Number of the first record in the RAT pair.
13	MPN_a	Medicare provider number after	6	A	65	70	If a record is the first of a RAT pair, then MPN_a contains the Medicare Provider Number of the second record in the RAT pair.
14	APRDRG_b	APRDRG code before	5	A	71	75	If a record is the second of a RAT pair, then the first three bytes of APRDRG_b contain the All Patient Refined Diagnostic Related Group (APRDRG) code, the fourth byte indicates the severity subclass and the last byte indicates the mortality subclass of the first record in the RAT pair.
15	APRDRG_a	APRDRG code after	5	A	76	80	If a record is the first of a RAT pair, then the first three bytes of APRDRG_a contain the All Patient Refined Diagnostic Related Group (APRDRG) code, the fourth byte indicates the severity subclass and the last byte indicates the mortality subclass of the second record in the RAT pair.
16	Qtr_ind	Quarter indicator	4	A	81	84	QTR_ind contains the calendar quarter of this source record.

RATS DICTIONARY OF DATA ELEMENTS

VHIKey--Key Number Unique Record Identifier; available for discharges after July 1, 1994

VHIKey_b--VHIKey before If a record is the second of a RAT pair, then VHIKey_b identifies the first record in the RAT pair.

VHIKey_a--VHIKey after If a record is the first of a RAT pair, then VHIKey_a identifies the second record in the RAT pair.

RT1--RT1 Flag RT1 identifies a record as the first in a readmission or transfer pair. The possible values are R1 for a readmit pair and T1 for a transfer pair.

RT2--RT2 Flag RT2 identifies a record as the second in a readmission or transfer pair.

The possible values are R2 for a readmit pair and T2 for a transfer pair.

Days_b--Days before If a record is the second of a RAT pair, then Days_b contains the number of days between this record and the first record of the RAT pair.

Days_a--Days after If a record is the first of a RAT pair, then Days_a contains the number of days between this record and the second record of the RAT pair.

DX1_b--Principal diagnosis code before If a record is the second of a RAT pair, then DX1_b contains the principal diagnosis code of the first record in the RAT pair.

DX1_a--Principal diagnosis code after If a record is the first of a RAT pair, then

DX1_a contains the principal diagnosis code of the second record in the RAT pair.

PX1_b--Principal procedure before If a record is the second of a RAT pair, then PX1_b contains the principal procedure code of the first record in the RAT pair.

PX1_a--Principal procedure after If a record is the first of a RAT pair, then PX1_a contains the principal procedure code of the second record in the RAT pair.

MPN_b--Medicare provider number before If a record is the second of a RAT pair, then MPN_b contains the Medicare Provider Number of the first record in the RAT pair.

MPN_a--Medicare provider number after If a record is the first of a RAT pair, then MPN_a contains the Medicare Provider Number of the second record in the RAT pair.

APRDRG_b--APRDRG code before If a record is the second of a RAT pair, then the first three bytes of APR-DRG_b contain the All Patient Refined Diagnostic Related Group (APR-DRG) code, the fourth byte indicates the severity subclass and the last byte indicates the mortality subclass of the first record in the RAT pair.

APRDRG_a--APRDRG code after If a record is the first of a RAT pair, then the first three bytes of APR-DRG_a contain the All Patient Refined Diagnostic Related Group (APR-DRG) code, the fourth byte indicates the severity subclass and the last byte indicates the mortality subclass of the second record in the RAT pair.

Qtr_ind--Quarter indicator QTR_ind contains the calendar quarter of this source record.

APPENDIX C—PLD AND RATS ORDERING INFORMATION

LICENSE AGREEMENT

**Virginia Health Information
Application for and Agreement to License Patient Level Data
(Public Use File - PUF1)
Revised as of March 1, 2007**

- I. Name: _____
Company: _____ (the "Contractor")
Address: _____
Telephone: _____ Fax: _____
Check as Applicable: Business nonprofit (per IRS): _____ Business other: _____
University: _____ Government: _____ Other: _____
- II. State the reason the data is requested. _____

- III. Will reports be created for sale to third parties using this data? If yes, please note target volume of expected reports using this data or extracts from this data and the file format of any such report.

- IV. Will computer readable files be created for sale to third parties? If yes, please note the target volume and format of the files to be created.

- V. Applicant desires the following license: (Please check only one)
- A. Individual License: _____ Allows Contractor to use data on single computer belonging to the Contractor or the Contractor's designated subcontractor.
 - B. Site License: _____ Allows Contractor to make multiple copies of the data for use by individuals within the same organization of the Contractor or a single copy accessible by Contractor's computer network by more than one individual within the same organization.
 - C. Commercial License: _____ Allows Contractor to make multiple copies of the data for incorporation into computer software for subsequent resale and/or distribution of such computer software to third parties, subject to the condition that with respect to the data the third party is able only to access the data by queries that produce aggregated data reports. This license also allows Contractor to sell reports created from database. Notwithstanding the forgoing, any subsequent resale and/or distribution by such third parties is expressly prohibited, and any distribution of data to third parties that enables third party access to data other than by aggregated reports is expressly prohibited.

- VI. Virginia Health Information (VHI) hereby grants the Contractor indicated in Section I a non-exclusive, non-transferable, and perpetual license to use the Data Base described in Appendix A (or "data") under the terms and subject to the restrictions of this Agreement, and the Contractor hereby accepts, subject to the terms and conditions set forth in this Agreement, the nonexclusive and nontransferable right to use the Data Base pursuant to the terms of this Agreement. VHI reserves all rights, title, and interest in and to the Data Base (including ownership of all copyrights and other intellectual property rights pertaining thereto), subject only to the license expressly granted to Contractor herein.

In accepting the usage granted by VHI, the Contractor agrees that it shall:

- A. Except as permitted under Section VI, Part F below, not license, rent, lease, distribute, or permanently transfer the Contractor's rights to use the Data Base.
- B. Use the Data Base only for the expressed purpose stated by the Contractor in this application.
- C. Make no attempt, by commission or omission, to identify, disclose, discuss, release, or provide access to information on specific individual patients.
- D. Contractor agrees to include the following statement in any reports, publications, or secondary files created using the Data Base whether for internal use or for sale, presentation, or distribution to third parties:

"Virginia Health Information (VHI) has provided non-confidential patient level information used in this file, report, publication, or database which it has compiled in accordance with Virginia law but which it has no authority to independently verify. By using this file, report, publication, or database, the user agrees to assume all risks that may be associated with or arise from the use of inaccurate data. VHI cannot and does not represent that the use of VHI's data was appropriate for this file, report, publication, or database or endorse or support any conclusions of inferences that may be drawn from the use of VHI's data."

For any reports, publications, or secondary files created using the Data Base for sale, presentation, or distribution to third parties under Section V., Part C., Contractor also agrees to include the following statement:

"The patient level information used in this file, report, publication, or database is provided for your sole, internal use only, and is non-transferable, and shall not be distributed to any third parties whatsoever."
- E. Not resell or externally distribute to third parties the Data Base unless Contractor obtains a commercial license from Virginia Health Information as defined in Section V., Part C above and incorporates the Data Base into a computer program that manipulates and analyzes or enables the user to manipulate and analyze the data as permitted under this License Agreement (the "Software".) Any such resale or external distribution shall be expressly limited to the internal use of such third party; Contractor shall not make any representation or attempt to authorize third parties to further resell or distribute the Data Base or patient level information therein. Contractor agrees to take all reasonable steps to limit such third party use to the sole use of making queries and generating reports of aggregated data, and as a condition of this license such third parties shall be expressly prohibited from accessing or exporting data or individual patient records.

- F. Notwithstanding the restrictions set forth above if a multi-site license or commercial license as described in Section V., Parts B, or C is issued, Contractor shall be permitted to distribute the Data Base to entities or individuals that are directly or indirectly owned or controlled by Contractor or that are directly or indirectly owned or controlled by the same entity or individual that owns or controls Contractor, with any such distribution remaining subject to the terms and conditions herein.
- G. Pay such additional licensing fees to VHI as may reasonably be demanded by VHI in the event that Contractor's use of the Data Base exceeds the scope of this agreement.

Contractor further agrees that VHI shall be entitled to terminate all of Contractor's rights to use the Data Base and Contractor shall return all copies of the Data Base to VHI, in the event Contractor violates the terms of this Agreement and fails to cure such violation within seven (7) days of the receipt of such notice. Notwithstanding the preceding sentence, if Contractor violates the terms of Section C above regarding patient identity, this license shall immediately terminate and Contractor shall immediately return all copies of the Data Base to VHI. The rights and remedies of VHI set forth herein with respect to Contractor's failure to comply with the terms of this Agreement (including, without limitation, the right to terminate this Agreement) are not exclusive, the exercise thereof shall not constitute an election of remedies, and VHI shall be entitled to seek whatever additional remedies may be available in law or in equity.

Upon receipt of this application and Agreement, executed by the Contractor acceptance by VHI hereof, and receipt of the license fee, VHI shall execute the Agreement and furnish the Contractor the Data Base in computer-readable form, subject to the terms of this agreement.

All fees payable by Contractor under this Agreement are net of applicable taxes. Contractor is solely responsible for any taxes or assessed fees which are, or may become, due by reason of this Agreement.

Contractor does hereby indemnify and shall hold harmless VHI, and its directors, officers, and any employees and agents from and against all liability (including punitive damages) and costs (including reasonable attorneys' fees) arising out of a claim or claims of third parties arising from the use by Contractor, in any manner, of the Data Base, including (but not limited to) the violation of any third party's privacy rights.

CONTRACTOR AGREES THAT THE DATA BASE IS BEING PROVIDED AS IS AND ALL WARRANTIES, WHETHER BY COMMON LAW, STATUTE, OR EQUITY, ARE EXCLUDED, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE (WHETHER OR NOT VHI KNOWS, HAS REASON TO KNOW, HAS BEEN ADVISED, OR IS OTHERWISE IN FACT AWARE OF ANY SUCH PURPOSE). CONTRACTOR ACKNOWLEDGES THAT VHI ONLY COMPILES THE INFORMATION CONTAINED IN THE DATA BASE, AND DOES NOT INDEPENDENTLY VERIFY OR WARRANT THE ACCURACY OF SUCH INFORMATION.

CONTRACTOR AGREES THAT VHI SHALL NOT BE LIABLE FOR SPECIAL, INDIRECT, OR CONSEQUENTIAL DAMAGES EVEN IF IT HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. THE ABOVE INDEMNIFICATION, DISCLAIMER OF WARRANTIES, AND LIMITATION OF LIABILITY SHALL SURVIVE TERMINATION OF THIS AGREEMENT.

Contractor has read and agrees to abide by all terms and restrictions described regarding the use of Virginia Health Information (VHI) patient level data. Any change or waiver of any provision of this Agreement shall be only by signed writing of the parties to be effective.

VIRGINIA HEALTH INFORMATION

By: _____

Name: _____

Title: _____

Date: _____

CONTRACTOR

By: _____

Name: _____

Title: _____

Date: _____

VHI License No. _____
March 2007

Appendix A
Description of the Data Base

Public Use File-PUF1

The Public Use File-PUF1 is a data file of all hospital discharges in the Commonwealth of Virginia for the identified quarter. Claims data elements are included for patient demographics, diagnoses and procedures, charges, and revenue groupings. Co-morbid conditions have also been added to aid in determining variations in patient outcomes.