Medicare Prescription Drug Benefit Symposium

Medicare Prescription Drug Event Data as a Tool for Health Services Research: Limitations and Opportunities

CMS
CENTERS for MEDICARE & MEDICAID SERVICES

DEPARTMENT OF HEALTH & HUMAN SERVICES · USA

- Overview of PDE data.
- Limitations inherent to PDE data when used in research.
- PDE data elements and “supplemental” information.
- Process and timeline for acquiring data.

Aggregate Measures of Part D, 2006

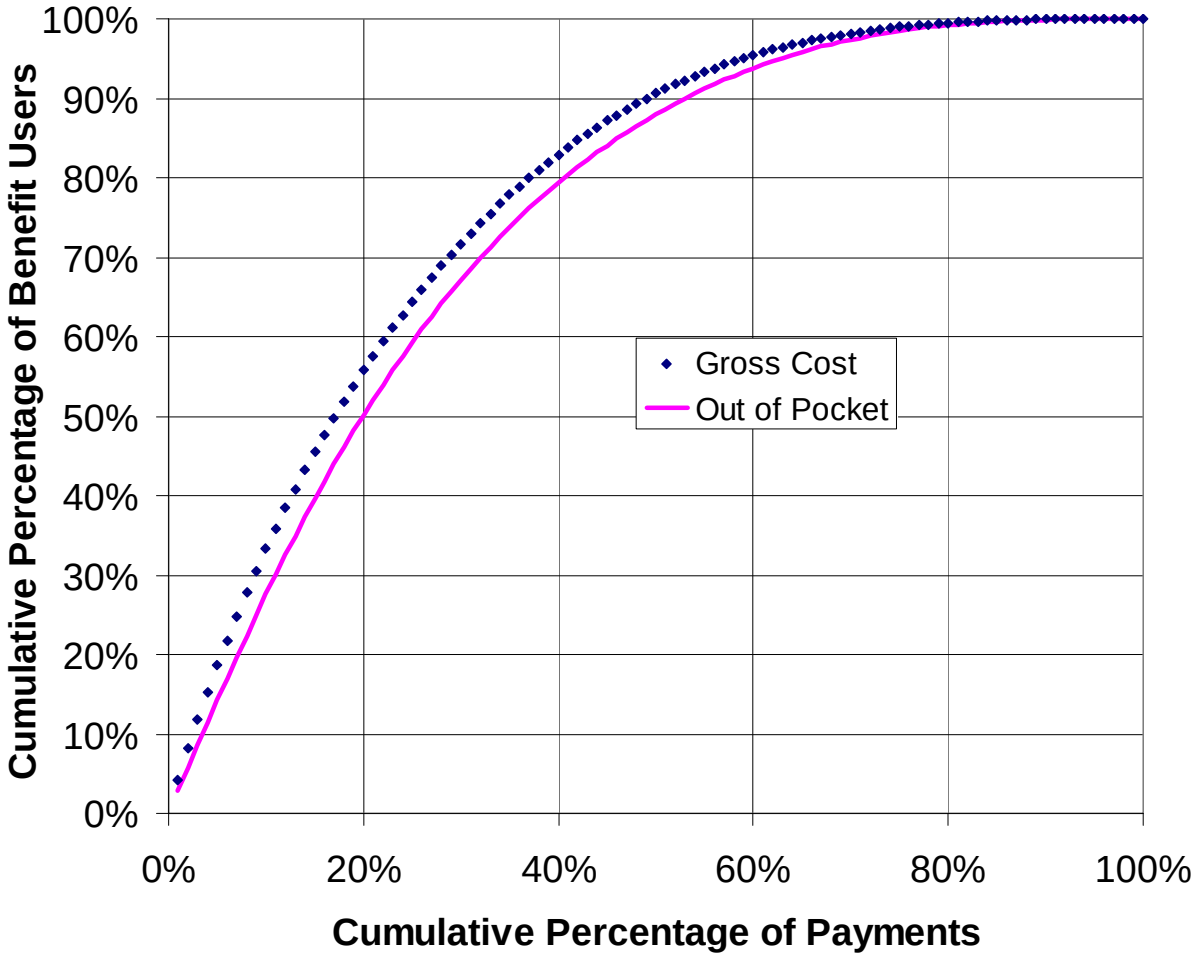
People ever enrolled	24,500k
With low-income subsidy	10,186k
Total events	819,943k
Gross Cost	$51,479 mil
Plan benefit payments	$29,707 mil
LICS payments	$12,747 mil
Out-of-pocket payments	$8,775 mil
Other TrOOP payments	$212 mil
Other payments	$40 mil

Note: Payments do not sum to gross cost due to rounding

Univariate Distribution of Per Capita Part D Program Payments for Full-Year Covered Beneficiaries, CY 2006

	Events	Gross Cost	Plan Benefits	LIS Payments	Out of Pocket
Beneficiaries (000)	14,600	14,600	14,600	7,061	14,600
Mean	43.6	$2,794	$1,607	$1,592	$402
95th percentile	116	$8,773	$5,163	$3,967	$1,720
75th percentile	60	$3,472	$1,634	$3,062	$471
50th percentile	34	$1,796	$1,120	$919	$139
25th percentile	17	$739	$407	$350	$43
5th percentile	4	$94	$9	$33	$0

Out-of-Pocket Payments in 2006 Were Less Concentrated than Were Gross Costs



Note: Includes only full-year covered beneficiaries

Part D Covers a Limited Universe of People

- Not all enrollees have Part D
  - Data exclude people covered by the Retiree Drug Subsidy.
  - Data exclude people with creditable coverage only (VA, Tricare, FEHBP, some SPAP (2006 only), etc.).
  - Data exclude people with no drug coverage.

Characteristics of Medicare Beneficiaries Enrolled and Not Enrolled in Medicare Part D, Calendar Year 2006*		
Beneficiary Characteristic	Enrolled in Part D	
	No	Yes
Total	44.1%	55.9%
Beneficiary age		
Under 65 years	32.4%	67.6%
65-74 years	47.8%	52.2%
75-84 years	46.0%	54.0%
85 years or older	41.9%	58.1%

* The population studied consists of those people who were eligible for Medicare on 01 January 2006 and who survived to the fall interview of the Medicare Current Beneficiary Survey (MCBS).
SOURCE: 2006 MCBS Access to Care files

Characteristics of Medicare Beneficiaries Enrolled and Not Enrolled in Medicare Part D, Calendar Year 2006 (continued)		
Beneficiary Characteristic	Enrolled in Part D	
	No	Yes
Beneficiary race/ethnicity		
White (non-Hispanic)	47.7%	52.3%
Black (non-Hispanic)	31.5%	68.5%
Hispanic	27.7%	72.3%
Other race	35.7%	64.3%
Place of beneficiary residence		
Community	45.4%	54.6%
Nursing Home	11.6%	88.4%
Assisted Living	37.6%	62.4%
Other facility	17.3%	82.7%

Characteristics of Medicare Beneficiaries Enrolled and Not Enrolled in Medicare Part D, Calendar Year 2006 (continued)		
Beneficiary Characteristic	Enrolled in Part D	
	No	Yes
Beneficiary survival to the end of 2006		
No	31.0%	69.0%
Yes	44.2%	55.8%
Beneficiary's general health compared to others of the same age		
Excellent	53.3%	46.7%
Very good	49.3%	50.7%
Good	43.5%	56.5%
Fair	37.0%	63.0%
Poor	31.6%	68.4%

Part D Events Cover a Limited Universe of Drugs

- Many drug events for Part D enrollees are <u>not</u> covered by Part D.
  - Most noncovered drugs.
  - Most OTCs.
  - Medicare Part B drugs.
  - Prescriptions obtained through another 3rd party (VA, SPAP, etc).
  - Drugs purchased before beneficiary enrolled in Part D.

Part D Enrollment, by Month of First Enrollment, 2006				
Month	Number	Percent of Ever-Enrolled	Cumulative Number	Cumulative Percent of Ever-Enrolled
Jan	15,942	65.1	15,942	65.1
Feb	1,534	6.3	17,476	71.3
Mar	908	3.7	18,384	75.0
Apr	986	4.0	19,370	79.1
May	2,043	8.3	21,413	87.4
Jun	1,930	7.9	23,343	95.3
Jul	195	0.8	23,538	96.1
Aug-Dec	962	4.0	24,500	100.0

Coverage by Part D of Enrollees' Exposure to Prescription Drug Use, 2006	
Lives ever covered (000)	24,500
Person-months of exposure to prescription expenditure* (000)	285,620
Person-months covered by Part D (000)	250,466
Distribution of coverage rate**	
Mean	87.6%
50th percentile	100.0%
25th percentile	75.0%
10th percentile	58.3%
5th percentile	42.9%
1st percentile	16.7%

* Includes months of exposure prior to Medicare eligibility
** Ratio of months covered to months of exposure

PDE Records Bear a Limited Resemblance to Point-of-Service Claim

- PDE record is not the same as the pharmacy claim:
  - Excludes post-transaction adjustments between plan and pharmacy.
  - Excludes plan-to-plan adjustments for “misenrollees”.
  - Excludes State-to-plan adjustments for Medicaid coverage of dually eligible enrollees early in 2006.
  - Excludes CMS-to-plan adjustments for some demos.

PDE Data Have Limited Linkage to Other Medicare Services

- We do not have Part A or Part B for MA enrollees.
  - For 2006, we have A/B/D data for 17 million FFS enrollees with Part D.

PDE Elements Covered by the Data Release Regulation

- 37 elements from PDE record
  - Beneficiary identifier and information
  - Dispenser and prescriber identifier
  - Drug identifier
  - Event information
  - Cost and payment information
  - Plan identifier

Beneficiary Information

PDE Elements

- HICN
- Date of birth
- Gender
- Cardholder ID

HICN typically is encrypted; date of birth and gender fields will be overwritten from administrative records

Supplemental Information

- Age, race, sex
- Date of death
- Geography
- Monthly markers for
  - Entitlement
  - MA premium
  - Part D /RDS enrollment
  - LIS status
  - Dual eligibility
  - Part D premium quantile*
- Annual summary spending for A/B/D
- Presence of chronic conditions

* The relative position of the beneficiary's plan premium among those of all similar plans offered in the beneficiary's county

Dispenser Information

PDE Elements

- Identifier type
- Identifier

* Most identifiers are NCPDP numbers

Supplemental Information

- Dispenser type
  - Retail outlet
  - LTC pharmacy
  - etc
- Dispenser class
  - Chain pharmacy
  - Independent
  - etc

* Information comes from NCPDP

Percentage Distribution of 2006 PDE by Dispenser Class and Type

Dispenser Class	
Chain Pharmacy	60.1%
Independent Pharmacy	34.8
Non-pharmacy	2.4
Franchise Pharmacy	1.5
Government Pharmacy	0.3
Unknown	1.0

Dispenser Type	
Community/ Retail Pharmacy	82.4%
Long Term Care Pharmacy	12.5
Mail Order Pharmacy	2.2
Clinic Pharmacy	1.2
Institutional Pharmacy	0.7
MCO Pharmacy	0.5
Other	0.5

Prescriber Information

PDE Elements

- Identifier type
- Identifier

* In 2006, almost all prescriber IDs are DEA numbers

Supplemental Information

- Business type
  - Practitioner
  - Hospital/clinic
  - etc

* Information comes from Drug Enforcement Administration
* For 2007 data, additional information may permit mapping NPI data onto the identifier

Percentage Distribution of 2006 PDE by Drug Enforcement Administration (DEA) Business Code

DEA Business Code	
C0 Practitioner	87.3
MA MLP*-Nurse Practitioner	2.2
C1 Practitioner-DW/30**	2.2
B0 Hospital/Clinic	1.7
MC MLP*-Physician Assistant	1.2
C4 Practitioner-DW/100**	0.5
MB MLP*-Optometrist	0.1
All other	0.1

* MLP means mid-level practitioner: “an individual practitioner, other than a physician, dentist, veterinarian, or podiatrist, who is licensed, registered, or otherwise permitted by the United States or the jurisdiction in which he/she practices, to dispense a controlled substance in the course of professional practice. (SOURCE: DOJ)
** Permitted to administer, dispense and prescribe buprenorphine to 30 patients to treat addiction. After one year, the physician can request to treat 100 patients with buprenorphine. (SOURCE: DOJ)

Drug Information

PDE Element

- 11-digit National Drug Code (NDC)
- Compounded flag
- Dispense as written status

Supplemental Information

- Generic name
- Brand/trade name
- Form (e.g., tablet, vial)
- Strength

* Information comes from FirstDataBank National Drug Dictionary File

* Additional information on NDA/ANDA number can be found in FDA National Drug Code Directory

Event Information

PDE Elements

- Service (fill) date
- Quantity dispensed
- Days supply
- Claim form type
- "Attachment" (claim processed before, during, or after OOP threshold was reached)
- Price exception code (MSP or out-of-network pharmacy)

Supplemental Information

- Formulary tier
- Potential utilization management measures
  - Prior authorization
  - Quantity limits
  - Step therapy restrictions

* Information comes from plan submissions to Health Plan Management System

Cost Information

PDE Elements

- Ingredient cost
- Dispensing fee
- Applicable sales tax
- Gross cost
  - Below attachment point
  - Above attachment point
- Beneficiary liability
- Other TrOOP
- LICS subsidy
- Other payment reductions
- Plan benefit payment

Supplemental Information

- None

* Ingredient cost, dispensing fee, and sales tax will be combined into gross cost for most research files
* Amounts may be “fuzzed” by a small amount (e.g., $2) to inhibit plan re-identification

Plan Information

PDE Elements

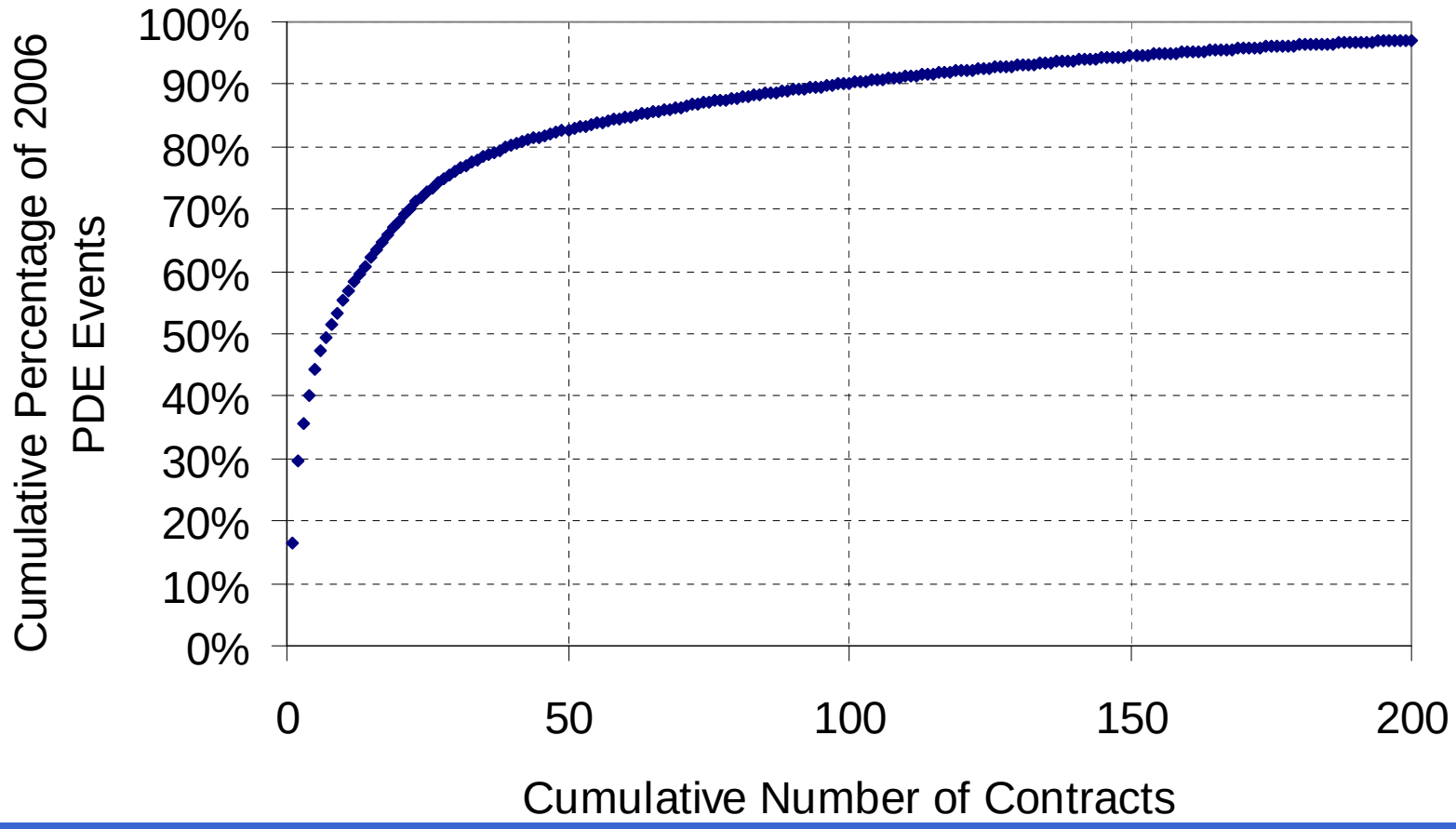
- Contract number
- Plan Benefit Number

* These fields will be combined and either encrypted or suppressed for most research files
* Premium information is on beneficiary denominator record
* Work continues on how much granularity in the supplemental characteristics is consistent with inhibited re-identification of plan

Supplemental Information

- Plan type (e.g., MA-PD, PDP)
- Benefit type (i.e., basic or enhanced)
- Drug deductible Y/N
- Coverage offered in the gap Y/N
- Mail order offered
- Special Needs Plan Y/N
- Employer Group Plan Y/N
- Reinsurance Demo Plan Y/N

2006 Concentration of Program Experience by Plan Complicates PDE Data Release



Process for Acquiring PDE Data other than a Public Use File

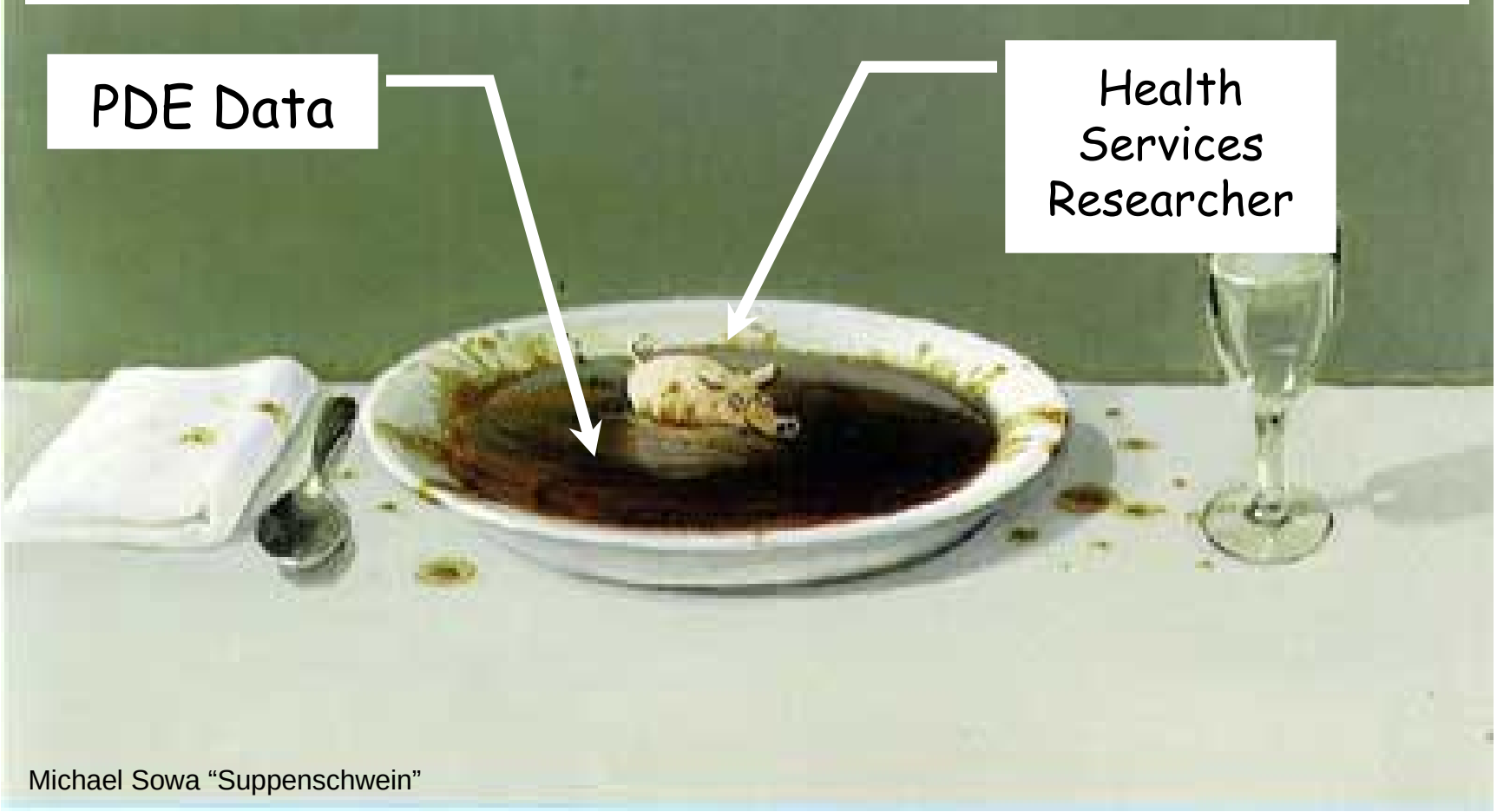
- The potential researcher works with the Research Data Assistance Center (ResDAC) to complete a data request.
- ResDAC forwards the completed request to CMS for review ...
  - of whether the data can support the research protocol
  - for “minimum data necessary”.
- Data extract is prepared through the Chronic Conditions Data Warehouse.

Current Status of Data

- 2006
  - Monthly SAF files are being loaded into the Chronic Conditions Data Warehouse.
  - File production expected early in December*.
    - Requests for “thin” files (no supplemental characteristics and limited number of fields) for use with A/B data can be processed relatively quickly.
    - Public Use Files will be produced relatively quickly as well.
    - Other must go through review, and pend final decisions on supplemental characteristics granularity.
- 2007
  - Data could be loaded early in 2009*.

* at which time this message will be updated.

With Limitations, Health Services Researchers Will Really Like PDE Data



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Keeping Current on PDE Data Evolution

Research Data Assistance Center

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E-Mail: resdac@umn.edu

Phone: 1-888-9-ResDAC or

1-888-973-7322

http://www.cms.hhs.gov/PrescriptionDrugCovGenIn/08_PartDData.asp