Excel Template

- Used to create graphs/charts based on data inside the template
- Design is WYSIWYG
- Can control layout, formatting of data, text

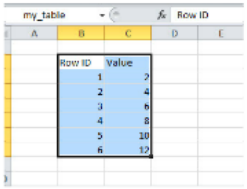
SAS X Command

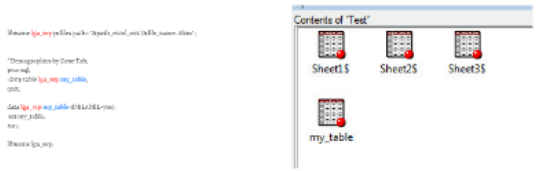
- X Commands are system commands (dos, unix)
- Used to copy the template and create an empty file to be populated via SAS export

```
/*Copy the file to create template*/
x copy
"&path_template.\&template_name..xlsm"
"&path_excel_out.\&file_name..xlsm";
```

Excel Template

- SAS can export data sets to Excel
- SAS can export data sets to specific ranges in Excel
- Excel file can use these to populate tables/graphs/text





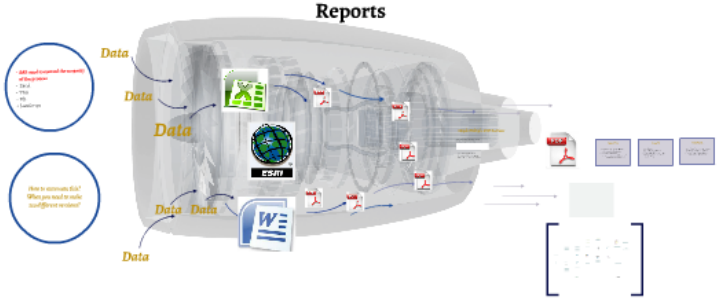
Next Step -> Save to PDF

- Office xxxx files can be automatically saved to PDF
- Office allows you to record macros -> performs actions and it generates VB code to automate the task.
- Using the VB code as a starting point, created VB to export Sheets to PDF documents

DDE

- Dynamic Data Exchange - outdated technology
- Can open and modify Excel files
- Very manual
- Used to open each template and run VB script to export to PDF

Using SAS to Coordinate Complex Reports



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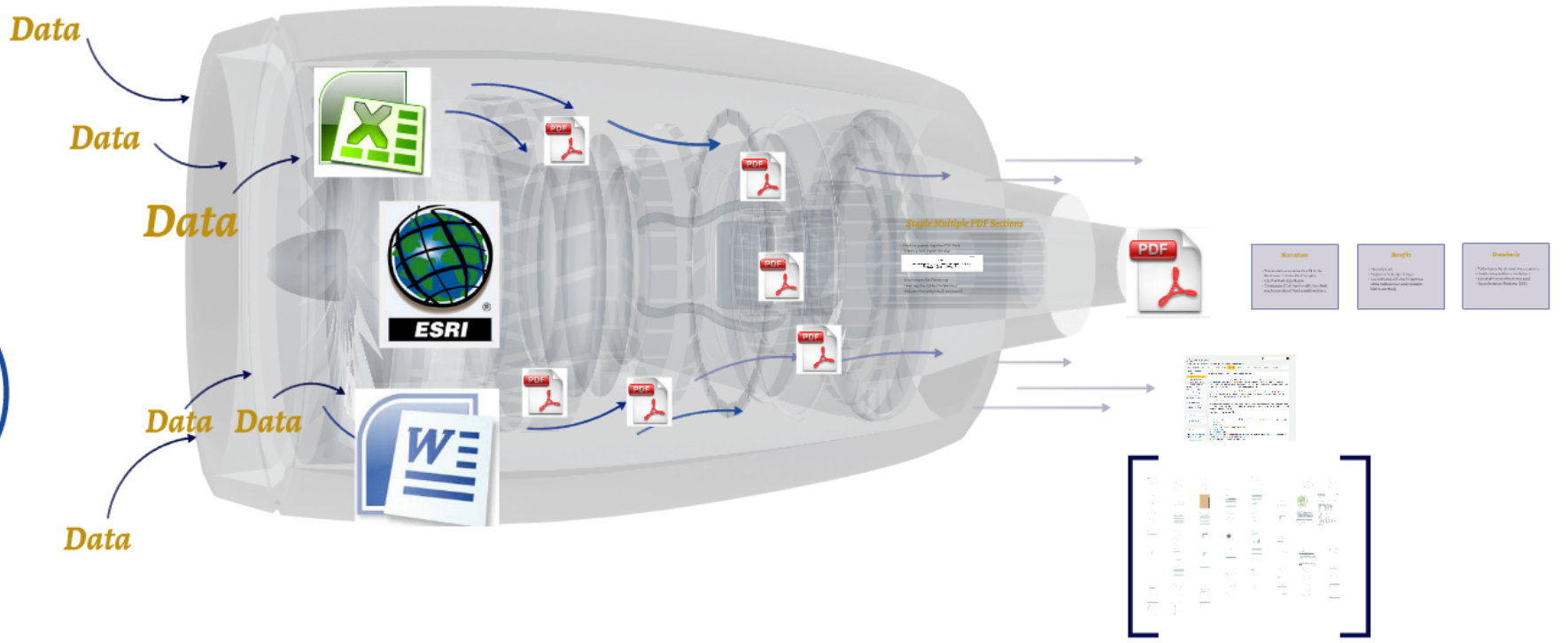
@stat_geek

Using SAS to Coordinate Complex Reports

- SAS used to control the majority of the process
- Excel
- VBS
- VB
- JavaScript

How to automate this? When you need to make 132 different versions?



Fareeza Khurshed
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Thanks!
Alberta Health

- Primary Health Care
  - PHC Updates
    - Community Profiles
    - Family Care Clinics
    - Primary Care Networks
    - Advisory Committee
  - Benefits & Services
  - Drug Coverage & Services
  - Aids to Daily Living
  - Continuing Care
  - Protection for Persons in Care
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- Health Legislation
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Primary health care community profiles

To assist with primary health care planning, Alberta Health has developed a series of reports to provide a broad range of demographic, socio-economic, and population health statistics considered relevant to primary health care for communities across the province. Alberta Health Services divides the province into 5 large health service Zones, and these Zones are subdivided into smaller geographic areas called Local Geographic Areas (LGAs). The Alberta Health Community Profile reports provide information at the Zone and LGA level for each of the 132 LGAs in Alberta.

The Community Profiles below are intended to highlight areas of need and provide relevant information to support the consistent and sustainable planning of primary health care services. Each Profile offers an overview of the current health status of the residents in the LGA, indicators of the area's current and future health needs, and evidence as to which quality services are needed on a timely and efficient basis to address the area's needs.

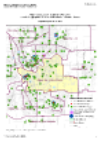
Find your community

The Community Profiles are based on LGAs and some Community Profiles contain information for multiple communities. If your community is not listed, select the community nearest to you. Each community is included in the Profile map of each report, which illustrates the boundaries of that LGA.

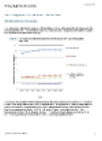
All community profile reports in PDF

- Airdrie – Metro Moderate – Moderate Metro Influence
- Athabasca – Rural – Includes: Athabasca, Breynat, Calling Lake, Colinton, Donatville, Grassland, Island Lake, Island Lake South, Meanook, Perryvale, Rochester, Smith, South Baptiste, Wandering River, West Baptiste, Whispering Hills, White Gull
- Banff – Rural
- Barrhead – Rural
- Beaumont – Metro Moderate – Moderate Metro Influence
- Beaverlodge – Rural
- Black Diamond – Rural
- Bonnyville – Rural – Includes: Ardmore, Bonnyville, Bonnyville No. 87, Fort Kent, Glendon, Goodridge, Gurneyville, Hoselaw, Iron River, Kehewin, La Corey, MD of Bonnyville, Therien
- Boyle – Rural – Includes: Atmore, Boyle, Caslan, Ellscott

Zone Level Information

Local Geographic Area Level Information


Local Geographic Area Distribution - Bi-annual Basis
RESIDENCE:



Alberta Health
Primary Health Care - Community Profiles

Community Profile: Edmonton - Bonnie Doon
Health Data and Summary

Primary Health Care Division
February 2013

Alberta Health, Primary Health Care Division
Community Profile: Edmonton - Bonnie Doon

February 2013

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PRIMARY HEALTH CARE INDICATORS OF COMMUNITY PRIMARY CARE NEED

During a mapping project conducted by Alberta Health Services in 2012, 13 indicators relating to primary health care needs were developed for each local geographic area. Some of these indicators relate to primary care utilization and availability of primary care services, while others relate to health conditions or health status such as incidence and prevalence of diseases. One additional indicator included, life expectancy at birth, was seen as a strong determinant of health status. Stratification by geographic case groups (metro, metro-influence, urban, rural, rural-remote) was applied to some of these indicators to account for substantially different rates across groups. The following indicators have been highlighted for this LGA:

- Edmonton - Bonnie Doon's separation rate for ambulatory care sensitive conditions (per 100,000 population) was similar to the corresponding metro provincial rate (262.3 vs. 286.2 AB metro). (Table 10.1)
- The age-standardized rate for people with three or more chronic diseases per 100 population was lower in Edmonton - Bonnie Doon compared to the province (2.0 vs. 2.2 AB). (Table 10.1)
- The difference between actual and predicted non-primary and primary care per capita billings during 2009/2010 and 2008/2009 was $-9.82 in Edmonton - Bonnie Doon compared to the $1.19 metro provincial average. (Table 10.1)
- Residents of Edmonton - Bonnie Doon had a life expectancy at birth of 81.1 years compared to 80.5 years for Alberta. (Table 10.1)

ACCESS TO HEALTH CARE SERVICES

- Edmonton - Bonnie Doon residents received ambulatory care services at facilities located outside their LGA. These visits made up 80.8% (or 115,220 visits) of all ambulatory care visits and most such visits (i.e. 23.1% of all ambulatory visits) were to the Royal Alexandra Hospital in Edmonton (LGA of Edmonton - Eastwood). (Tables 11.1 and 11.2)
- Inpatient separations outside the LGA made up 73.4% (or 5,415) of all inpatient separations for Edmonton - Bonnie Doon residents and most of them (i.e. 38.8% of all external inpatient separations) occurred at the Royal Alexandra Hospital in Edmonton (LGA of Edmonton - Eastwood). (Tables 11.1 and 11.2)

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Zone Level Information

This section contains information presented at the highest geographic breakdown level before rolling up to a full provincial view. The map of Alberta has been partitioned into five geographic zones (Calgary Zone, Central Zone, Edmonton Zone, North Zone, and South Zone), representing the health zones within Alberta Health Services. A variety of health indicators are unique to this section and are only captured at this level of geography due to either sampling and variability errors, or unavailability of data at the level of local geographical areas.

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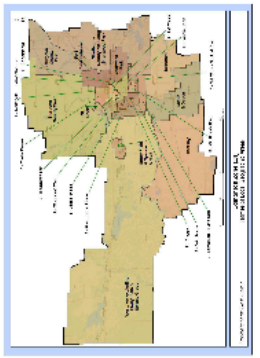

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Community Profile: Edmonton - Bonnie Doon

February 2013

In 2012, the largest age group was 35-44 year olds, accounting for 20.7% of the overall population. Children 17 and under comprised 14.8% of Edmonton - Bonnie Doon's overall population, compared to 22.5% for Alberta. In addition, residents 65 and older accounted for 14.5% of Edmonton - Bonnie Doon's overall population, 3.4 percentage points higher than the corresponding provincial proportion.

This population counts for each year between 1994 and the most recent fiscal year are provided in the figure below.

FIGURE 2.2 Local Geographic Area Population Covered as at End of Fiscal Years 1994 - 2012

This population of Edmonton - Bonnie Doon increased by 5.9% between 1994 and 2012. A low of 86,000 individuals was reported in 2000 and a peak of 98,299 people was reported in 2012.

Numerator:
Alberta Health Care Insurance Plan (AHCIP) Annual Population Registry File, Alberta Health
Postal Code Translator File, Alberta Health

Notes:
1. Population covered represents number of people covered under the Alberta Health Care Insurance Plan (AHCIP).

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Community Profile: Edmonton - Bonnie Doon

February 2013

Local Geographic Area: Edmonton - Bonnie Doon

SOCIO-ECONOMIC INDICATORS

The following two tables highlight a number of indicators relating to social determinants of health, such as family income, housing and educational attainment. Values for the local geographic area and Alberta are listed as proportions, percentages, or dollar amounts, depending on the indicator.

TABLE 3.1 Population Percentage of First Nations with Treaty Status[1] as at March 31, 2008

First Nations with Treaty Status Population	Edmonton - Bonnie Doon	Alberta
Percent of Population that is First Nations with Treaty Status	1.0%	2.0%

Sources: Alberta Health Care Insurance Plan (AHCIP) Annual Population Registry Files; Alberta Health

TABLE 3.2 Socio-Economic Indicators[1] for Local Geographic Area versus Alberta Residents, 2006

Family Composition	Edmonton - Bonnie Doon	Alberta
Percent (Number of) Married-Couple Parent Families	0.0% (0)	77.3% (677,770)
Percent (Number of) Female Lone-Parent Families	13.7% (5,845)	11.4% (100,009)
Percent (Number of) 65 Years of Age and Older Who Live Alone	66.9% (4,014)	20.3% (69,615)
Percent (Number of) Persons not in Census Family[2]	39.2% (38,511)	15.2% (501,795)
Percent (Number of) Census Family Persons	60.2% (57,940)	81.9% (2,696,205)
Average Number of Persons per Census Family	3.1	3.3

Family Income	Edmonton - Bonnie Doon	Alberta
Percent (Number of) Families with Income Below LICO[3]	9.1% (1,151)	5.4% (39,047)
Percent (Number of) Families with Income Below Poor LICO[3]	20.6% (2,585)	10.7% (297,665)
Average Census Family Income	102,566	109,348

Housing	Edmonton - Bonnie Doon	Alberta
Percent Living in Owned Dwellings	80.8%	74.7%
Percent Where Greater Than 30% of Income Is Spent on Housing for Homeowners	19.4%	19.9%
Average Value of Dwelling	439,000	359,611
Percent of Homeowners Who Have Moved in Need of Major Repairs	5.4%	5.7%
Percent Living in Rented Dwellings	46.9%	36.3%
Percent Where Greater Than 30% of Income Is Spent on Housing for Renters	35.4%	37.1%
Percent Living in Band Housing[4]	0.0%	0.0%

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Community Profile: Edmonton - Bonnie Doon

February 2013

Compared to Alberta, Edmonton - Bonnie Doon had a similar proportion of First Nations people (1.5% vs. 2.9% AB). The proportion of female lone-parent families was higher than the provincial proportion (13.7% vs. 11.3% AB). In addition, the proportion of male lone-parent families in Edmonton - Bonnie Doon was higher than the provincial proportion (3.8% vs. 3.1% AB).

Furthermore, a similar percentage of families had an income below the low income cut-off point (as defined by Statistics Canada) compared to the province (9.1% vs. 9.4% AB). Compared to Alberta, the percentage of people who spent 30% or more of their income on housing-related expenses was 1.2 percentage points lower in Edmonton - Bonnie Doon. In addition, a much lower proportion of people in Edmonton - Bonnie Doon lived in dwellings they owned (52.9% vs. 73.1% AB).

TABLE 3.2 Socio-Economic Indicators[1] for LGA versus Alberta Residents, 2006 (continued)

Mobility	Edmonton - Bonnie Doon	Alberta
Percent who lived in the Same Address One Year Ago	72.5%	81.1%
Percent who lived in the Same Address Five Years Ago	42.4%	52.2%

Language	Edmonton - Bonnie Doon	Alberta
Percent Who Do Not Speak English or French	0.1%	1.3%
Percent of Households Where a Non-Official Language Is Spoken at Home	5.4%	6.1%
Top Five Non-Official Languages Spoken at Home[2]	Chinese (n.o.s.), Cantonese, Mandarin, Polish, Spanish	Chinese (n.o.s.), German, Punjabi (Panjabi), Cantonese, Spanish

Immigration	Edmonton - Bonnie Doon	Alberta
Total Number of Immigrants	13,284	567,000
Percent of Immigrants Who Arrived in the Last Five Years	3.0%	8.2%
Top Five Places of Birth for Recent Immigrants[2]	Eastern Asia, Southern Asia, Eastern Europe, West Central Asia and the Middle East, Southeast Asia	Eastern Asia, Southern Asia, Southeast Asia, West Central Asia and the Middle East, Eastern Europe

Educational Attainment	Edmonton - Bonnie Doon	Alberta
Percent with No High School Graduation Certificate	8.7%	15.4%
Percent with High School Graduation Certificate	19.0%	24.1%
Percent with Apprenticeship, Trade Certificate or Diploma	9.0%	15.4%
Percent with College, Other Non-University Certificate, or Diploma	13.6%	21.9%
Percent with University Certificate, Diploma or Degree	49.8%	23.0%

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Community Profile: Edmonton - Bonnie Doon

February 2013

Local Geographic Area: Edmonton - Bonnie Doon

COMMUNICABLE DISEASES

The following table lists the rates of Sexually Transmitted Infections (STI)[1] for the most recent three-

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February 2013

Local Geographic Area: Edmonton - Bonnie Doon

MORTALITY

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This mortality rates per 100,000 population for the three most frequent causes of death[1] and all coastal corridors are displayed below for both the local geographic area and Alberta, for the most recent three-year period available. The mortality rates have been standardized by age.

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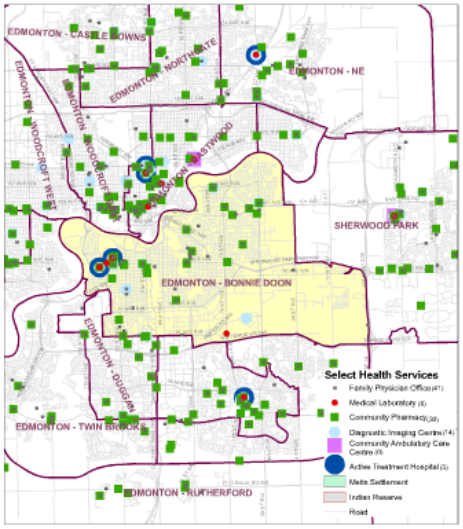
Map of Selected Health Services in
Local Geographic Area of Edmonton - Bonnie Doon

Population (2012): 95,298



Prepared by Information and Analysis Branch, Alberta Health

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The following table presents the rates for childhood immunization coverage by the age of two for the local geographic area and Alberta. The data is provided for the most recent calendar year available.

TABLE 5.2 Childhood Immunization Coverage Rates, 2010

DTaP-IPV-Hib (Diphtheria, Tetanus, Pertussis, Polio and Haemophilus Influenza B) Dose 4 of 4			
Age Group	**Period**	**Edmonton - Bonnie Doon**	**Alberta**
By Age Two	2010	70.2%	73.1%
MMR (Measles, Mumps, and Rubella)			
By Age Two	2010	85.9%	85.7%

By the age of two, 70.2% of children in Edmonton - Bonnie Doon (in 2010) had been vaccinated against DTaP-IPV-Hib (compared to 73.1% for AB), while 85.9% had received MMR vaccines (compared to 85.7% for AB).

Sources:

Alberta Hospital Discharge Abstract Database (DAD), Alberta Health
Alberta Health Care Insurance Plan (AHCIP) Annual Population Registry File, Alberta Health
Alberta Vital Statistics Births File
Regional Immunization Applications
Immunization and Adverse Reaction to Immunization (Imm/ARI)
Postal Code Translation File, Alberta Health

Notes:

[1] *See Appendix A for definition.*

Local Geographic Area: Edmonton - Bonnie Doon

DEMOGRAPHICS

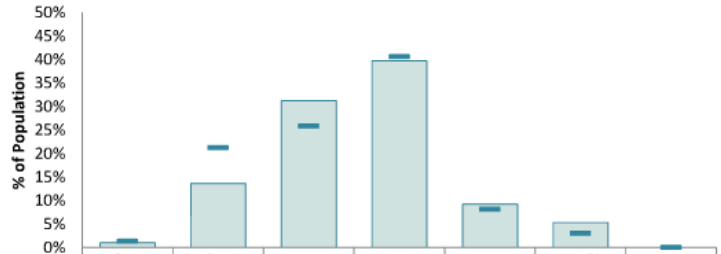
The table below shows the population distribution of the local geographic area broken down by age group and gender, for the most recent fiscal year available. Specific age groups have been identified. Children under the age of one were defined as infants, while pediatric age group includes all minors excluding infants. People with no age information available were categorized as unknown.

TABLE 2.1 Distribution of Population Covered[1] by Age and Gender
As at March 31, 2012

Local Geographic Area Population			
Age Group	**Female**	**Male**	**Total**
Infants: Under 1	456	504	960
Pediatric: 1-17	6,368	6,583	12,951
18-34	14,326	15,453	29,779
35-64	18,106	19,690	37,796
65-79	4,872	3,929	8,801
80 & Older	3,137	1,874	5,011
Unknown	0	0	0
Total	**47,265**	**48,033**	**95,298**

The following figure profiles the age group distribution of population for both the local geographic area and Alberta, for the most recent fiscal year available.

FIGURE 2.1 Percentage Distribution of Local Geographic Area (LGA) versus Alberta Population
By Age Groups as at March 31, 2012



	Infants: Under 1	Pediatric: 1-17	18-34	35-64	65-79	80 & Older	Unknown
LGA	1.0%	13.6%	31.2%	39.7%	9.2%	5.3%	0.0%
Alberta	1.3%	21.2%	25.8%	40.6%	8.1%	3.0%	0.0%

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How to automate this?
When you need to make
132 different versions?

D

- **SAS used to control the majority of the process**
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- SAS can export data sets to specific ranges in Excel
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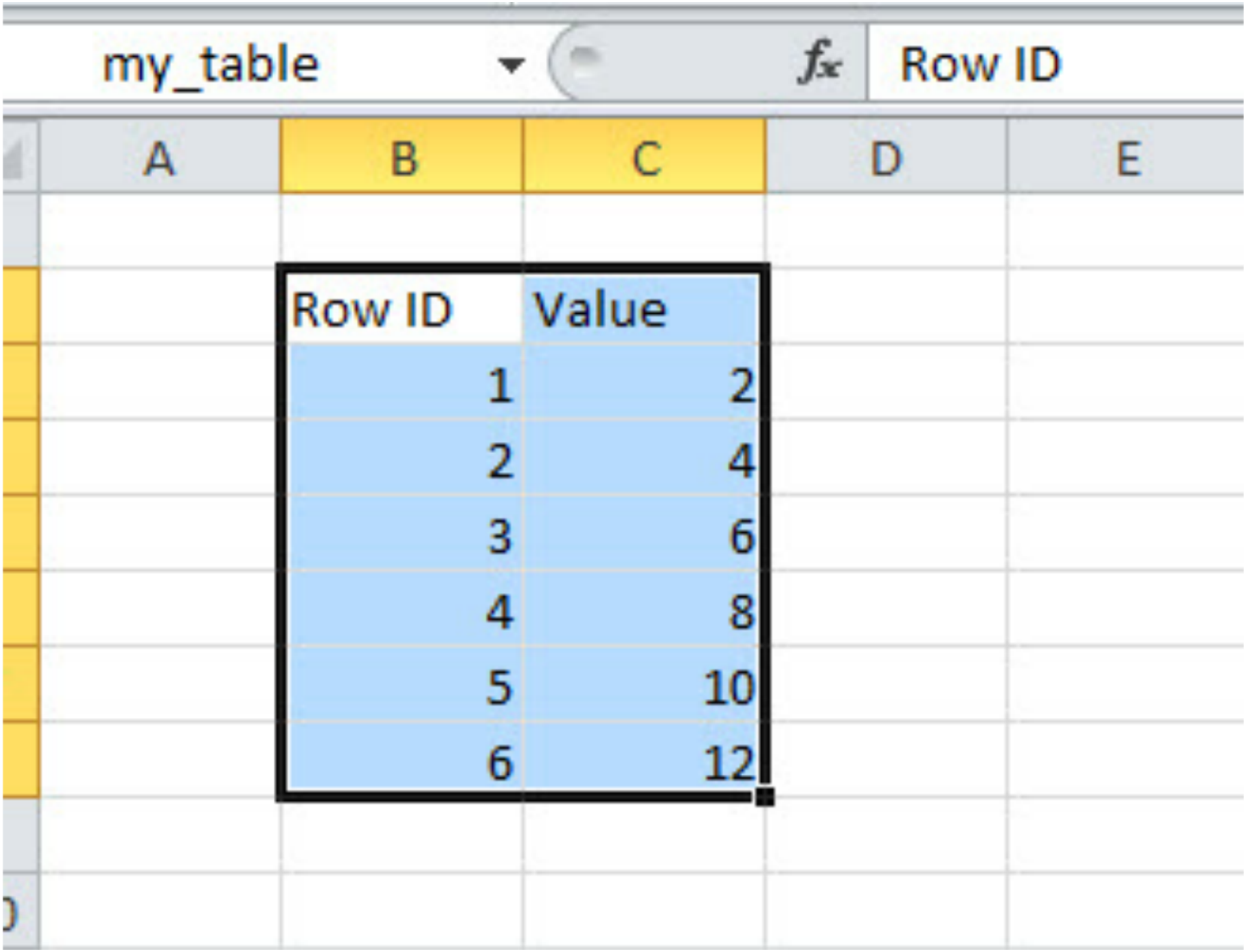
my_table
Row ID
A
B
C
D
E
Row ID
Value
1
2
2
4
3
6
4
8
5
10
6
12

```
libname lga_rep pcfiles path= "&path_excel_out.\&file_name..xlsm" ;


*Demographics by Zone Tab;
proc sql;
 drop table lga_rep.my_table;
quit;

data lga_rep.my_table (DBLABEL=yes);
 set my_table;
run;

libname lga_rep;
```

Contents of 'Test'

Sheet1$

Sheet2$

Sheet3$

my_table

Next Step -> Save to PDF

- Office 2010 files can be automatically saved to PDF
- Office allows you to record macros -> perform action and it generates VB code to automate the task.
- Using the VB code as a starting point, created VB to export Sheets to PDF documents

```
Sub savePDF()

    Dim region As String, newFile As String

    Sheets("Src_Area_Info").Select
    region = Range("B6").Value
    path_out = Range("B9").Value


' Select sheets for part 1

    Sheets(Array("TitlePage", "Introduction")).Select
    Sheets("TitlePage").Activate

    newFile = path_out & region & ".pdf"


    ActiveSheet.ExportAsFixedFormat Type:=xlTypePDF, Filename:=newFile _
      , Quality:=xlQualityStandard, IncludeDocProperties:=True, IgnorePrintAreas _
      :=False, OpenAfterPublish:=False



End Sub
```

DDE

- Dynamic Data Exchange - outdated technology
- Can open and modify Excel files
- Very manual
- Used to open each template and run VB script to export to PDF

```
*Run VB Script to split File;
options noxwait noxsync;

x '"C:\Program Files\Microsoft Office\Office12\EXCEL.EXE"';

data _null_;
 z=sleep(1); /* wait 1 seconds for Excel to start */
run;

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data _null_; /* talk to DDE, no output data */
 file cmds;
 put "[open(""&path_excel_out.\&file_name..xlsm"")]";
 x=sleep(1); /* wait 1 seconds for it to open */
run;

data _null_;
 file cmds;
 put '[Run("SavePDF")]';
 put '[Run("SplitPDF")]';
 put '[close(0)]';
 put '[quit()]';
run;
```
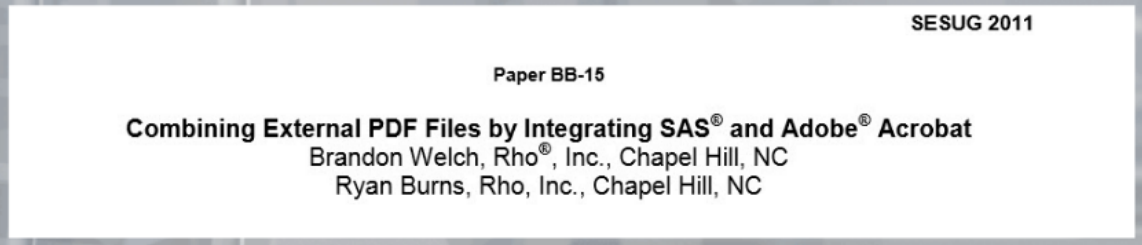

ESRI

Staple Multiple PDF Sections

- Need to append together PDF Docs
- There's a "SAS Paper" for that



SESUG 2011

Paper BB-15

Combining External PDF Files by Integrating SAS® and Adobe® Acrobat

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Ryan Burns, Rho, Inc., Chapel Hill, NC

SAS Creates the VBS Script

Does require Adobe Professional

SAS executes script via X command

Narratives

- Text narratives are done via a fill in the blank concept in the Excel template
- A LOT of work but effective
- For example if you want to add 's to a word, need to consider if word already ends in s.

Benefits

- Diversify work
- Easy to make design changes
- Less technical skill sets for portions of the work (ie most analysts know how to use Excel)

Drawbacks

- Tables have to be the same size every time
- Coordinating work in a lot of places
- A lot of different software was used
- Has to be run on Windows (DDE)

Thanks !

Thank You!