



**Perinatal Services BC**  
An agency of the Provincial Health Services Authority

# Pretty as a picture: Formatting in ODS PDF and PROC REPORT

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# Overview

- Brief introduction to using:
  - Style
  - Merged column and row headers
  - CALL DEFINE
  - ODS ESCAPECHAR

# From this...

11:00 Friday, November 22, 2013 1

***British Columbia Health Service Delivery Area of Delivery by Resident Health Service Delivery Area  
April 1, 2011 - March 31, 2012***

Health Authority	Health Service Delivery Area	Richmond	Vancouver	North Shore Coast Garibaldi	Total resident deliveries
5930000	5931000	1,100	400	0	1,500
	5932000	100	5,700	100	5,800
	5933000	0	400	1,800	2,200
DUMMY DATA FOR DEMONSTRATION ONLY					



# To this!



## British Columbia Health Service Delivery Area of Delivery by Resident Health Service Delivery Area April 1, 2011 - March 31, 2012

Area of residence		Delivery location			Total resident deliveries
		Vancouver Coastal			
		Richmond	Vancouver	North Shore Coast Garibaldi	
Vancouver Coastal Health	Richmond	1,100	400	0	1,500
	Vancouver	100	5,700	100	5,800
	North Shore/Coast Garibaldi	0	400	1,800	2,200

DUMMY DATA FOR DEMONSTRATION ONLY

# Source data

	Resident HSDA	del_31r	del_33r	del_34r	total_delr	haid
1	5931000	1,100	0	400	1,500	5930000
2	5932000	100	100	5,700	5,800	5930000
3	5933000	0	1,800	400	2,200	5930000

- Pre-computed DUMMY summary data
- Health Authority and Health Service Delivery Area variables are numeric

# Base code

```
ods pdf notoc file="U:\PSBC\VANSUG start.pdf" ;

proc report data=vansug nowd;
title1 "British Columbia Health Service Delivery Area of Delivery by Resident Health
Service Delivery Area";
title2 "April 1, 2011 - March 31, 2012";

column haid id del_31r del_34r del_33r total_delr;

define haid / "Health Authority";
define id / "Health Service Delivery Area";
define del_31r / "Richmond";
define del_34r / "Vancouver";
define del_33r / "North Shore Coast Garibaldi";
define total_delr / "Total resident deliveries";

compute after;
  line "DUMMY DATA FOR DEMONSTRATION ONLY";
endcomp;

run; quit;
ods pdf close;
```

# STYLE

- Several built-in STYLE templates (colour, borders, font, etc)
- Call them with your ODS PDF command to apply to entire report
- To apply STYLE to specific rows or cells in your output, use `STYLE=[ ]` in your DEFINE statement
  - format, justify, cell width, etc.

# Step 1: STYLE template and STYLE=[ ]

```
options nodate topmargin=.75in bottommargin=.75in leftmargin=.5in rightmargin=.5in center  
nonumber orientation=landscape papersize=letter;
```

```
ods pdf notoc style=sasweb file="U:\PSBC\VANSUG 1.pdf" ;
```

```
proc report data=vansug nowd bypageno=1;
```

```
title j=c h=14pt "British Columbia Health Service Delivery Area of Delivery by Resident Health  
Service Delivery Area";
```

```
title2 j=c h=12pt "April 1, 2011 - March 31, 2012";
```

```
column haid id del_31r del_34r del_33r total_delr;
```

```
define haid / " order order=internal format=resid.;
```

```
define id / " order order=internal format=resid.;
```

```
define del_31r / "Richmond" style=[cellwidth=40mm just=r];
```

```
define del_34r / "Vancouver" style=[cellwidth=40mm just=r];
```

```
define del_33r / "North Shore Coast Garibaldi" style=[cellwidth=40mm just=r];
```

```
define total_delr / "Total resident deliveries" style=[cellwidth=40mm just=r];
```

```
compute after / style=[just=l];
```

```
line "DUMMY DATA FOR DEMONSTRATION ONLY";
```

```
endcomp;
```

## justify footnote

```
ods pdf close;
```





# Output .1

## British Columbia Health Service Delivery Area of Delivery by Resident Health Service Delivery Area April 1, 2011 - March 31, 2012

		Richmond	Vancouver	North Shore Coast Garibaldi	Total resident deliveries
Vancouver Coastal Health	Richmond	1,100	400	0	1,500
	Vancouver	100	5,700	100	5,800
	North Shore/Coast Garibaldi	0	400	1,800	2,200
DUMMY DATA FOR DEMONSTRATION ONLY					



# Step 2: Column headers

```
ods pdf notoc style=sasweb file="U:\PSBC\VANSUG 2.pdf" ;

proc report data=vansug nowd bypageno=1 SPANROWS
title1 j=c h=14pt "British Columbia Health Service Delivery Area of Delivery by Resident Health
  Service Delivery Area";
title2 j=c h=12pt "April 1, 2011 - March 31, 2012";

column ("Area of residence" haid id)
  ("Delivery location"("Vancouver Coastal" del_31r del_34r del_33r))
  total_delr; /*double bracket allows spanned column header*/

define haid / "" group style(column)=Header order order=internal format=resid. missing;
  /*group option sets haid as the spanned row header - why we have SPANROWS above*/
define id / "" order order=internal format=resid.;
define del_31r / "Richmond" style=[cellwidth=40mm just=r];
define del_34r / "Vancouver" style=[cellwidth=40mm just=r];
define del_33r / "North Shore/ Coast Garibaldi" style=[cellwidth=40mm just=r];
define total_delr / "Total resident deliveries" style=[cellwidth=40mm just=r];

compute after / style=[just=l];
  line "DUMMY DATA FOR DEMONSTRATION ONLY";
endcomp;

run; quit;
ods pdf close;
```

# Output .2

## British Columbia Health Service Delivery Area of Delivery by Resident Health Service Delivery Area April 1, 2011 - March 31, 2012

Area of residence		Delivery location			Total resident deliveries
		Vancouver Coastal			
		Richmond	Vancouver	North Shore Coast Garibaldi	
Vancouver Coastal Health	Richmond	1,100	400	0	1,500
	Vancouver	100	5,700	100	5,800
	North Shore/Coast Garibaldi	0	400	1,800	2,200

DUMMY DATA FOR DEMONSTRATION ONLY

# CALL DEFINE define and colo(u)r

- Use CALL DEFINE to change STYLE attributes for specific rows, cells, or columns
- Standard colours (pink, purple, blue...) or RGB values (CXrrggbb)
  - CX000000 = black
  - CXFFFFFF = white

# Step 3: Get colourful!

```
proc report data=vansug nowd bypageno=1 SPANROWS ;
title j=c h=14pt "British Columbia Health Service Delivery Area of Delivery by Resident Health Service Delivery Area";
title2 j=c h=12pt "April 1, 2011 - March 31, 2012";

column ("Area of residence" haid id) "Delivery location"("Vancouver Coastal" del_31r del_34r del_33r) total_delr;

define haid / "" group style(column)=Header order order=internal format=resid. missing;
define id / "" order order=internal format=resid.
style(header)=[font_weight=bold bordertopcolor=cx6495ED];

define del_31r / "Richmond" style=[cellwidth=40mm just=r];
define del_34r / "Vancouver" style=[cellwidth=40mm just=r];
define del_33r / "North Shore/ Coast Garibaldi" style=[cellwidth=40mm just=r];
define total_delr / "Total resident deliveries" style=[cellwidth=40mm just=r];

compute haid;
  call define (_col_, "style", "STYLE=[BACKGROUND=lightgreen font_weight=bold color=black verticalalign=middle
just=l]");
endcomp;

compute id;
  call define (_col_, "style", "STYLE=[BACKGROUND=lightgreen just=r]");
endcomp;

compute after / style=[just=l];
  line "DUMMY DATA FOR DEMONSTRATION ONLY";
endcomp;

run; quit;
ods pdf close;
```

# Output .3

## British Columbia Health Service Delivery Area of Delivery by Resident Health Service Delivery Area April 1, 2011 - March 31, 2012

Area of residence		Delivery location			Total resident deliveries
		Vancouver Coastal			
		Richmond	Vancouver	North Shore Coast Garibaldi	
Vancouver Coastal Health	Richmond	1,100	400	0	1,500
	Vancouver	100	5,700	100	5,800
	North Shore/Coast Garibaldi	0	400	1,800	2,200



# ODS ESCAPECHAR

- ODS ESCAPECHAR="x";
- Pick a character that **does not appear anywhere** in your code
- ESCAPECHAR precedes keyword statements such as (there are more)
  - `!{super }` – superscript
  - `!{sub }` – subscript
  - `!{dagger}`
  - `!S={preimage="filepath"}` – image
  - `!n` – line break



# Step 4: ESCAPECHAR

```
options nodate topmargin=.75in bottommargin=.75in leftmargin=.5in rightmargin=.5in center nonumber orientation=landscape
  papersize=letter;
ods pdf notes style=sasweb file="U:\PSBC\VANSUG final.pdf" ;
ods escapechar="!";

proc report data=vansug nowd bypageno=1 SPANROWS;
title1 j=1 " !S={preimage='O:\PSBC\General\Administration\Logos\PSBC\800 by 140 Perinatal logo.jpg'}";
title2 j=c h=14pt "British Columbia Health Service Delivery Area of Delivery by Resident Health Service Delivery Area";
title3 j=c h=12pt "April 1, 2011 - March 31, 2012";

column ("Area of residence" haid id) ("Delivery location"("Vancouver Coastal" del_31r del_34r del_33r)) total_delr;

define haid / "" group style(column)=Header order order=internal format=resid. missing;
define id / "" order order=internal format=resid. style(header)=[font_weight=bold bordertopcolor=cx6495ED];
define del_31r / "Richmond" style=[cellwidth=40mm just=r];
define del_34r / "Vancouver" style=[cellwidth=40mm just=r];
define del_33r / "North Shore/ Coast Garibaldi" style=[cellwidth=40mm just=r];

compute haid;
  call define (_col_, "style", "STYLE=[BACKGROUND=lightgreen font_weight=bold color=black verticalalign=middle
  just=1]");
endcomp;
compute id;
  call define (_col_, "style", "STYLE=[BACKGROUND=lightgreen just=r]");
endcomp;
compute after / style=[just=1];
  line "DUMMY DATA FOR DEMONSTRATION ONLY";
endcomp;

run; quit;
ods pdf close;
```



# Output .4



## British Columbia Health Service Delivery Area of Delivery by Resident Health Service Delivery Area April 1, 2011 - March 31, 2012

Area of residence		Delivery location			Total resident deliveries
		Vancouver Coastal			
		Richmond	Vancouver	North Shore Coast Garibaldi	
Vancouver Coastal Health	Richmond	1,100	400	0	1,500
	Vancouver	100	5,700	100	5,800
	North Shore/Coast Garibaldi	0	400	1,800	2,200

DUMMY DATA FOR DEMONSTRATION ONLY

# References and helpful documents

- **SAS ODS Style Examples**  
[http://stat.lsu.edu/SAS\\_ODS\\_styles/SAS\\_ODS\\_styles.htm](http://stat.lsu.edu/SAS_ODS_styles/SAS_ODS_styles.htm)
- **SAS Style Templates: Always in Fashion**  
<http://support.sas.com/resources/papers/proceedings10/033-2010.pdf>
- **The Greatest Hits: ODS Essentials Every User Should Know**  
<http://www.mwsug.org/proceedings/2010/tutorials/MWSUG-2010-114.pdf>
- **Details for all STYLE attributes**  
<http://support.sas.com/documentation/cdl/en/odsug/65308/HTML/default/viewer.htm#n19a4b40swc766n18qczor47r08f.htm>
- **The Great Escape(char)**  
<http://support.sas.com/resources/papers/proceedings10/215-2010.pdf>

