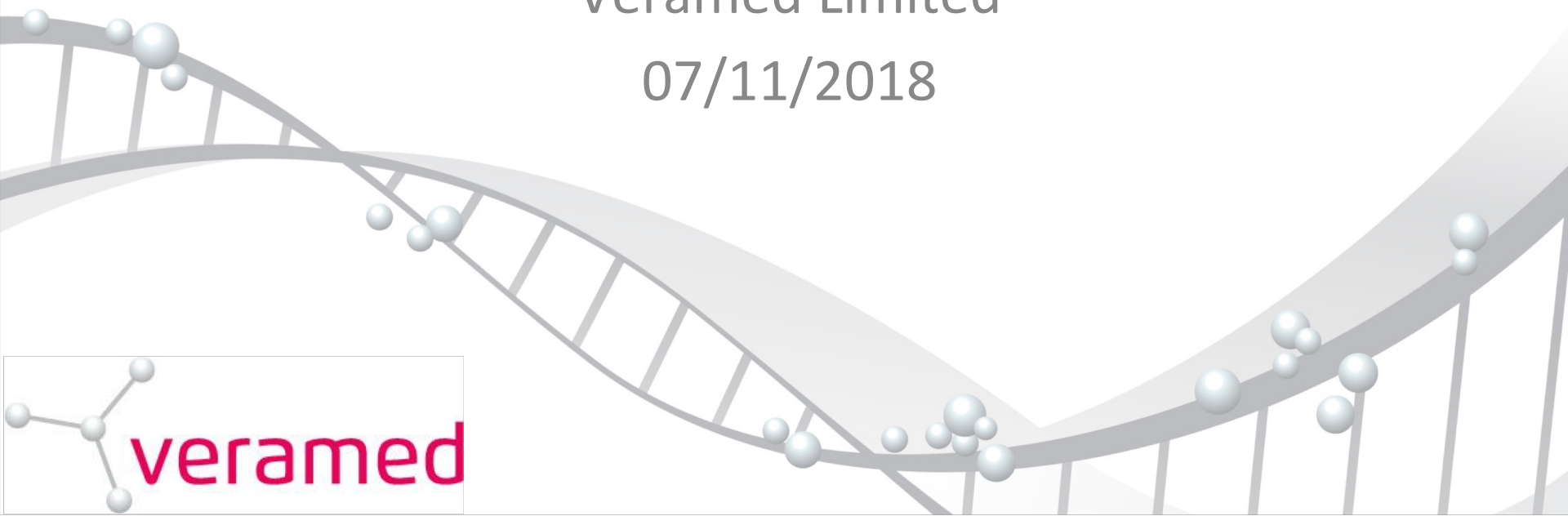


Fancy Data Visualisations Without Additional Toolkits

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Veramed Limited

07/11/2018



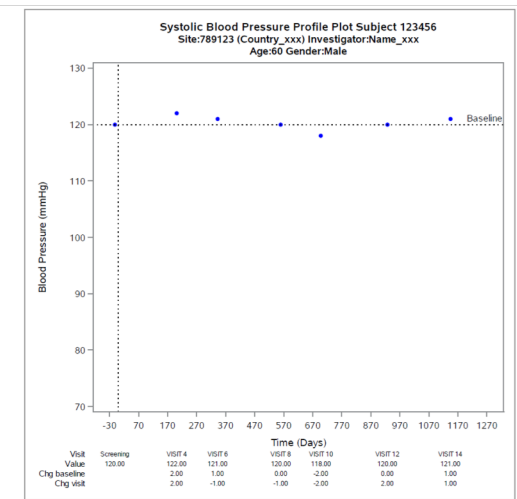
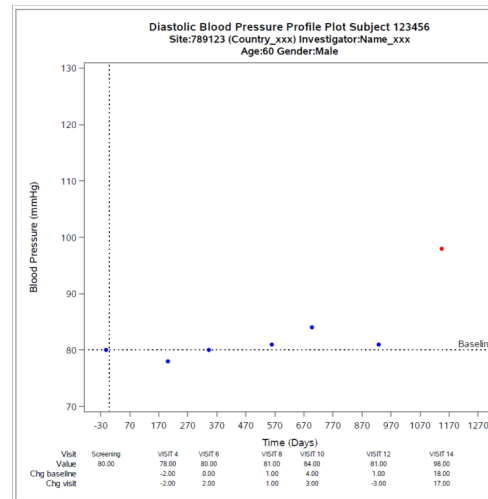
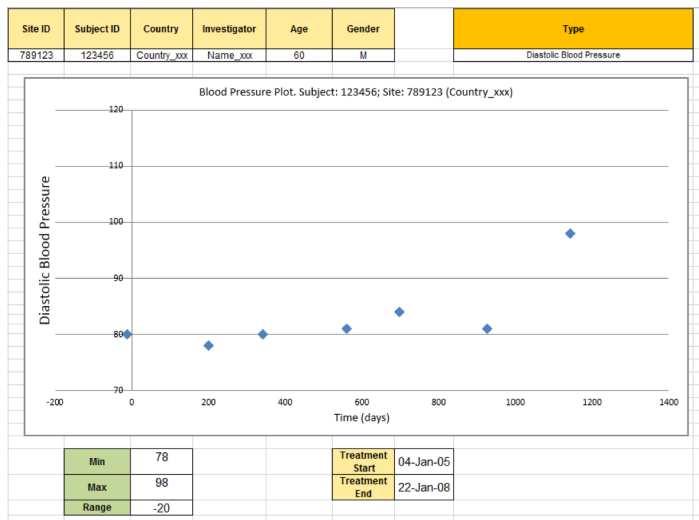
Agenda

- Introduction
- The Problem and The Tool
- First Tool – Excel
- Second Tool – PDF
- Conclusion



Introduction

- Data visualisation tools
- Important that tools can be used by all study team members
- Good tools don't always need fancy software



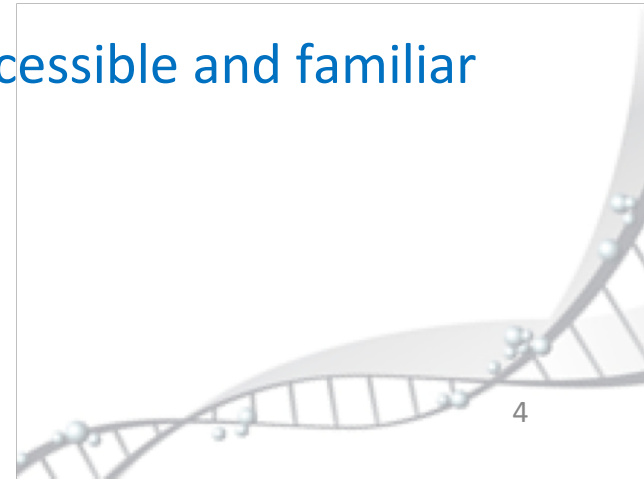
The Problem and The Tool

The Problem

- Varied quality of data
- Clinical team members do not have immediate access to study databases
- Longitudinal data

The Tool

- Seemed necessary and appropriate to create a tool
- Important to be in a package that is widely accessible and familiar to everyone in the study team
- Needed to have clear graphics



First Tool - Excel

- Excel – Microsoft office is a package that people are familiar with and feel comfortable using
- Can create multiple sheets so can view the numeric data as well as seeing it visually
- Use of drop down menus
- Con – takes time changing between different subjects and types of data

REFID	Subject	Date Point	Treatment Phase	Type	Country	Site ID	Inv Name	Start Date	Stop Date	Visit No	Time (d)	Actual date of	Reading
123456_1_Diastolic Blood Pressure	123456	1	Pre-treatment	Diastolic Blood Pressure	Country_XXX	789123	Name_XXX	04-Jan-05	22-Jan-08	Screening	-12	23-Dec-04	80
123456_2_Diastolic Blood Pressure	123456	2	On-treatment	Diastolic Blood Pressure	Country_XXX	789123	Name_XXX	04-Jan-05	22-Jan-08	VISIT 4	201	24-Jul-05	78
123456_3_Diastolic Blood Pressure	123456	3	On-treatment	Diastolic Blood Pressure	Country_XXX	789123	Name_XXX	04-Jan-05	22-Jan-08	VISIT 6	342	12-Dec-05	80
123456_4_Diastolic Blood Pressure	123456	4	On-treatment	Diastolic Blood Pressure	Country_XXX	789123	Name_XXX	04-Jan-05	22-Jan-08	VISIT 8	560	18-Jul-06	81
123456_5_Diastolic Blood Pressure	123456	5	On-treatment	Diastolic Blood Pressure	Country_XXX	789123	Name_XXX	04-Jan-05	22-Jan-08	VISIT 10	698	03-Dec-06	84
123456_6_Diastolic Blood Pressure	123456	6	On-treatment	Diastolic Blood Pressure	Country_XXX	789123	Name_XXX	04-Jan-05	22-Jan-08	VISIT 12	927	20-Jul-07	81
123456_7_Diastolic Blood Pressure	123456	7	On-treatment	Diastolic Blood Pressure	Country_XXX	789123	Name_XXX	04-Jan-05	22-Jan-08	VISIT 14	1144	22-Feb-08	98

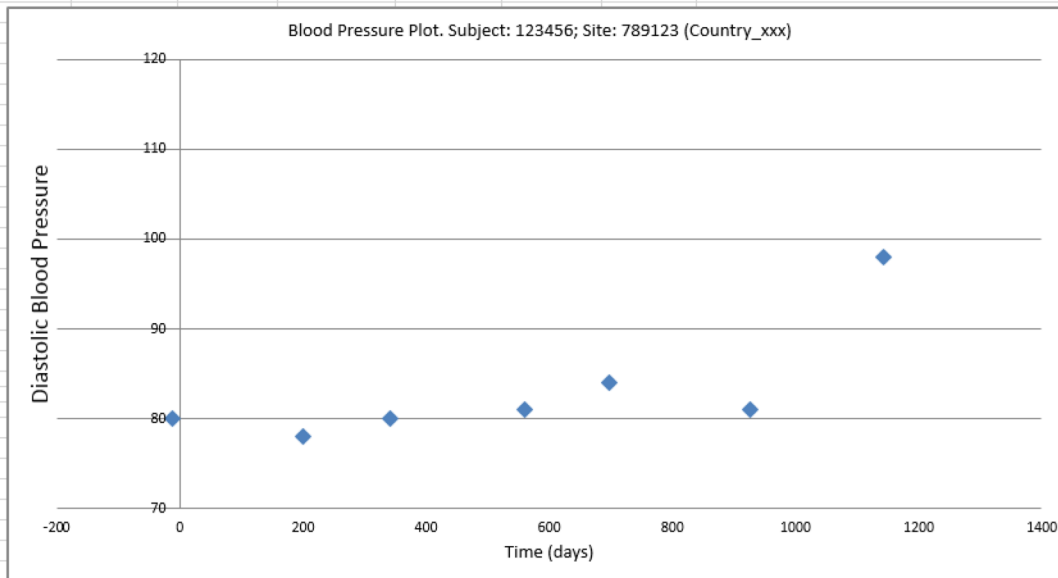
Example

Subject ID
123456
123456

Type
Diastolic Blood Pressure
Systolic Blood Pressure
Diastolic Blood Pressure

Site ID	Subject ID	Country	Investigator	Age	Gender	Type
789123	123456	Country_xxx	Name_xxx	60	M	Diastolic Blood Pressure

Data point	Visit	Time (days)	Diastolic Blood Pressure	Visit Date	Phase
1	Screening	-12	80	23-Dec-04	Pre-treatment
2	VISIT 4	201	78	24-Jul-05	On-treatment
3	VISIT 6	342	80	12-Dec-05	On-treatment
4	VISIT 8	560	81	18-Jul-06	On-treatment
5	VISIT 10	698	84	03-Dec-06	On-treatment
6	VISIT 12	927	81	20-Jul-07	On-treatment
7	VISIT 14	1144	98	22-Feb-08	On-treatment
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					



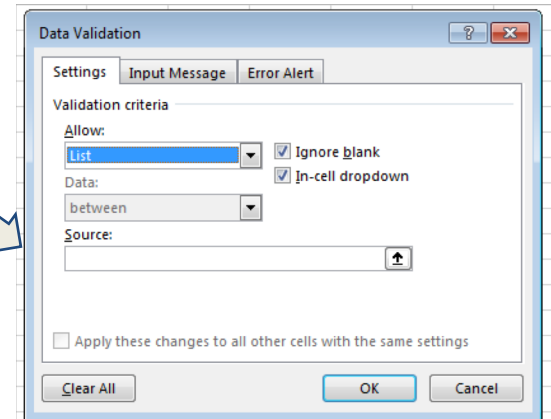
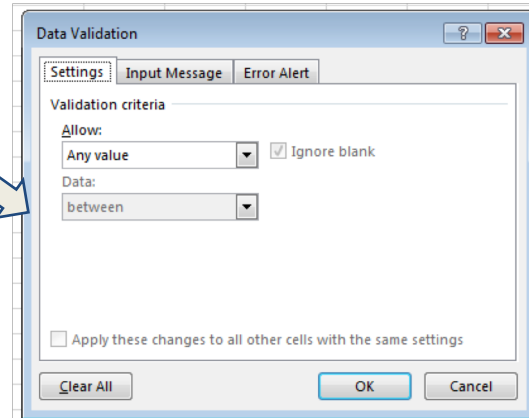
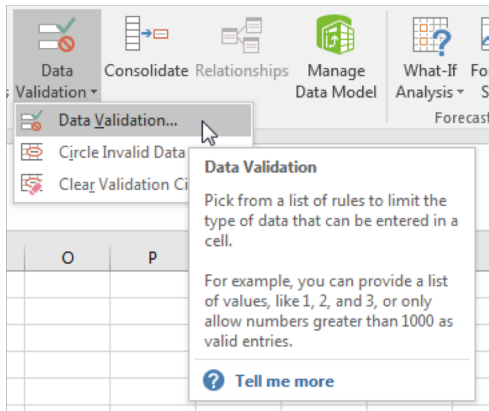
Min	78
Max	98
Range	-20

Treatment Start	04-Jan-05
Treatment End	22-Jan-08



Code

- SAS to export data
- VLOOKUP
- IFERROR(IF(VLOOKUP(),NA()),VLOOKUP()),NA())
- Data Validation -> Allow -> List



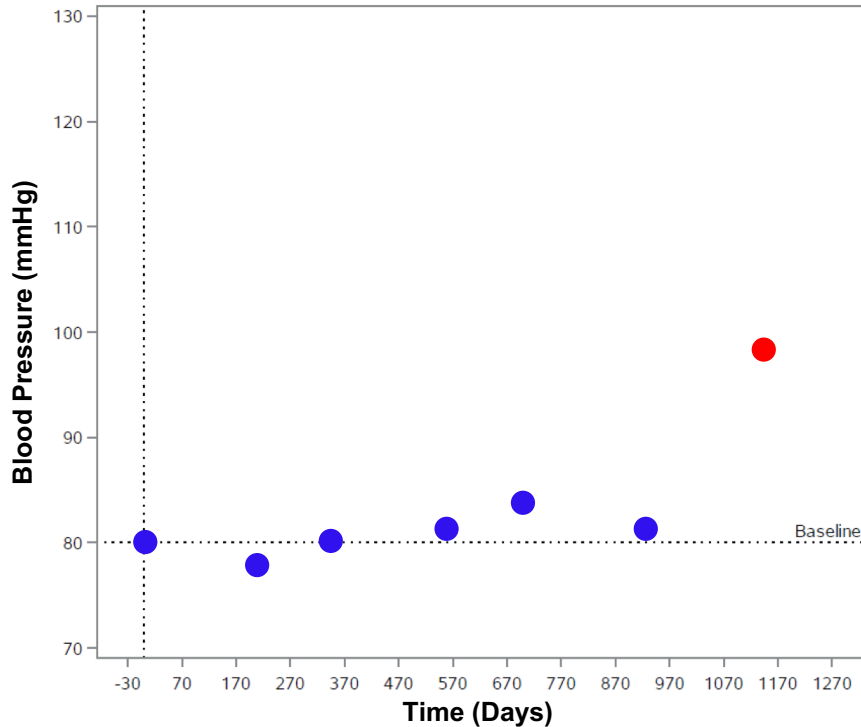
Second Tool - PDF

- Extended the tool to use PDF
- Again software everyone is familiar with and has access to
- Static versions of the plots - easy to quickly view all plots and identify abnormalities/anomalies
- Annotated plots with different information and colours
- Plots adapted for dimensions which perfectly fit computer screens for ease of viewing

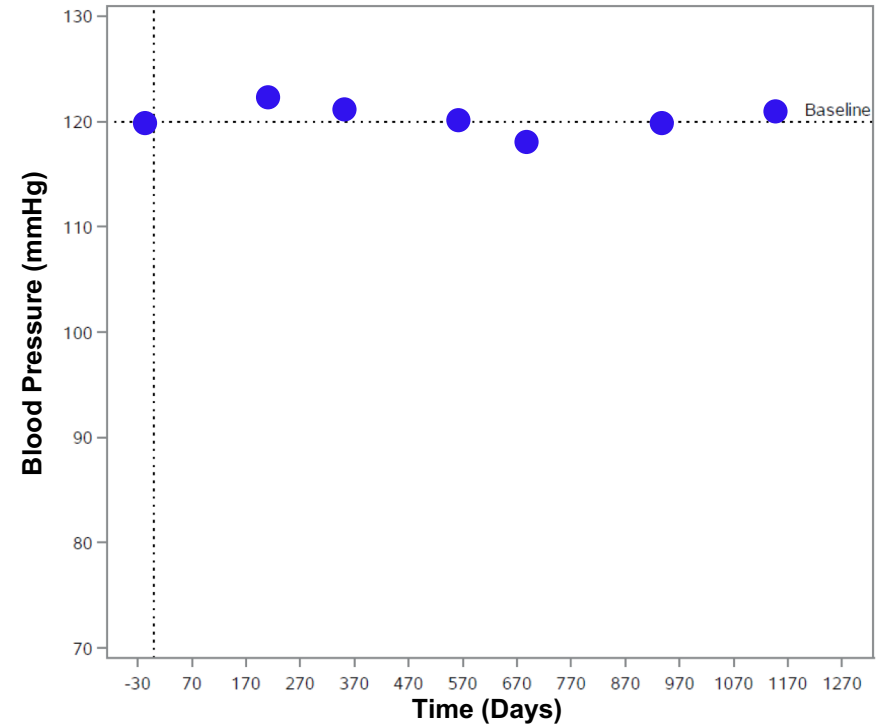


PDF Tool

Diastolic Blood Pressure
Subject 123456 Site:789 Age:60 Gender: Male

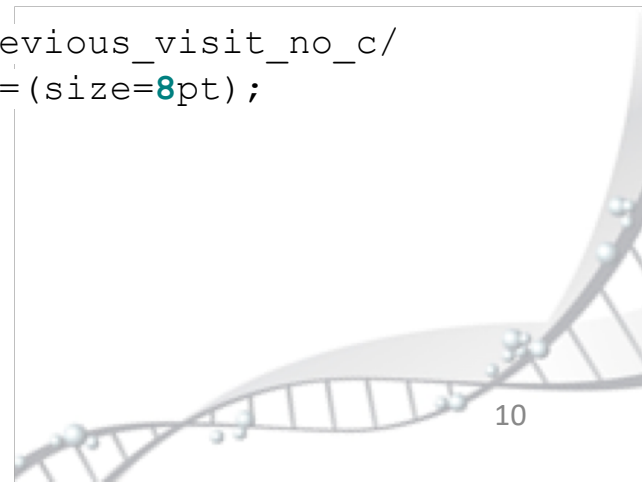


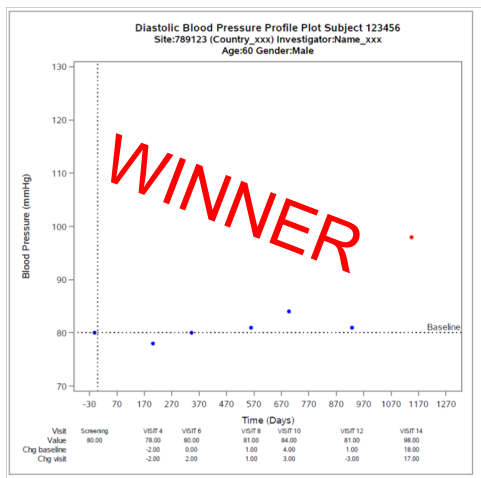
Systolic Blood Pressure
Subject 123456 Site:789 Age:60 Gender: Male



Code

```
proc sgplot data=plots noautolegend dattrmap=myattrmap;  
  where subject=&subject and type='Diastolic Blood Pressure';  
  by subject type;  
  title "Diastolic Blood Pressure Profile Plot Subject &subject";  
  title2 "Site:&pp_siteid (&pp_country) Investigator:&pp_invnam";  
  title3 "Age:&pp_age Gender:&pp_sex";  
  scatter x=day y=dxa_result / group=flag  
          markerattrs=(symbol=CircleFilled)  
          attrid=myid;  
  
  option nobyline;  
  xaxis label="Time (Days)" values=(-30 to 1270 by 50);  
  yaxis label="Blood Pressure (mmHg)" values=(70 to 130 by 10);  
  refline 0 / axis=x lineattrs=(color=black pattern=dot);  
  refline &pp_baseline / axis=y lineattrs=(color=black pattern=dot)  
          label="Baseline";  
  xaxistable visit_no dxa_result_c chg_c chg_previous_visit_no_c/  
            position=bottom location=outside labelattrs=(size=8pt);  
run;
```





Conclusion



- Both tools enabled visualisation when discussing data issues
- Easy to replicate over multiple studies
- Conclusion... use both tools!!!
- PDF tool - view plots quickly to find subjects needing investigation
- Excel tool - look at subjects in more detail

Questions?