



# Streamlining complex analyses of in vivo data with **INVIVOLDA** shiny application



## **Volha Tryputsen**

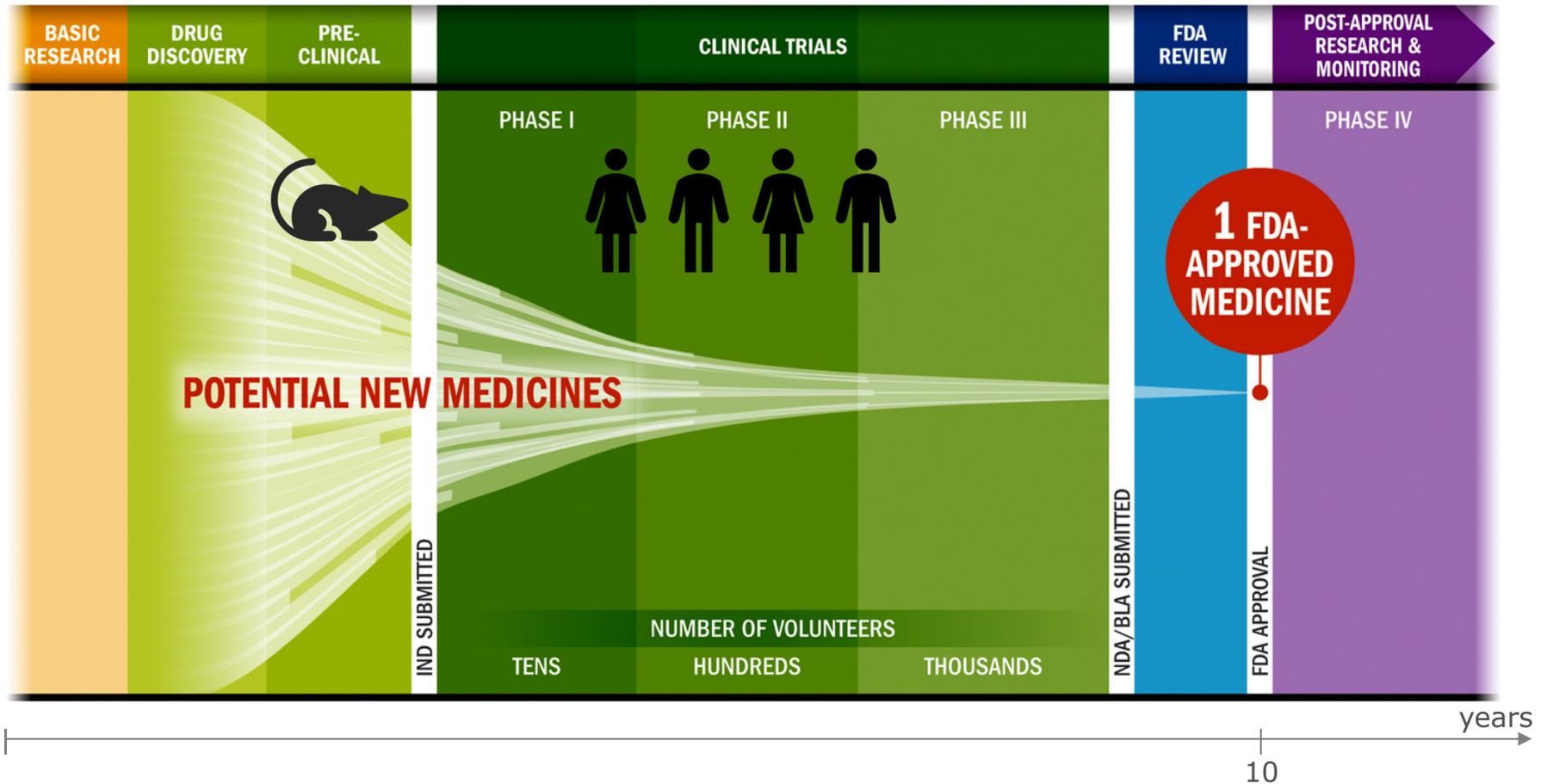
Janssen R&D,  
Pharmaceutical Companies of **Johnson & Johnson**

useR! | July 9-12, 2019

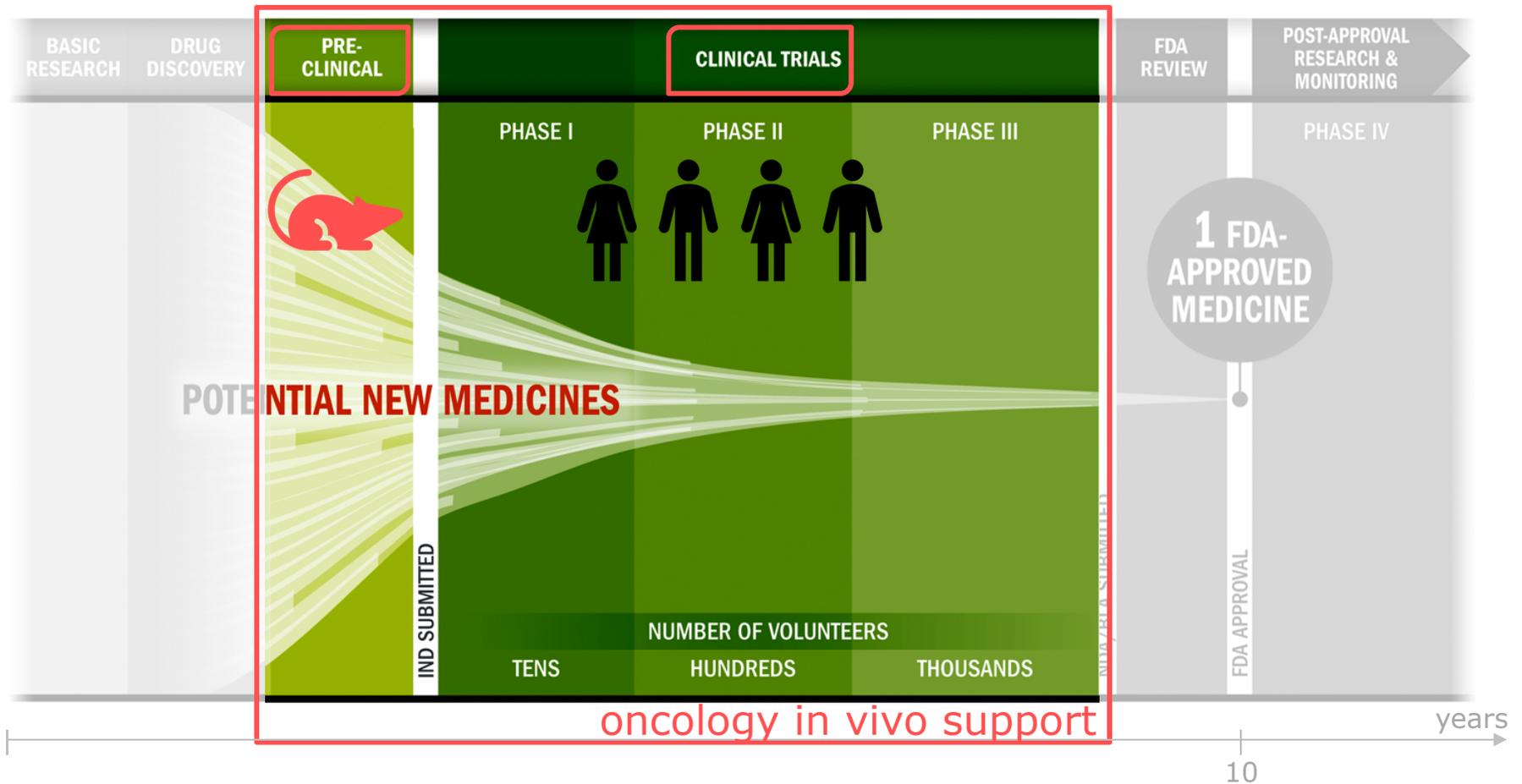
Dorethey Gorham, *Day of the Armada* Dorethey is a joyful, self-taught artist living with arthritis, general anxiety syndrome, and diabetes.



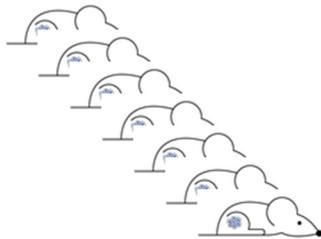
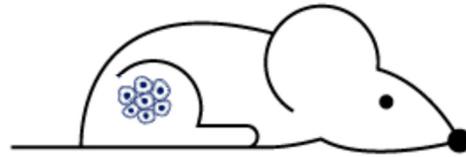
# Drug Development Process



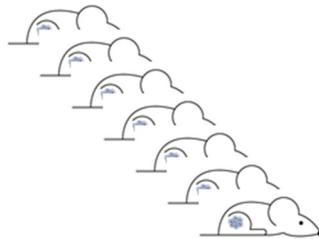
# Janssen Oncology In Vivo support



# In vivo oncology studies



Treatment  
1

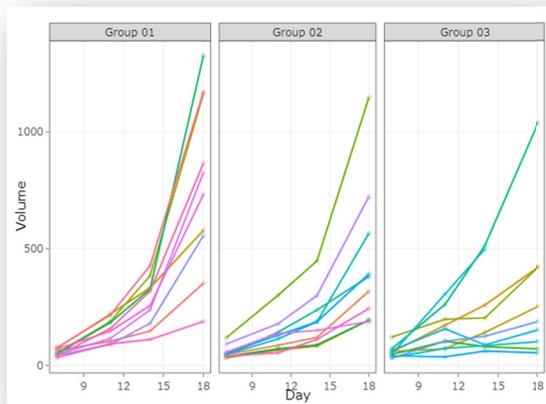


Treatment  
2

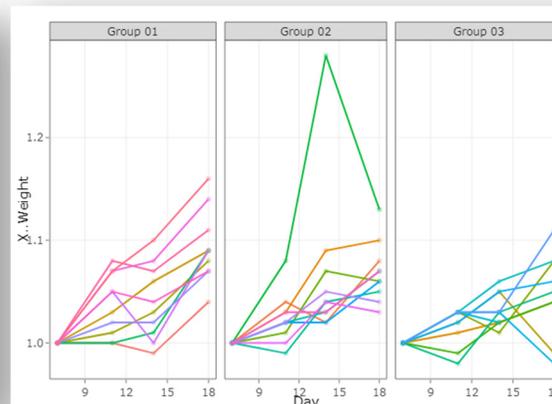


Treatment  
3

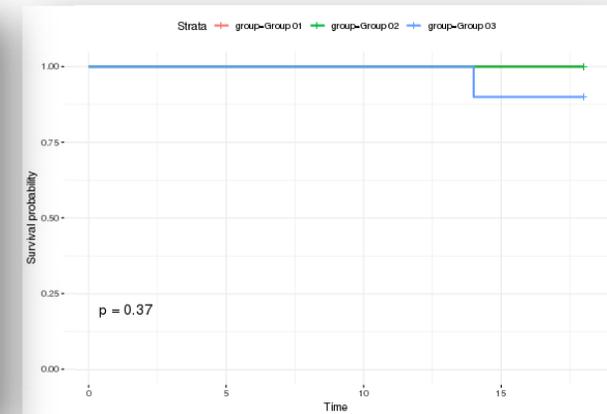
# In vivo oncology studies



↓ tumor volume

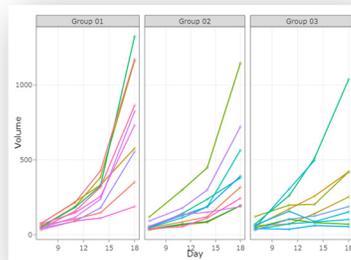
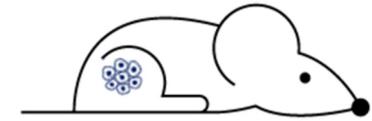


no difference in  
body weight  
change

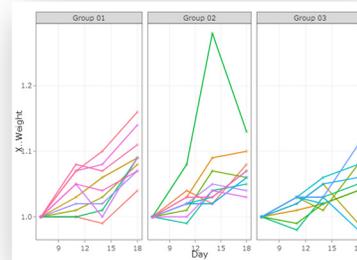


↑ days survived

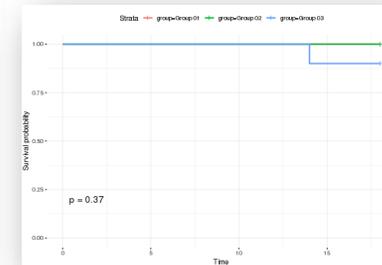
# In vivo oncology studies



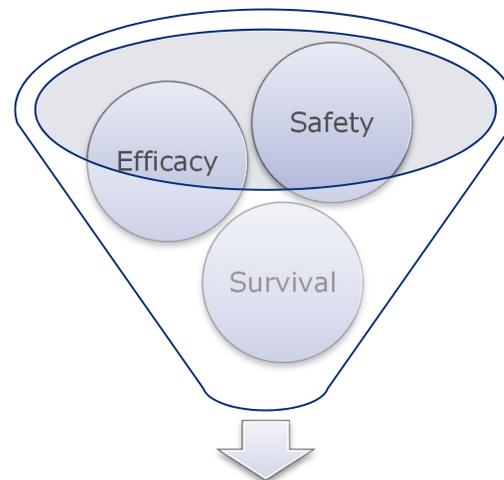
tumor volume



body weight



days survived



What treatment is better?

# In vivo oncology studies data analysis



In vivo  
Oncology

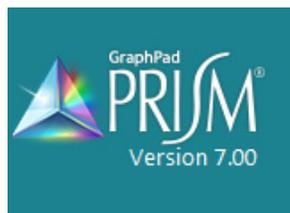


- Longitudinal data analysis
- ✗ Software limitations
  - ✗ Missing data is a problem
  - ✗ Need a better method
  - ✗ No diagnostics ?!
  - ✗ ....
- ✗ Time consuming...reproducible? tracible? ☹

# In vivo oncology studies data analysis

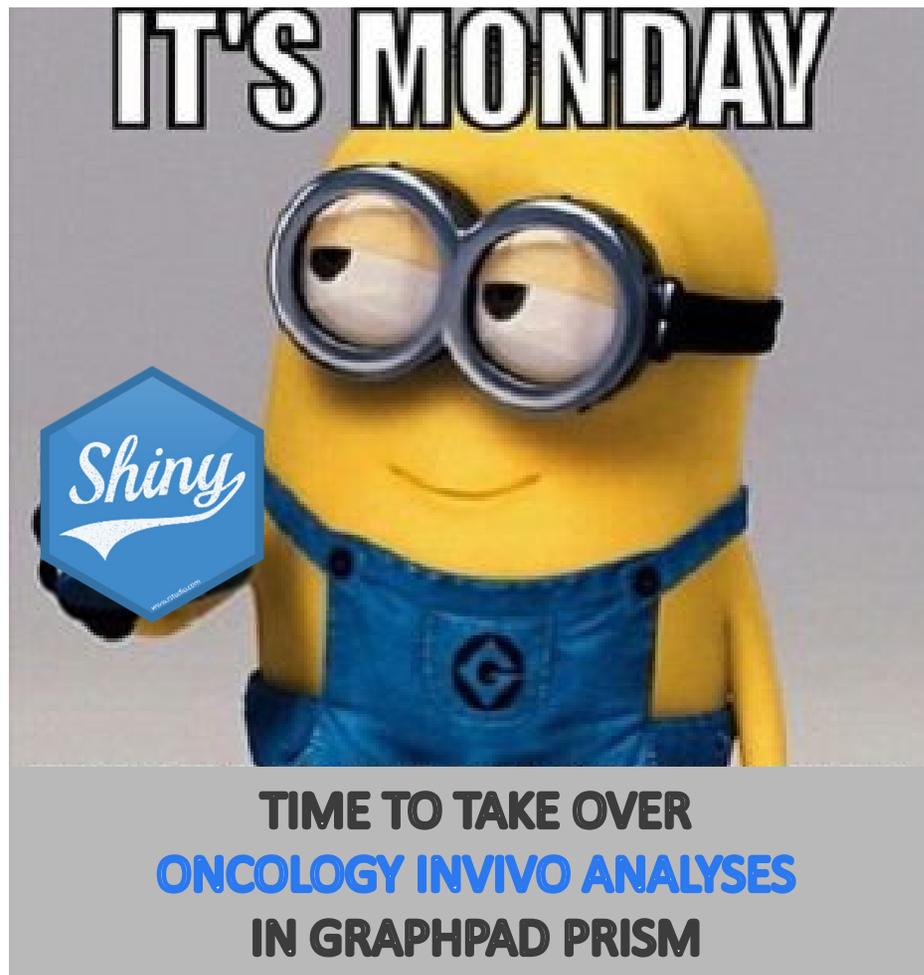


In vivo  
Oncology



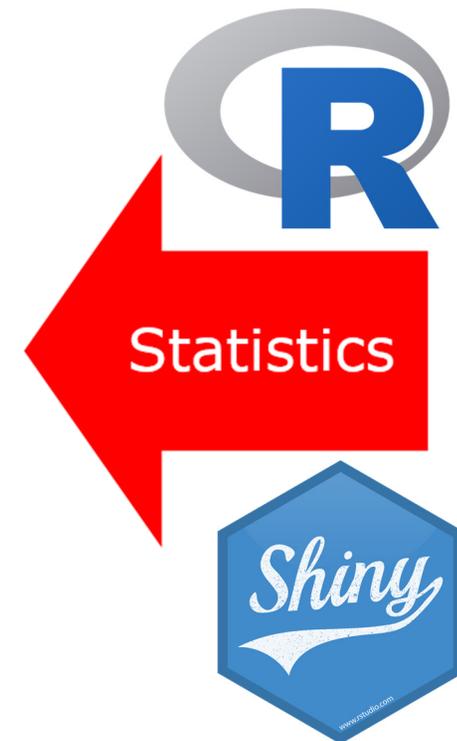
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# Mood....

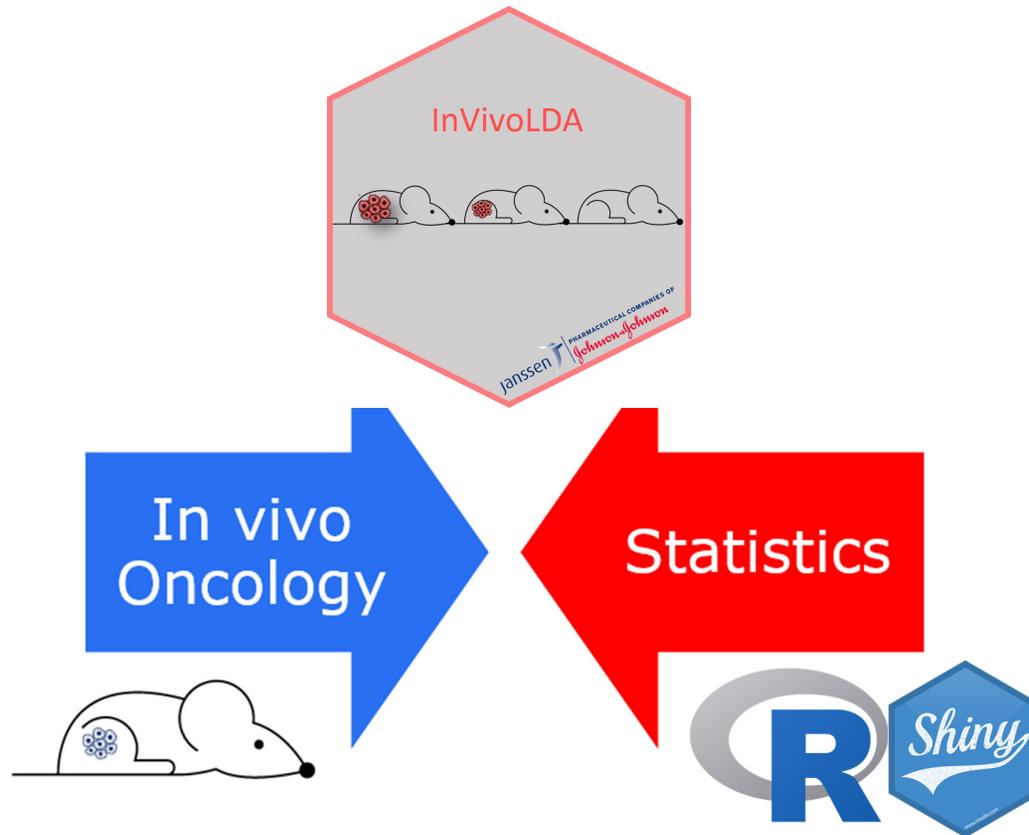


# Statistics offering to oncology group

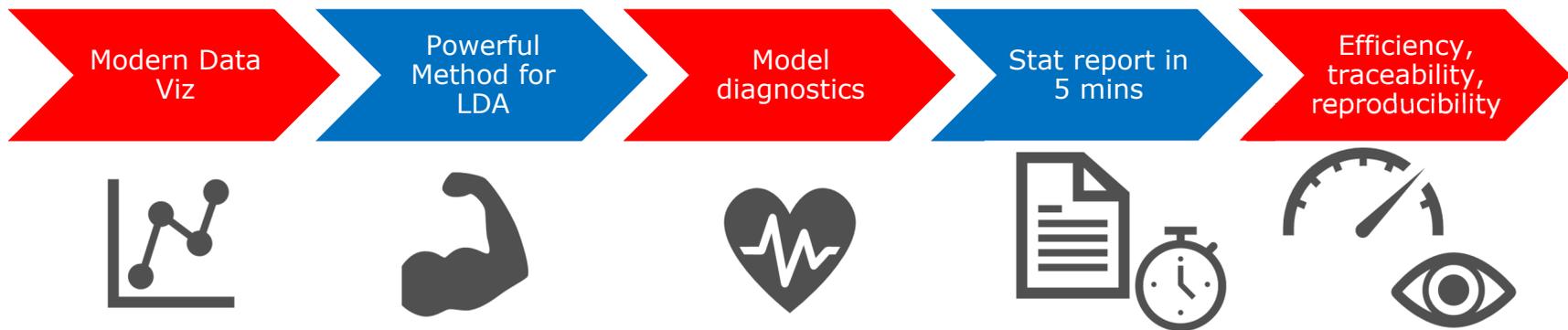
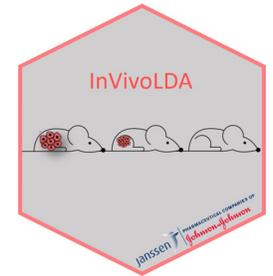
- We can deal with missing data!
- We can offer a better method!
- Yes to model diagnostics!
- We can develop **custom software!**
- Efficiency! Reproducibility! Traceability! 😊



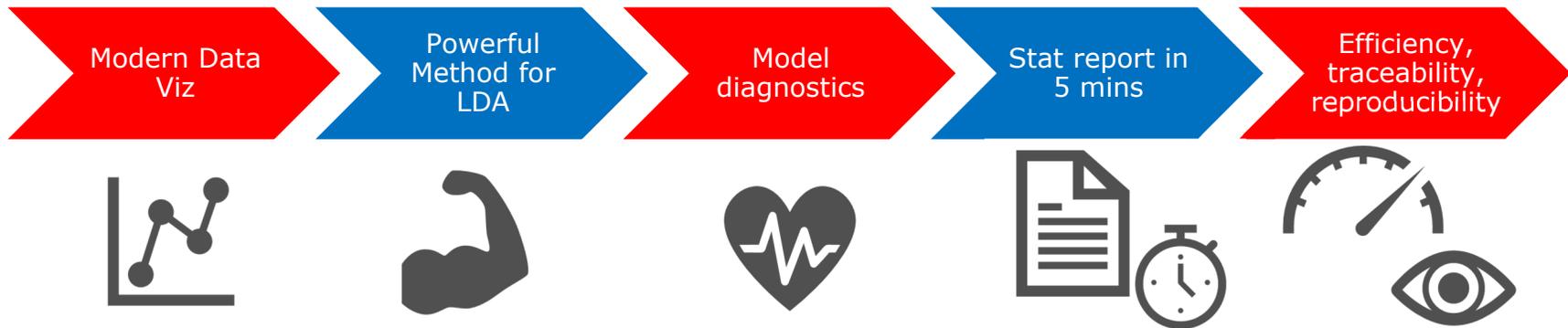
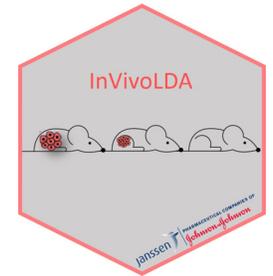
# InVivoLDA shiny app



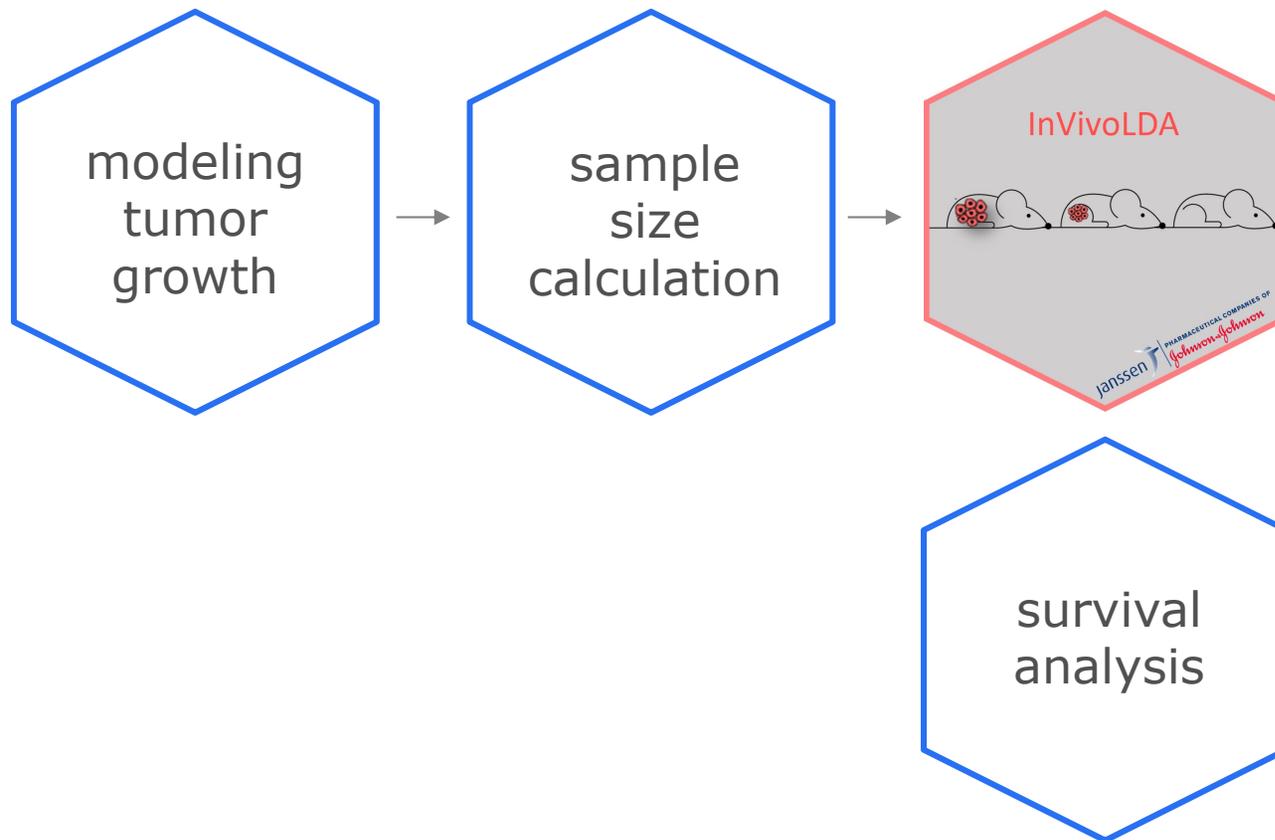
# Why InVivoLDA shiny app?

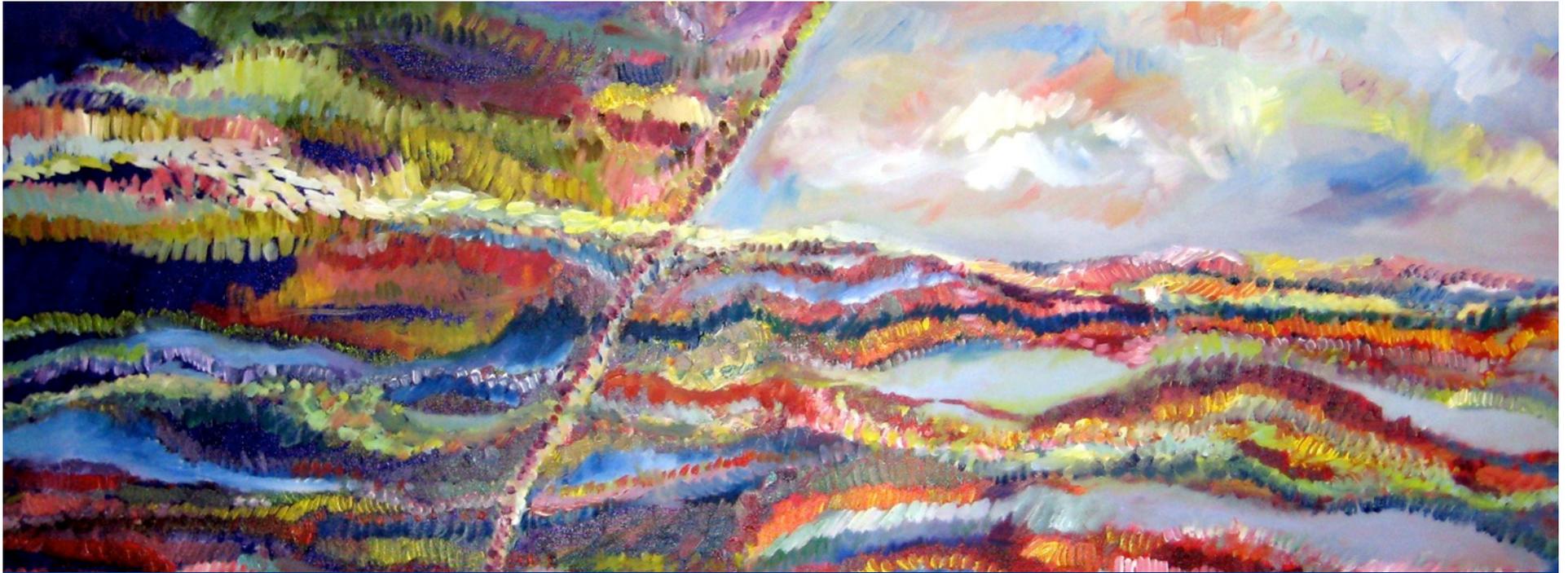


# Why InVivoLDA shiny app?



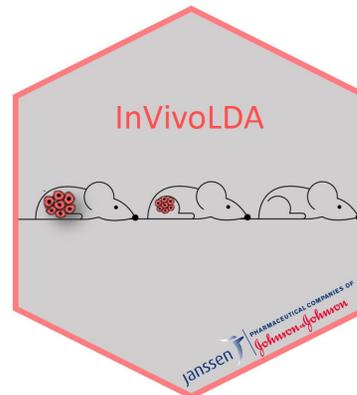
# Shiny app framework to support oncology in vivo research at Janssen





# Thank you !

- Kjell Johnson
- Bill Pikounis
- Stefan Avey
- Paulo Bargo
- Satish Murthy



Jennifer Jacobs, *Stowaway*  
Jennifer is a New York based artist  
living with Type 1 diabetes.

