



Novartis Institutes for  
Biomedical Research (NIBR)

# Specific aspects of a clinical trial targeting Covid-19

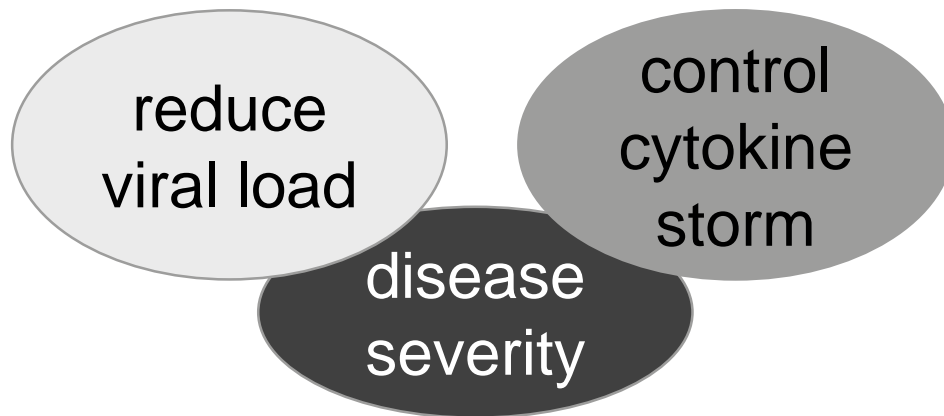
Karin Meiser, Tirtha Sengupta, Andrew Wright  
*Early Development Biostatistics*

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# Opportunities



Ph III – compound A

Ph III – compound B

Ph III – compound C

Ph IIa – compound D

Ph IIa – compound E

# Pragmatism

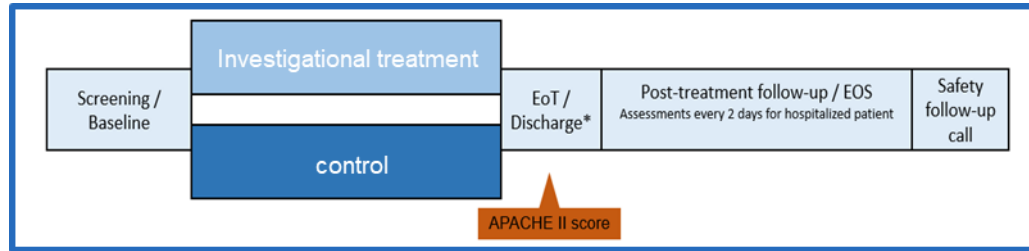
Parallel design

Early discharge opportunity

Established  
clinical  
endpoints

Lean CRFs

Remote follow-up



Sparse  
blood  
sampling

Estimand reflecting specific situation

EoT: end of treatment  
EOS: end of study

# Facts

APACHE scores applied in intensive care units (ICU), several versions exist

PhIIa endpoint: used to predict survival probability at EoT in ICU

Estimand considered

- early discharge
- death

Physiologic Variable	High Abnormal Range					Low Abnormal Range					Points
	+4	+3	+2	+1	0	-1	-2	-3	-4		
Temperature (°C)	1	1	1	1	0	1	1	1	1		
Mean Arterial Pressure (mmHg)	2	1	1	1	0	1	1	1	1		
Heart Rate (b/min)	1	1	1	1	0	1	1	1	1		
Respiratory Rate (breaths/min)	1	1	1	1	0	1	1	1	1		
PaO <sub>2</sub> (mmHg) on FiO <sub>2</sub> ≤ 0.5	1	1	1	1	0	1	1	1	1		
PaCO <sub>2</sub> (mmHg)	1	1	1	1	0	1	1	1	1		
Arterial pH (7.35-7.45)	1	1	1	1	0	1	1	1	1		
Serum Sodium (mEq/L)	1	1	1	1	0	1	1	1	1		
Serum Potassium (mEq/L)	1	1	1	1	0	1	1	1	1		
Serum Creatinine (mg/dL)	1	1	1	1	0	1	1	1	1		
White Blood Cell Count (10 <sup>9</sup> /L)	1	1	1	1	0	1	1	1	1		
Hematocrit (%)	1	1	1	1	0	1	1	1	1		
Platelet Count (10 <sup>9</sup> /L)	1	1	1	1	0	1	1	1	1		
Glucose (mg/dL)	1	1	1	1	0	1	1	1	1		
Prothrombin Time (sec)	1	1	1	1	0	1	1	1	1		
Partial Thromboplastin Time (sec)	1	1	1	1	0	1	1	1	1		
APACHE II Score	Sum of points from A + B + C										

PhIII endpoint: includes survival

Choice of endpoint driven by restrictions on sample size

# Challenges

## «moving targets»:

- Expected recruitment
- Daily reality at the sites
- Standard of care
- Endpoints: from 7- to 9-point scale

## Early development specific

- Limited drug availability
- Non-standard primary endpoint

## Short timelines:

5 weeks from  
internal approval to FPFV

## Alignment with other NVS studies

- Within PhIIa trials
- Across PhIIa and PhIII trials

# Collaboration

In society: stay home to protect the vulnerable

At home: within the (much) closer «community»

## ...the underlying theme

Within the COVID-19 trial teams:

Be flexible:

- None standard situations
- Unusual requirements
- Be available

Split tasks

Everyone takes responsibility

External interaction:

Very close collaboration between Global and Local NVS teams

Rapid feedback from HAs

Close communication with sites



**Thank you**