

# A failed attempt to conduct an individual patient data network meta-analysis (IPD-NMA)

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# Case introduction

- **Context:** a systematic review and individual patient data (IPD) network meta-analysis (NMA) on competing treatments for advanced prostate cancer
  - To examine how treatment effects vary by patient characteristics for two tumor types: metastatic castration-sensitive prostate cancer; and nonmetastatic castration-resistant prostate cancer
  - Doctoral thesis proposal of Lin Wang, a PhD candidate at Hopkins
- **IPD sources:** Vivli, YODA, clinicalstudydatarequest, and projectdatasphere
- **Key challenges encountered:**
  - IPD availability
  - Cross-platform compatibility
  - Timeframe and practicality

# Challenges encountered – IPD availability

- IPD available for 2/6 and 1/7 eligible trials respectively for the two tumor types of interest.
- IPD may **not** be sharable when:
  - The trial is ongoing or was completed within 18 months (or 24 months).
    - *This could be a completed trial with full results published or an ongoing trial with interim results published.*
  - The product and relevant indications have not been approved by regulators in the US and/or EU.
  - The trial sponsor is not a data contributor; is a data contributor but the trial of interest is not yet listed; declines the request because of similar research questions (trial data monopoly).

# Challenges encountered - cross-platform compatibility

An integrated meta-analysis cannot be done for IPD curated from different platforms because:

- Most IPD are in non-downloadable format
- Cross-platform data transmission is not allowed (can't merge data)
- Inconsistent data quality, incomplete meta-data, lack of standardization
- Data may not be there (e.g., outcomes, covariates)

# Challenges encountered – timeframe and practicality

- Timeframe from the IPD inquiry to approval:
  - Projectdatasphere, NCI sponsored trial: 1 month (4/18-5/18, 2019)
  - YODA, Janssen sponsored trial: 4 months (1/28-5/21, 2019)
  - Vivli, Pfizer sponsored trial: 8 months (2/19-10/15, 2019)
- Navigated through different data sharing models; multiple user accounts, access policies, and procedures.

# A few things are needed

## Data sharing platforms:

- More IPD should be made available
- One single searchable database that catalogues all IPD available across different platforms
- Simplified, harmonized, and tiered data request procedures
- A mechanism to allow data merging across platforms

## IPD meta-analyses:

- Need proper funding, resources, and skills
- Consider meta-analysis with both IPD and aggregate data