

Barriers	Priority
<ul style="list-style-type: none"> • Difficulty to access to medical and/or healthcare records (no unifying solutions) 	High
<ul style="list-style-type: none"> • Lack and incompleteness of data acquired in acute care (bad quality, inconsistency, and disorder). No unifying solutions to aggregate/integrate/fuse data efficiently. 	High
<ul style="list-style-type: none"> • Lack of good techniques for temporal and spatial data alignment and synchronization. 	High
<ul style="list-style-type: none"> • Research data is different from clinical data. Treating is imparting physiological data. 	Medium
<ul style="list-style-type: none"> • Assumption that “ground truth” is known. 	Medium
Challenges	Priority
<ul style="list-style-type: none"> • Un-curated data requires medical practitioners and data scientists to work together. ICU is artifact-laden or physiological artifacts and needs curation to remove meaningless data. 	High
<ul style="list-style-type: none"> • Requirement to update training (existing) data to overcome noise/adversarial attacks 	High
<ul style="list-style-type: none"> • Data is part of the property authorship, ownership, liability implications. Data needs to be acquired in a clinical environment. 	High
<ul style="list-style-type: none"> • System needs to automatically retrieve data as much as possible. 	High
<ul style="list-style-type: none"> • Outcomes in healthcare must be interpretable. 	Medium
<ul style="list-style-type: none"> • Knowing when you don't know. How do the assumptions make to affect fusion? It is difficult to know extent of usefulness of data, so it limits MMDF. 	Medium
<ul style="list-style-type: none"> • Human errors are more acceptable than automated errors. 	Medium
<ul style="list-style-type: none"> • Technical concerns of cost and guidelines, or trade-offs when (1) Building models/processes at differing abstractions/detail levels, (2) Consolidated content capture across multiple modalities, (3) Parameter learning issues, (4) Hypothesis driven vs. data driven methods? 	Medium