

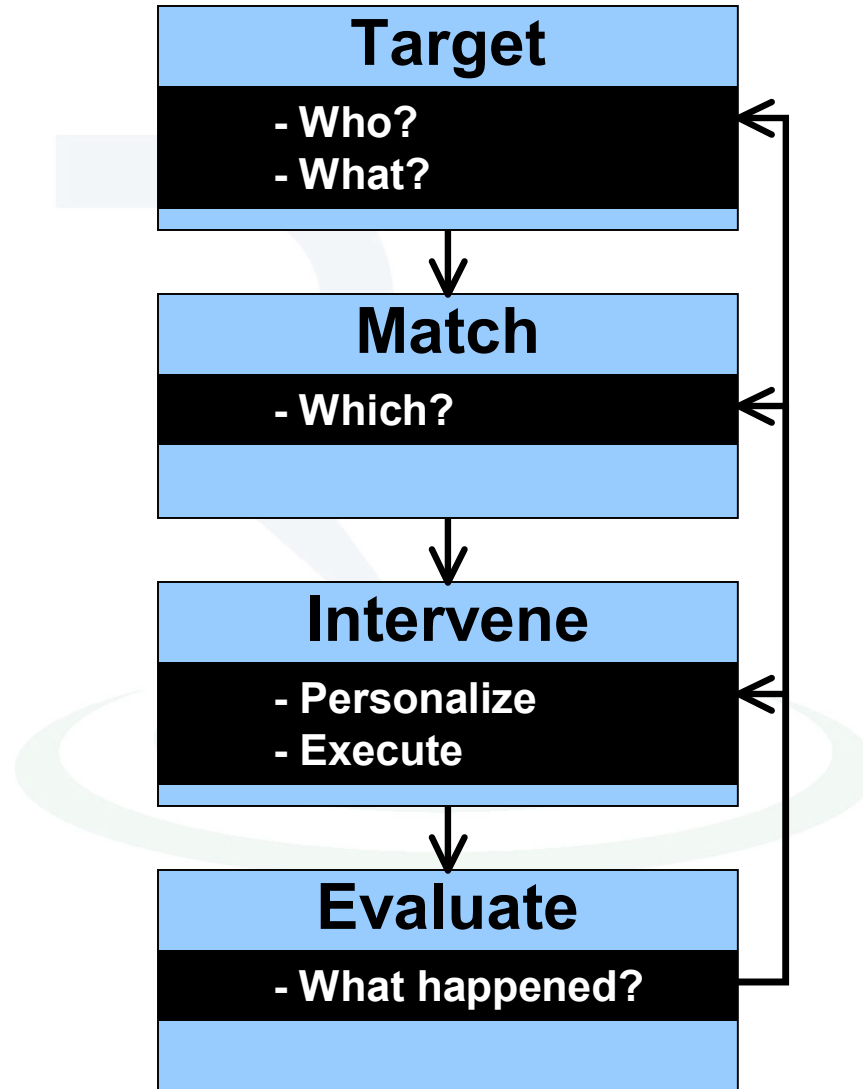
Next Generation Analytics to Tailor Information Therapy

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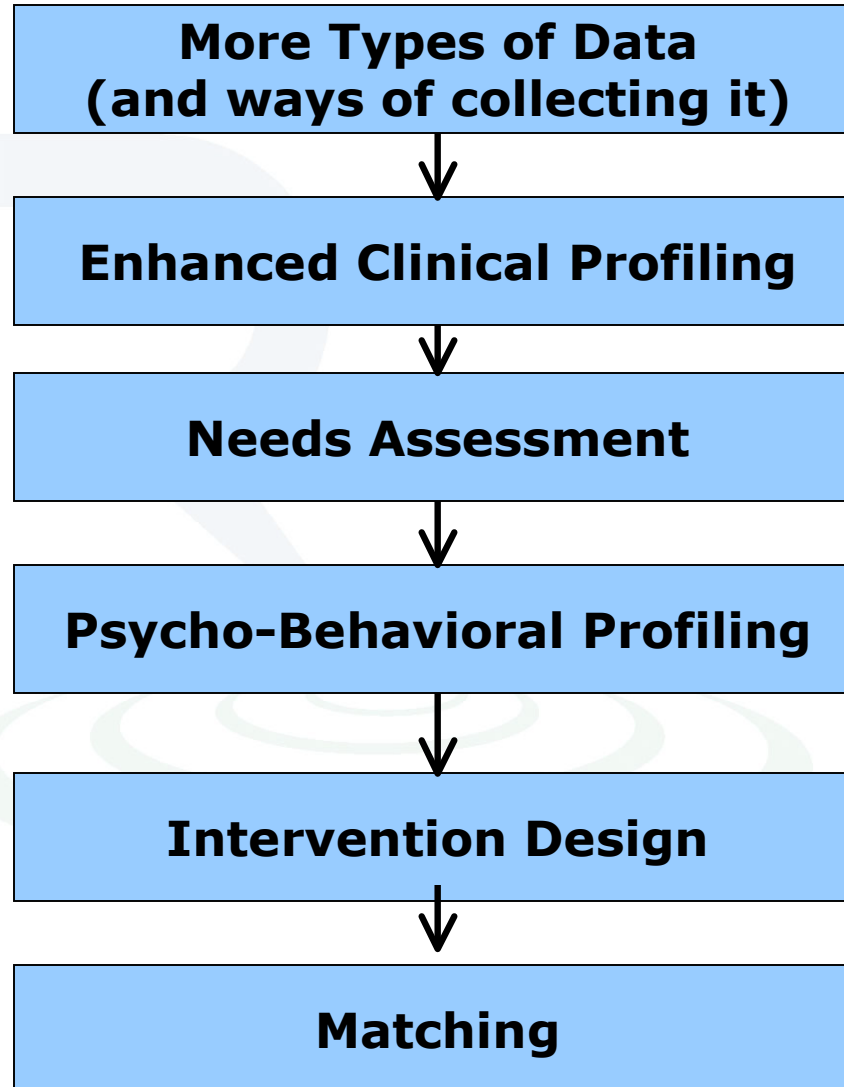
Tailoring: Potential Foci for Data Analytics

- Targeting
 - people
 - specific issues relevant to particular people
 - specific intervention(s)
 - data to be collected re a particular person
- Intervention Considerations
 - interventions that are available
 - ways each intervention could be delivered
 - member needs, preferences, behavioral profile
 - avg. cost and effectiveness of each intervention
 - estimated cost and effectiveness of each intervention in a particular person
- Personalization
 - greater attention being paid to lessons learned from psychology and marketing

What Needs to be Done?



Where is the Market Moving?



Common Considerations in Current Data Analytics

- **Demographics**
 - age, gender
- **Personal Medical History**
 - diseases/conditions, past care, current care
 - test results, physiologic measurements
- **Family Medical History**
 - diseases (e.g., heart disease, cancer)
- **Lifestyle**
 - smoking, alcohol, diet, exercise
- **Psycho-behavioral profile**
 - readiness to change

Common Considerations for Future Data Analytics

- **Demographics**
 - life stage, race, ethnicity, socio-economic status, literacy
- **Personal Medical History**
 - response to past and current care, compliance, time lost from work, current health status
- **Family Medical History**
 - genomics
- **Lifestyle**
 - stress
- **Psycho-behavioral Profiling**
 - psycho-demographics, attitudes toward risk, historical response to interventions, clinical and social contexts, learning style and medium, intervention preferences (e.g. what, when, how, by whom), interests (e.g., sports, hobbies)
- **Data Collection Methods that are More Practical and Accurate**

Alternative Forms of Data Gathering: Stories & Images

Use pictures, voice, stories rather than traditional activity diaries to generate data



“I consider it one serving if it is smaller than either my head or my plate, which ever is larger”

Current Analytical Techniques

- Rule-Based Case Identification
 - focused on identifying specific intervention opportunities in specific patients
- Traditional Types of Predictive Modeling
 - typically focused on identifying who is going to be high cost

Future Analytical Techniques

- **Other types of predictive modeling**
 - identification of people with high likelihood of undergoing a particular event (e.g. a procedure or a bad outcome)
 - quantitative information regarding anticipated benefits of particular interventions in particular people
- **Regression analysis**
 - identification of people most likely to respond
 - determine which intervention to employ and how to deliver the intervention to maximize effectiveness
- **Rule-based Filtering**
 - exclude people who are unlikely to comply or in whom it is too costly to intervene effectively

Learning from Consumer Marketing

Interventions used to motivate you to buy a new product, become a regular user

Example:

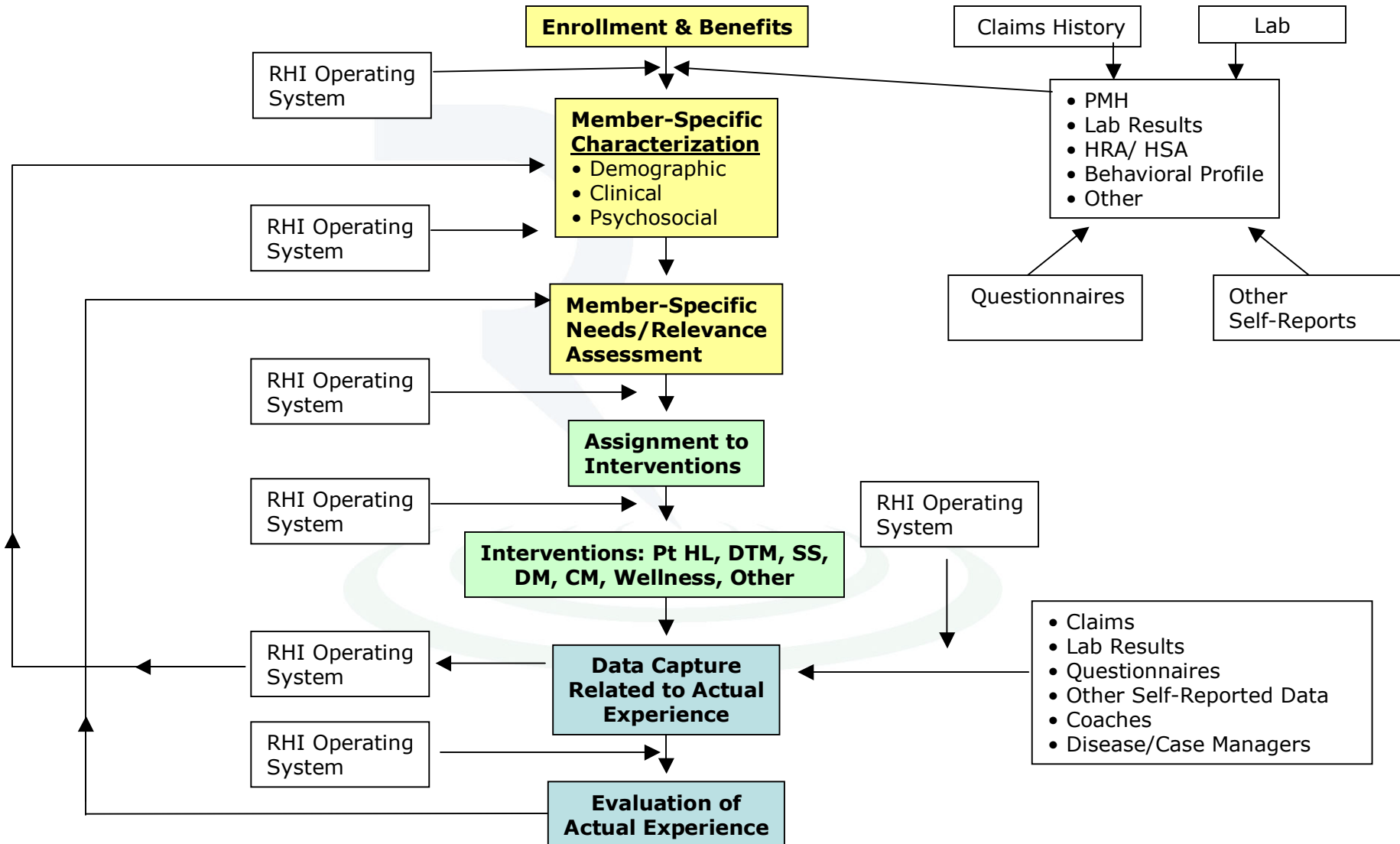
- TV, radio, print advertising build your awareness
 - on shows you watch, in magazines you read
- You receive a high value coupon in the mail based on zip+4
- Product registration or mail in rebate secures contact information and registers user in loyalty program

Translating This Approach to Health Care

Examples:

- Provision of certain types of data becomes mandatory or tied to strong financial incentives
- Member registers in a web-based social network and reveals information regarding themselves through their actions in the community
- Decisions re what types of additional data to collect from or regarding a particular person are analytically determined
- Triage of members to particular interventions is data driven
- Specific messages (and the “look and feel” of them), as well as the means by which messages are pushed to health plan members, are individualized, considering pertinent member characteristics
- Health plan member receives a trackable coupon for free OTC medication
- Health plan member gets pre- and post-intervention notifications by phone, mail, or fax

Target-Intervene-Evaluate (TIE)



Summary

- It's possible to provide meaningful, personalized decision support to consumers, as well as useful pt-specific decision support to MDs
- More sophisticated data analytics can be used to improve:
 - targeting (“market segmentation”)
 - who to intervene on
 - what to intervene on
 - personalization
 - tailoring of interventions (e.g. when and how information is delivered)