

FIGURE 87e-5. The elements of the interactome. The interactome includes topologic modules (genes or gene products that are closely associated with one another through direct interactions), functional modules (genes or gene products that work together to define a pathway), and disease modules (genes or gene products that interact to yield a pathophenotype). (Reproduced with permission from AL Barabasi et al: *Nat Rev Genet* 12:56, 2011.)

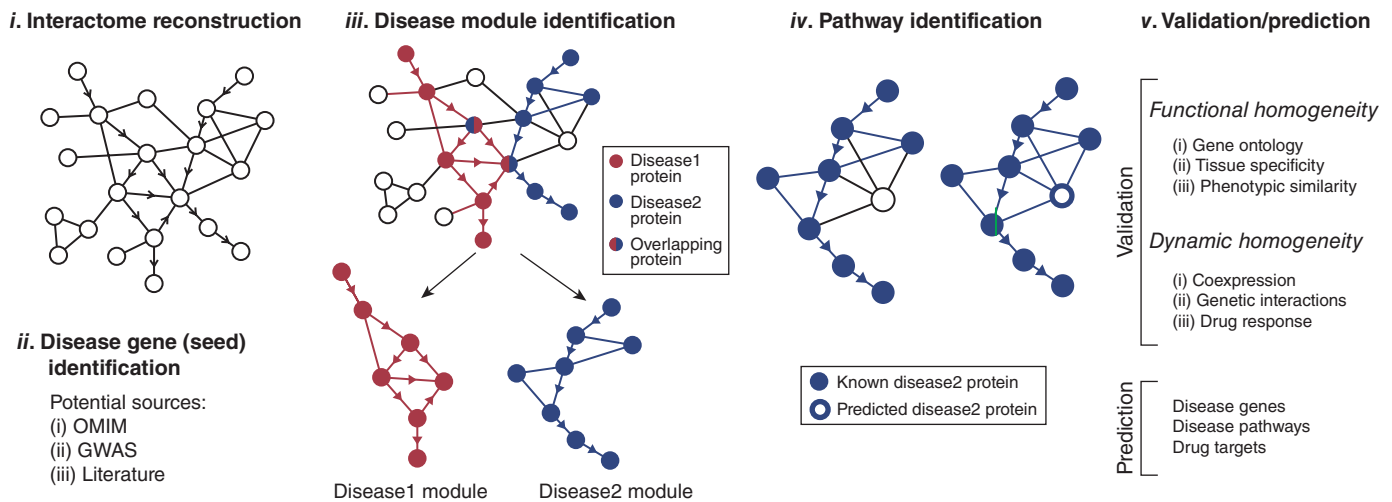


FIGURE 87e-6. Approaches to identifying disease modules in molecular networks. A strategy for defining disease modules involves (i) reconstructing the interactome; (ii) ascertaining potential seed (disease) genes from the curated literature, the Online Mendelian Inheritance in Man (OMIM) database, or genomic analyses (genome-wide association studies [GWAS] or transcriptional profiling); (iii) identifying the disease module using different modeling or statistical approaches; (iv) identifying pathways and the role of disease genes or modules in those pathways; and (v) disease module validation and prediction. (Reproduced with permission from AL Barabasi et al: *Nat Rev Genet* 12:56, 2011.)