

WHAT IS CLAIMED IS:

1. A method comprising:
 - receiving data characterizing healthcare information associated with a patient;
 - determining a health outcome evaluation for the patient based on the received healthcare information data;
 - determining a risk prediction for the patient based on the determined health outcome evaluation;
 - determining a treatment recommendation for the patient based on the determined risk prediction; and
 - providing the treatment recommendation.
2. The method of claim 1, wherein the determining of the health outcome evaluation includes:
 - comparing the received healthcare information data to healthcare data characterizing a predetermined set of healthcare parameters for an aggregated population of patients,
 - determining a deficiency in the received healthcare information data based on the predetermined set of healthcare parameters,
 - generating questionnaire data that characterizes at least one question based on the determined deficiency,
 - providing the questionnaire data to a client device of the patient, and
 - receiving, from a client device, answer data characterizing at least one answer to the at least one question characterized by the questionnaire data;and wherein the health outcome evaluation is based on the answer data.
3. The method of claim 2, wherein the generating of the questionnaire data includes:
 - querying a questionnaire rules engine for the at least one question based on the determined deficiency, the questionnaire rules engine configured to generate the at least one question, wherein the questionnaire rules engine is modified by a questionnaire predictive model that identifies a predictor variable based on the received healthcare information data and revises the questionnaire rules engine based on the identified predictor variables, and

receiving the at least one question from the questionnaire rules engine for inclusion in the questionnaire data.

4. The method of claim 1, further comprising:
determining a clinical patient profile for the patient based on the received healthcare information data and the determined health outcome evaluation, the clinical patient profile characterizing an attribute of the patient.
5. The method of claim 1, further comprising:
determining a provider profile for a provider of healthcare services to the patient based on the received healthcare data, the provider profile characterizing an attribute of the provider.
6. The method of claim 1, wherein the determining of the risk prediction for the patient includes executing a risk prediction model for a risk factor that predicts a likelihood of a negative health outcome, the risk prediction model trained for providing the risk factor in response to the querying based on historical patient risk data.
7. The method of claim 6, wherein the determining of the treatment recommendation includes:
querying a treatment recommendation rules engine for a recommendation parameter based on at least one of the determined risk factor, the health outcome evaluation, and/or the received healthcare information data, the querying including execution of a recommendation rule by the treatment recommendation rules engine, and
generating a recommendation string that characterizes the recommendation parameter.
8. The method of claim 7, wherein the treatment recommendation rules engine is modified by a predictive model that identifies a predictor variable characterizing a likelihood of success of an intervention characterized by the treatment recommendation, the identifying based on received feedback data that indicates a level of success of the intervention, determines a modification to the recommendation rule based on the identified predictor variable, and modifies the recommendation rule based on the determined modification.

9. The method of claim 7, wherein the providing of the treatment recommendation includes transmitting the recommendation string for presentation on a graphical user interface of a client device.
10. The method of claim 7, wherein the treatment recommendation rules engine is modified by a recommendation predictive model that identifies a predictor variable characterizing a pattern in adherence to interventions suggested by the treatment recommendation based on the received healthcare information data and modifies a rule of the treatment recommendation rules engine based on the identification.
11. The method of claim 6, wherein the determining of the risk prediction for the patient includes determining a clinical risk parameter characterizing a level of clinical risk based on the determined health outcome evaluation, determining a social risk parameter characterizing a level of social risk based on the determined health outcome evaluation, and determining a behavioral risk parameter characterizing a level of behavioral risk based on the determined health outcome evaluation.
12. The method of claim 11, wherein one or more of the clinical risk parameter, the social risk parameter, and the behavioral risk parameter is dynamically updated based on received feedback data characterizing the patient.
13. A system comprising:
at least one data processor; and
memory storing instructions configured to cause the at least one data processor to perform operations comprising:
receiving data characterizing healthcare information associated with a patient;
determining a health outcome evaluation for the patient based on the received healthcare information data;
determining a risk prediction for the patient based on the determined health outcome evaluation;
determining a treatment recommendation for the patient based on the determined risk prediction; and
providing the treatment recommendation.

14. The system of claim 13, wherein the determining of the health outcome evaluation includes:

comparing the received healthcare information data to healthcare data characterizing a predetermined set of healthcare parameters for an aggregated population of patients,

determining a deficiency in the received healthcare information data based on the predetermined set of healthcare parameters,

generating questionnaire data that characterizes at least one question based on the determined deficiency,

providing the questionnaire data to a client device of the patient, and

receiving, from a client device, answer data characterizing at least one answer to the at least one question characterized by the questionnaire data;

and wherein the health outcome evaluation is based on the answer data.

15. The system of claim 14, wherein the generating of the questionnaire data includes:

querying a questionnaire rules engine for the at least one question based on the determined deficiency, the questionnaire rules engine configured to generate the at least one question, wherein the questionnaire rules engine is modified by a questionnaire predictive model that identifies a predictor variable based on the received healthcare information data and revises the questionnaire rules engine based on the identified predictor variables, and

receiving the at least one question from the questionnaire rules engine for inclusion in the questionnaire data.

16. The system of claim 13, wherein the determining of the risk prediction for the patient includes executing a risk prediction model for a risk factor that predicts a likelihood of a negative health outcome, the risk prediction model trained for providing the risk factor in response to the querying based on historical patient risk data.

17. The system of claim 13, wherein the determining of the treatment recommendation includes:

querying a treatment recommendation rules engine for a recommendation parameter based on at least one of the determined risk factor, the health outcome evaluation, and/or the received healthcare information data, the querying including execution of a recommendation rule

by the treatment recommendation rules engine, and

generating a recommendation string that characterizes the recommendation parameter.

18. The system of claim 17, wherein the treatment recommendation rules engine is modified by a predictive model that identifies a predictor variable characterizing a likelihood of success of an intervention characterized by the treatment recommendation, the identifying based on received feedback data that indicates a level of success of the intervention, determines a modification to the recommendation rule based on the identified predictor variable, and modifies the recommendation rule based on the determined modification.

19. The system of claim 17, wherein the treatment recommendation rules engine is modified by a recommendation predictive model that identifies a predictor variable characterizing a pattern in adherence to interventions suggested by the treatment recommendation based on the received healthcare information data and modifies a rule of the treatment recommendation rules engine based on the identification.

20. A non-transitory computer program product storing instructions which, when executed by at least one data processor forming part of at least one computing system, cause the at least one data processor to implement operations comprising:

receiving data characterizing healthcare information associated with a patient;

determining a health outcome evaluation for the patient based on the received healthcare information data;

determining a risk prediction for the patient based on the determined health outcome evaluation;

determining a treatment recommendation for the patient based on the determined risk prediction; and

providing the treatment recommendation.