

Claims

1. A computer-implemented method to improve the clinical accuracy of determinant level codes generated by medical priority dispatch systems, the method comprising:

a computer system receiving from a medical priority dispatch system a determinant level code selected by a dispatcher utilizing the medical priority dispatch system;

the computer system receiving from the medical priority dispatch system one or more reported aspects collected from a caller who responds to questions asked by the dispatcher, wherein the questions are provided to the dispatcher by the medical priority dispatch system;

the computer system generating a determinant level sub-code and pairing it with the determinant level code, wherein the determinant level sub-code is generated by the computer system based on the reported aspects;

the computer system comparing the determinant level code and determinant level sub-code pair to other determinant level code and determinant level sub-code pairs to identify whether a situation involving the reported aspects is susceptible to introducing code hierarchy bias; and

the computer outputting information resulting from the comparison of determinant level code and determinant level sub-code pairs that can be used to improve the clinical accuracy of the determinant level codes generated by the medical priority dispatch system.

2. The computer-implemented method of claim 1, wherein the reported aspects include at least one of signs, symptoms, and conditions.

3. The computer-implemented method of claim 1, wherein the computer system comparing further comprises comparing determinant level code and determinant level sub-code pairs having the same determinant level sub-code.

4. The computer-implemented method of claim 1, further comprising storing the determinant level sub-code and the determinant level code in a computer-readable storage medium.

5. The computer-implemented method of claim 1, wherein the determinant level sub-code is generated by selecting from a list of sub-codes a sub-code that represents a combination of the caller reported aspects, wherein the list of

sub-codes comprises possible combinations of aspects that may be reported by the caller in responses to the protocol questions.

6. The computer-implemented method of claim 1, further comprising storing the determinant level code and the corresponding reported aspects collected from the caller in a computer-readable storage medium, wherein the computer-system can retrieve the determinant level code and the corresponding reported aspects and generate the determinant level sub-code.

7. A computer-implemented method for enabling evaluation and research of code hierarchy bias in medical priority dispatch systems, the method comprising:

a medical priority dispatch computer system receiving caller responses to questions provided by the medical priority dispatch system;

the medical priority dispatch computer system generating a determinant level code based on the caller responses;

the medical priority dispatch computer system generating a determinant level sub-code based on the caller responses by selecting a sub-code representing a combination of reported signs, symptoms, and conditions from a list of sub-codes representing potential combinations of signs, symptoms, and conditions that can be reported in the caller responses; and

the medical priority dispatch system storing the determinant level sub-code in combination with the determinant level code in a computer-readable storage medium.

8. The computer-implemented method of claim 7, further comprising storing the caller responses in a computer-readable storage medium for subsequent examination to generate the determinant level sub-code.

9. The computer-implemented method of claim 7, further comprising the medical priority dispatch computer system comparing determinant level code and determinant level sub-code pairs to identify whether a combination of reported aspects in a given situation is susceptible to code hierarchy bias.

10. The computer-implemented method of claim 9, wherein the medical priority dispatch computer system comparing further comprises comparing determinant level code and determinant level sub-code pairs having the same determinant level sub-code.

11. The computer-implemented method of claim 7, further comprising the medical priority dispatch computer system performing statistical analysis on a

plurality of stored determinant level code and sub-code combinations to determine situations that are susceptible to code hierarchy bias.

12. The computer-implemented method of claim 7, further comprising the medical priority dispatch computer system performing statistical analysis on a plurality of stored determinant level code and sub-code combinations to determine a clinical make-up of the determinant level code as it relates to specific situations and diagnoses and to ensure the determinant level codes are medically accurate.

13. A computer-implemented method for emergency medical dispatch response, the method comprising:

- a computer system receiving caller responses to questions asked by a dispatcher, wherein the responses are input into the computer system by the dispatcher, and wherein the questions are provided to the dispatcher according to a pre-scripted protocol by a medical priority dispatch system running on the computer system;

- the computer system and dispatcher generating a determinant level code indicative of the criticality of the call based on the caller responses;

- the computer system generating a determinant level sub-code based on a combination of signs, symptoms, and conditions that may be reported in the caller responses to the protocol questions;

- the computer system storing the determinant level code and the determinant level sub-code pair; and

- the computer system communicating to an emergency response agency the determinant level code and determinant level sub-code.

14. The computer-implemented method of claim 13, further comprising the computer system storing the caller responses on a computer-readable storage medium for subsequent examination to generate the determinant level sub-code, wherein the computer system generates the determinant level sub-code by electronically searching and analyzing the caller responses to generate the determinant level sub-code.

15. The computer implemented method of claim 13, further comprising the computer system performing statistical analysis on stored determinant level code and sub-code data to determine situations that are susceptible to code hierarchy bias.

16. The computer implemented method of claim 13, further comprising the computer system performing statistical analysis on stored determinant level code and sub-code descriptor data to determine a clinical make-up of each determinant level code as it relates to specific situations and diagnoses and to ensure the determinant level codes are medically accurate.

17. A computer system for identifying code hierarchy bias in a medical priority dispatch system, the computer system comprising:

a medical priority dispatch system to generate a determinant level code indicative of the criticality of the call based on caller responses to questions asked by a dispatcher, wherein the questions are provided to the dispatcher according to a pre-scripted protocol by the medical priority dispatch system;

a code hierarchy system in communication with the medical priority dispatch system, the computer system configured to receive the determinant level code generated on the medical priority dispatch system, to generate a determinant level sub-code based on a combination of signs, symptoms, and conditions that may be reported in the caller responses to the questions asked by the dispatcher, to store the determinant level code and the determinant level sub-code pair; and communicate to an emergency response agency the determinant level code and determinant level sub-code,

wherein the computer system compares the determinant level code and determinant level sub-code pair to other determinant level code and determinant level sub-code pairs to identify whether a combination of reported aspects of a situation is susceptible to code hierarchy bias and outputs information resulting from the comparison of determinant level code and determinant level sub-code pairs that can be used to improve the clinical accuracy of the determinant level codes generated by the medical priority dispatch system.

18. The computer system of claim 17, wherein the computer system compares the determinant level code and determinant level sub-code pair to other pairs by performing statistical analysis to identify situations susceptible to code hierarchy bias.

19. The computer system of claim 17, wherein the medical priority dispatch system is on a first computer and the code hierarchy system is on a second computer, and wherein the computer system further comprises a network to enable communication between the first computer and the second computer.

20. A computer system for identifying code hierarchy bias in medical priority dispatch systems, the computer system comprising:

a processor;

an output device;

an input device;

a memory having stored thereon:

pre-scripted inquiries to be directed to an emergency caller by a dispatcher utilizing the computer system;

pre-scripted instructions to be provided to an emergency caller by the dispatcher;

a protocol module configured to present, on the monitor, the pre-scripted inquiries and instructions to the dispatcher; and

a calculator module configured to determine a determinant level code and determinant level sub-code based on caller responses to the pre-scripted inquiries.

21. A computer system of claim 20, wherein the memory further comprises caller responses received from one or more callers responding to the pre-scripted inquiries, wherein the caller responses are stored on the memory to be subsequently searched and analyzed.

22. A computer system of claim 20, wherein the memory further comprises stored determinant level code and stored determinant level sub-codes.

Claims

1. A computer-implemented method to improve the clinical accuracy of determinant level codes generated by medical priority dispatch systems, the method comprising:

receiving at a computer system, from a medical priority dispatch system, one or more reported aspects collected from a caller who responds to questions asked by the dispatcher over a telephone, wherein the questions are provided to the dispatcher by the medical priority dispatch system and the reported aspects are relating to an emergency reported by the caller and are each one of the following: a sign, a symptom, and a condition;

receiving at the computer system, from the medical priority dispatch system, a determinant level code selected by a dispatcher utilizing the medical priority dispatch system, the determinant level code representing a subset of the reported aspects;

generating on the computer system a determinant level sub-code and pairing it with the determinant level code, wherein the determinant level sub-code is generated by the computer system based on the one or more reported aspects and represents a combination of all of the one or more caller reported aspects;

comparing on the computer system the determinant level code and determinant level sub-code pair to other determinant level code and determinant level sub-code pairs to identify whether a situation involving the reported aspects is susceptible to introducing code hierarchy bias; and

outputting from the computer system information resulting from the comparison of determinant level code and determinant level sub-code pairs that enables improvements to the clinical accuracy of the determinant level codes generated by the medical priority dispatch system.

2. The computer-implemented method of claim 1, wherein the reported aspects include at least one of signs, symptoms, and conditions.

3. The computer-implemented method of claim 1, wherein comparing further comprises comparing determinant level code and determinant level sub-code pairs having the same determinant level sub-code.

4. The computer-implemented method of claim 1, further comprising storing the determinant level sub-code and the determinant level code in a non-transitory computer-readable storage medium.

5. The computer-implemented method of claim 1, wherein the determinant level sub-code is generated by selecting, from a list of sub-codes, a sub-code that represents the combination of all of the one or more caller reported aspects, wherein the list of sub-codes comprises possible combinations of aspects that may be reported by the caller in responses to the protocol questions.

6. The computer-implemented method of claim 1, further comprising storing the determinant level code and the corresponding reported aspects collected from the caller in a non-transitory computer-readable storage medium, wherein the computer system retrieves the determinant level code and the corresponding reported aspects and generates the determinant level sub-code.

7. A computer-implemented method for enabling evaluation and research of code hierarchy bias in medical priority dispatch systems, the method comprising:

receiving, at a medical priority dispatch computer system, caller responses to questions provided by the medical priority dispatch system, the responses reporting one or more signs, symptoms, or conditions relating to an emergency

reported by the caller;

generating a determinant level code based on the caller responses and relaying the determinant level code to emergency responders, the determinant level code representing a subset of the caller-reported signs, symptoms, or conditions relating to the emergency;

generating, at the medical priority dispatch computer system, a determinant level sub-code based on the caller responses by selecting a sub-code representing a combination of all of the caller-reported signs, symptoms, and conditions, the sub-code selected from a list of sub-codes representing potential combinations of signs, symptoms, and conditions that can be reported in the caller responses; and

the medical priority dispatch system storing the determinant level sub-code in combination with the determinant level code in a non-transitory computer-readable storage medium.

8. The computer-implemented method of claim 7, further comprising storing the caller responses in a non-transitory computer-readable storage medium for subsequent examination to generate the determinant level sub-code.

9. The computer-implemented method of claim 7, further comprising the medical priority dispatch computer system comparing determinant level code and determinant level sub-code pairs to identify whether a combination of reported aspects in a given situation is susceptible to code hierarchy bias.

10. The computer-implemented method of claim 9, wherein the medical priority dispatch computer system comparing further comprises comparing determinant level code and determinant level sub-code pairs having the same determinant level sub-code.

11. The computer-implemented method of claim 7, further comprising performing statistical analysis on a plurality of stored determinant level code and sub-code combinations to determine situations that are susceptible to code hierarchy bias.

12. The computer-implemented method of claim 7, further comprising performing statistical analysis on a plurality of stored determinant level code and sub-code combinations to determine a clinical make-up of the determinant level code as it relates to specific situations and diagnoses and to ensure the determinant level codes are medically accurate.

13. A computer-implemented method for emergency medical dispatch response, the method comprising:

receiving at a computer system caller responses to questions asked by a dispatcher, the responses reporting aspects, including signs, symptoms, or conditions, relating to an emergency, wherein the responses are input into the computer system by the dispatcher, and wherein the questions are provided to the dispatcher according to a pre-scripted protocol by a medical priority dispatch system running on the computer system;

the computer system and dispatcher generating a determinant level code indicative of the criticality of the call based on the caller responses, the determinant level code representing a subset of the caller-reported aspects relating to the emergency;

the computer system generating a determinant level sub-code based on a combination of signs, symptoms, and conditions reported in the caller responses to the protocol questions, the sub-code representing the combination of all of the reported signs, symptoms, and conditions;

the computer system storing the determinant level code and the determinant

level sub-code pair; and

the computer system communicating to an emergency response agency the determinant level code and determinant level sub-code.

14. The computer-implemented method of claim 13, further comprising the computer system storing the caller responses on a non-transitory computer-readable storage medium for subsequent examination to generate the determinant level sub-code, wherein the computer system generates the determinant level sub-code by electronically searching and analyzing the caller responses to generate the determinant level sub-code.

15. The computer-implemented method of claim 13, further comprising the computer system performing statistical analysis on stored determinant level code and sub-code data to determine situations that are susceptible to code hierarchy bias.

16. The computer-implemented method of claim 13, further comprising the computer system performing statistical analysis on stored determinant level code and sub-code descriptor data to determine a clinical make-up of each determinant level code as it relates to specific situations and diagnoses and to ensure the determinant level codes are medically accurate.

17. A computer system for identifying code hierarchy bias in a medical priority dispatch system, the computer system comprising:

a medical priority dispatch system to generate a determinant level code indicative of the criticality of the call based on caller responses to questions asked by a dispatcher, wherein the questions are provided to the dispatcher according to a pre-scripted protocol by the medical priority dispatch system, and wherein the

responses report a plurality of aspects and the determinant level code represents a subset of the plurality of aspects, each aspect of the plurality of aspects comprising one of the following: a sign, a symptom, and a condition;

a code hierarchy system in communication with the medical priority dispatch system, the code hierarchy system configured to receive the determinant level code generated on the medical priority dispatch system, to generate a determinant level sub-code based on a combination of aspects reported in the caller responses to the questions asked by the dispatcher, to store the determinant level code and the determinant level sub-code pair; and communicate to an emergency response agency the determinant level code and determinant level sub-code,

wherein the determinant level sub-code represents the combination of all reported aspects,

wherein the computer system compares the determinant level code and determinant level sub-code pair to other determinant level code and determinant level sub-code pairs to identify whether a combination of reported aspects of a situation is susceptible to code hierarchy bias and outputs information resulting from the comparison of determinant level code and determinant level sub-code pairs that can be used to improve the clinical accuracy of the determinant level codes generated by the medical priority dispatch system.

18. The computer system of claim 17, wherein the computer system compares the determinant level code and determinant level sub-code pair to other pairs by performing statistical analysis to identify situations susceptible to code hierarchy bias.

19. The computer system of claim 17, wherein the medical priority dispatch system is on a first computer and the code hierarchy system is on a second computer, and wherein the computer system further comprises a network to enable communication between the first computer and the second computer.

20. A computer system for identifying code hierarchy bias in medical priority dispatch systems, the computer system comprising:

- a processor;

- an output device;

- an input device;

- a memory having stored thereon:

 - pre-scripted inquiries to be directed to an emergency caller by a dispatcher utilizing the computer system;

 - pre-scripted instructions to be provided to an emergency caller by the dispatcher;

 - a protocol module configured to present, on the monitor, the pre-scripted inquiries and instructions to the dispatcher; and

 - a calculator module configured to determine a determinant level code and a determinant level sub-code based on caller responses to the pre-scripted inquiries, wherein the caller responses report aspects, including signs, symptoms, and conditions, wherein the determinant level code represents a subset of the reported signs, symptoms, and conditions, and wherein the determinant level sub-code represents an entire combination of all the signs, symptoms, and conditions that are reported in the caller responses.

21. A computer system of claim 20, wherein the memory further comprises caller responses received from one or more callers responding to the pre-scripted inquiries, wherein the caller responses are stored on the memory to be subsequently searched and analyzed.

22. A computer system of claim 20, wherein the memory further comprises stored determinant level code and stored determinant level sub-codes.