data of the subject at a particular location, systems and methods provided herein enable a determination as to how a subject's environment has impacted, is presently impacting, or may subsequently impact the health (including physiological or mental health) or lifestyle of the subject.

[0006] In some embodiments, location-based data provides critical information to characterize and learn about a subject's environment. Additional sources of information can improve the overall interpretation and assessment of the location-based data to characterize a subject's environment, including social networking data, communications, purchasing history, and multimedia data (collectively referred to as "personal behavior data" herein). For example, with information gleaned from a subject's social network, one can further characterize and resolve environmental inputs, such as socialization patterns, the number and age of people likely to be at a social gathering, and the travel patterns of one's social network. Communications information can help characterize the strength, quality, and size of a subject's social network, as well as provide information about a subject's hobbies and activities, such as a training routine for a marathon. Purchasing history provides additional insight into a subject's exogenous and personal behavior inputs, such as a subject's diet, cosmetics and cookbook selections, and exercise routine. Location-based information can be augmented with multimedia data, such as photos, videos, and sound. Such information can characterize the location-based environment, such as weather, air and water quality, flora and fauna, population density, and food options.

[0007] In one ~~embodiment~~aspect of the present invention, a computer-implemented method for generating a location-based physiological history of a subject is provided, the method including: using a bench-top point-of-service device to obtain assay data from a biological sample of the subject at the one or more geographic locations , wherein the system is configured to: (a) perform at least one sample preparation procedure selected from the group consisting of sample processing , centrifugation, magnetic separation, and chemical processing, and (b) at least one or multiple types of assays selected from the group consisting of immunoassay, nucleic acid assay, receptor-based assay, cytometric assay, colorimetric assay, electrochemical assay, and spectroscopic assay; generating, with the aid of a processor, a location-based physiological history of the subject by correlating geolocation data of the subject with physiological data and exogenous data, wherein the geolocation data is obtained with the aid of a geolocation system on or associated with the subject, generating point-of-service geolocation data obtained by the point of service system; and wherein the exogenous data is of or related to environmental conditions at a geographic location of said subject;

reviewing a location-based physiological history of a second subject for exogenous factors that have a likelihood of impacting the health or well-being of the first subject; correlating geolocations of the subject with exogenous data regarding pathogens at the geolocations and subject location based on personal behavior data to alert the subject that the subject may have contracted a sickness from the subject's visit to geolocations that had pathogens; determining that the subject had visited the geolocation having the pathogens, and subsequently using the subject's personal behavior data to determine that the subject has an appreciable likelihood of the subject contracting an illness upon exposure to the pathogen. In some embodiments, the method may further include transmitting the location-based physiological history of the subject to (i) the subject, (ii) a healthcare provider, (iii) an insurance provider, or (iv) a pharmacy. In some embodiments, the method may further include correlating the location-based physiological history of the subject with a location-based physiological history of other subjects.

[0008] In another ~~embodiment~~aspect of the present invention, a computer-implemented method for generating a location-based physiological history of a subject is provided, the method including: generating, with the aid of a processor, a location-based physiological history of the subject by correlating geolocation data of the subject with physiological data and personal behavior data, wherein the geolocation data is

obtained with the aid of a geolocation system on or associated with the subject; reviewing a location-based physiological history of a second subject for exogenous factors that have a likelihood of impacting the health or well-being of the first subject; correlating geolocations of the subject with exogenous data regarding pathogens at the geolocations and subject location based on personal behavior data to alert the subject that the subject may have contracted a sickness from the subject's visit to geolocations that had pathogens; determining that the subject had visited the geolocation having the pathogens, and subsequently using the subject's personal behavior data to determine that the subject has an appreciable likelihood of the subject contracting an illness upon exposure to the pathogen. In some embodiments, the method may further include correlating exogenous data with said geolocation data, physiological data, and personal behavior data to generate a location-based physiological history, wherein the exogenous data is of or relating to the environment. In some embodiments, the method may further include transmitting the location-based physiological history of the subject to (i) the subject, (ii) a healthcare provider, (iii) an insurance provider, or (iv) a pharmacy. In some embodiments, the method may further include correlating the location-based physiological history of the subject with a location-based physiological history of other subjects.

[0009] In another ~~embodiment~~aspect of the present invention, a computer-implemented method for generating a location-based physiological history of a subject is provided, the method including: generating, with the aid of a processor, a location-based physiological history of the subject by correlating geolocation data of the subject with personal behavior data and exogenous data, wherein the geolocation data is obtained with the aid of a geolocation system on or associated with the subject, and wherein the exogenous data is of or related to environmental conditions at a geographic location of the subject; reviewing a location-based physiological history of a second subject for exogenous factors that have a likelihood of impacting the health or well-being of the first subject; correlating geolocations of the subject with exogenous data regarding pathogens at the geolocations and subject location based on personal behavior data to alert the subject that the subject may have contracted a sickness from the subject's visit to geolocations that had pathogens; determining that the subject had visited the geolocation having the pathogens, and subsequently using the subject's personal behavior data to determine that the subject has an appreciable likelihood of the subject contracting an illness upon exposure to the pathogen..

[0010] In another ~~embodiment~~aspect of the present invention, a computer-implemented method for generating a location-based physiological history of a subject is provided, the method including: generating, with the aid of a processor, a location-based physiological history of the

subject by correlating geolocation data of the subject with any two of physiological data, exogenous data and personal behavior data, wherein the geolocation data is obtained with the aid of a geolocation system on or associated with the subject; reviewing a location-based physiological history of a second subject for exogenous factors that have a likelihood of impacting the health or well-being of the first subject; correlating geolocations of the subject with exogenous data regarding pathogens at the geolocations and subject location based on personal behavior data to alert the subject that the subject may have contracted a sickness from the subject's visit to geolocations that had pathogens; determining that the subject had visited the geolocation having the pathogens, and subsequently using the subject's personal behavior data to determine that the subject has an appreciable likelihood of the subject contracting an illness upon exposure to the pathogen.

[0011] In another ~~embodiment~~aspect of the present invention, a computer readable medium including machine-executable code implementing a method for generating a location-based physiological history of a subject to aid in diagnosis, prognosis or treatment of a disease condition is provided, the method including: generating, with the aid of a processor, a location-based physiological history of the subject by correlating geolocation data of the subject with physiological data and exogenous data, wherein the geolocation data is obtained with the aid of a geolocation system on or associated with the subject, and wherein the exogenous data is of or related to environmental conditions at a geographic location of the subject; reviewing a location-based physiological history of a second subject for exogenous factors that have a likelihood of impacting the health or well-being of the first subject; correlating geolocations of the subject with exogenous data regarding pathogens at the geolocations and subject location based on personal behavior data to alert the subject that the subject may have contracted a sickness from the subject's visit to geolocations that had pathogens; determining that the subject had visited the geolocation having the pathogens, and subsequently using the subject's personal behavior data to determine that the subject has an appreciable likelihood of the subject contracting an illness upon exposure to the pathogen.

[0012] In another ~~embodiment~~aspect of the present invention, a computer readable medium comprising machine-executable code implementing a method for generating a location-based physiological history of a subject is provided, the method including: generating, with the aid of a processor, a location-based physiological history of the subject by correlating geolocation data of the subject with physiological data and personal behavior data, wherein the geolocation data is obtained with the aid of a geolocation system on or associated with the subject; reviewing a location-based physiological history of a second subject for exogenous factors that have a likelihood of impacting the health or well-being of the first subject ;correlating geolocations of

the subject with exogenous data regarding pathogens at the geolocations and subject location based on personal behavior data to alert the subject that the subject may have contracted a sickness from the subject's visit to geolocations that had pathogens;

determining that the subject had visited the geolocation having the pathogens, and subsequently using the subject's personal behavior data to determine that the subject has an appreciable likelihood of the subject contracting an illness upon exposure to the pathogen.

[0013] In another ~~embodiment~~aspect of the present invention, a health monitoring device is provided, the device including: a housing; a geolocation module within the housing, the geolocation module configured to obtain geolocation data at one or more geographic locations of a subject; and a point of service module within the housing, the point of service module configured to detect the concentration of an analyte in a biological sample of the subject at said one or more geographic locations; reviewing a location-based physiological history of a second subject for exogenous factors that have a likelihood of impacting the health or well-being of the first subject; correlating geolocations of the subject with exogenous data regarding pathogens at the geolocations and subject location based on personal behavior data to alert the subject that the subject may have contracted a sickness from the subject's visit to geolocations that had pathogens; determining that the subject had visited the geolocation having the pathogens, and subsequently using the subject's personal behavior data to determine that the subject has an appreciable likelihood of the subject contracting an illness upon exposure to the pathogen. In some embodiments, the health management device may further comprise another module for obtaining exogenous data. In some embodiments, the health management device further includes a graphical user interface (GUI) configured to display to the subject i) the geolocation data, ii) the physiological data, or iii) the location-based physiological history of the subject.

[0014] In ~~some embodiments~~another aspect of the present invention, a health monitoring system is provided, the system including: a health management device, comprising: i) a geolocation module configured to obtain geolocation data, the geolocation data including geographic locations of a subject; and ii) a point of service module configured to obtain physiological data from the subject; a server operatively linked to the health management device, the server configured to collect the geolocation data and physiological data from the health management device, wherein the server is configured to correlate, with the aid of a processor, the geolocation data with the physiological data and the exogenous data, the exogenous data of or related to environmental conditions at the geographic locations; wherein said server is configured to review a location-based physiological history of a second subject for exogenous factors that have a likelihood of impacting the health or well-being of the first subject.

[0015] In another ~~embodiment~~aspect of the present invention, a health monitoring system is provided, the system including: a computer system configured to correlate, with the aid of a processor, geolocation data of a subject with any two of physiological data, exogenous data and personal behavior data, thereby aiding in diagnosis, prognosis or treatment of a disease condition of the subject, wherein the geolocation data is of or related to geographic locations of the subject, wherein the exogenous data is of or related to environmental conditions at the geographic locations, and wherein the physiological data and personal behavior data are of or related to the subject; wherein said computer system is configured to review a location-based

physiological history of a second subject for exogenous factors that have a likelihood of impacting the health or well-being of the first subject .

[0016] In another ~~embodiment~~aspect of the present invention, a method for providing a warning concerning the health of a subject is provided, the method including: correlating, with the aid of a processor, geolocation data of the subject with physiological data and exogenous data, the exogenous data related to an environmental condition of a location in which the subject resides or plans to visit; and providing the warning concerning the health of the subject based on the correlation when the correlation is statistically significant, wherein the physiological data is collected during or subsequent to the visit to the location; reviewing a location-based physiological history of a second subject for exogenous factors that have a likelihood of impacting the health or well-being of the first subject; correlating geolocations of the subject with exogenous data regarding pathogens at the geolocations and subject location based on personal behavior data to alert the subject that the subject may have contracted a sickness from the subject's visit to geolocations that had pathogens; determining that the subject had visited the geolocation having the pathogens, and subsequently using the subject's personal behavior data to determine that the subject has an appreciable likelihood of the subject contracting an illness upon exposure to the pathogen.

[0017] In some embodiments, in a system, device, method or computer readable medium described above or elsewhere herein involving a method for generating a location-based

CLAIMS

WHAT IS CLAIMED IS:

1. A computer-implemented method for generating a location-based physiological history of a subject, comprising:

using a bench-top point-of-service device to obtain assay data from a biological sample of the subject at the one or more geographic locations , wherein the system is configured to: (a) perform at least one sample preparation procedure selected from the group consisting of sample processing , centrifugation, magnetic separation, and chemical processing, and (b) at least one or multiple types of assays selected from the group consisting of immunoassay, nucleic acid assay, receptor-based assay, cytometric assay, colorimetric assay, electrochemical assay, and spectroscopic assay;

generating, with the aid of a processor, a location-based physiological history of said subject by correlating geolocation data of said subject with physiological data and exogenous data,

wherein said geolocation data is obtained with the aid of a geolocation system on or associated with said subject,

generating point-of-service geolocation data obtained by the point of service system; and

wherein said exogenous data is of or related to environmental conditions at a geographic location of said subject;

reviewing a location-based physiological history of a second subject for exogenous factors that have a likelihood of impacting the health or well-being of the first subject ;

correlating geolocations of the subject with exogenous data regarding pathogens at the geolocations and subject location based on personal behavior data to alert the subject that the subject may have contracted a sickness from the subject's visit to geolocations that had pathogens;

determining that the subject had visited the geolocation having the pathogens, and subsequently using the subject's personal behavior data to determine that the subject has an appreciable likelihood of the subject contracting an illness upon exposure to the pathogen.

2. The method of Claim 1, wherein said physiological data is obtained with the aid of a point of service system on or associated with said subject.

3. The method of Claim 1, wherein said physiological data is obtained at a geographical location of said subject.

4. The method of Claim 1, wherein said physiological data comprises at least one of protein concentration, blood pressure, breathing pattern, white blood cell count, red blood cell count,

heart rate, body temperature, blood pressure, DNA/RNA expression, drug concentration, skin conductivity, amount of hand tremors, or metabolite concentration.

5. The method of Claim 1, wherein said exogenous data is collected before, during, or after said subject's visit to said location.

6. The method of Claim 1, wherein said exogenous data comprises at least one of, temperature, air pressure, humidity, dew point, wind speed, food consumed by the subject, or concentration of allergens, pollen, pathogens, carbon monoxide, or toxins.

7. The method of Claim 1, wherein said geolocation data is obtained with the aid of a geolocation system on or associated with said subject.

8. The method of Claim 7, wherein the geolocation system uses wireless triangulation or a global positioning system (GPS).

9. The method of Claim 7, wherein said geolocation system is configured to obtain exogenous data or physiological data from said subject.

10. The method of Claim 1, further comprising transmitting said location-based physiological history of said subject to (i) said subject, (ii) a healthcare provider, (iii) an insurance provider, or (iv) a pharmacy.

11. The method of Claim 1, further comprising correlating said location-based physiological history of said subject with a location-based physiological history of other subjects.

12. A computer-implemented method for generating a location-based physiological history of a subject, comprising:

generating, with the aid of a processor, a location-based physiological history of said subject by correlating geolocation data of said subject with physiological data and personal behavior data,

wherein said geolocation data is obtained with the aid of a geolocation system on or associated with said subject;

reviewing a location-based physiological history of a second subject for exogenous factors that have a likelihood of impacting the health or well-being of the first subject ;

correlating geolocations of the subject with exogenous data regarding pathogens at the geolocations and subject location based on personal behavior data to alert the subject that the subject may have contracted a sickness from the subject's visit to geolocations that had pathogens;

determining that the subject had visited the geolocation having the pathogens, and subsequently using the subject's personal behavior data to determine that the subject has an appreciable likelihood of the subject contracting an illness upon exposure to the pathogen.

13. The method of Claim 12, further comprising correlating exogenous data with said geolocation data, physiological data, and personal behavior data to generate a location-based physiological history, wherein said exogenous data is of or relating to the environment.

14. The method of Claim 12, wherein said physiological data is obtained with the aid of a point of service system on or associated with said subject.

15. The method of Claim 12, wherein said physiological data is obtained at a geographical location of said subject.

16. The method of Claim 12, wherein said physiological data comprises at least one of protein concentration, blood pressure, breathing pattern, white blood cell count, red blood cell count, heart rate, body temperature, blood pressure, DNA/RNA expression, drug concentration, skin conductivity, amount of hand tremors, or metabolite concentration.

17. The method of Claim 12, wherein said geolocation data is obtained with the aid of a geolocation system on or associated with said subject.

18. The method of Claim 17, wherein the geolocation system uses wireless triangulation or a global positioning system (GPS).

19. The method of Claim 17, wherein said geolocation system is configured to obtain exogenous data or physiological data from said subject.

20. The method of Claim 12, wherein said personal behavior data is collected from at least one source selected from the group consisting of a social network, the Internet, a communications repository, a retailer, a multimedia repository, a bank, or a credit union.

21. The method of Claim 12, wherein said personal behavior data is obtained from a communications device or multimedia device of or associated with said subject.

22. The method of Claim 21, wherein said communications device or multimedia device is portable.

23. The method of Claim 12, wherein said personal behavior data comprises at least one of social networking data, communications data, purchasing history, or multimedia data.

24. The method of Claim 23, wherein said communications data is selected from the group consisting of short message service (SMS) text messaging, multimedia message service (MMS) text messaging, phone conversations, or instant messaging.

25. The method of Claim 12, further comprising transmitting said location-based physiological history of said subject to (i) said subject, (ii) a healthcare provider, (iii) an insurance provider, or (iv) a pharmacy.

26. The method of Claim 12, further comprising correlating said location-based physiological history of said subject with a location-based physiological history of other subjects.

27. A computer-implemented method for generating a location-based physiological history of a subject, comprising:

generating, with the aid of a processor, a location-based physiological history of said subject by correlating geolocation data of said subject with personal behavior data and exogenous data,

wherein said geolocation data is obtained with the aid of a geolocation system on or associated with said subject, and

wherein said exogenous data is of or related to environmental conditions at a geographic location of said subject;

reviewing a location-based physiological history of a second subject for exogenous factors that have a likelihood of impacting the health or well-being of the first subject ;

correlating geolocations of the subject with exogenous data regarding pathogens at the geolocations and subject location based on personal behavior data to alert the subject that the subject may have contracted a sickness from the subject's visit to geolocations that had pathogens;

determining that the subject had visited the geolocation having the pathogens, and subsequently using the subject's personal behavior data to determine that the subject has an appreciable likelihood of the subject contracting an illness upon exposure to the pathogen.

28. A computer-implemented method for generating a location-based physiological history of a subject, comprising:

generating, with the aid of a processor, a location-based physiological history of said subject by correlating geolocation data of said subject with any two of physiological data, exogenous data and personal behavior data,

wherein said geolocation data is obtained with the aid of a geolocation system on or associated with said subject;

reviewing a location-based physiological history of a second subject for exogenous factors that have a likelihood of impacting the health or well-being of the first subject ;

correlating geolocations of the subject with exogenous data regarding pathogens at the geolocations and subject location based on personal behavior data to alert the subject that the subject may have contracted a sickness from the subject's visit to geolocations that had pathogens;

determining that the subject had visited the geolocation having the pathogens, and subsequently using the subject's personal behavior data to determine that the subject has an appreciable likelihood of the subject contracting an illness upon exposure to the pathogen.

29. A computer readable medium comprising machine-executable code implementing a method for generating a location-based physiological history of a subject to aid in diagnosis, prognosis or treatment of a disease condition, comprising:

generating, with the aid of a processor, a location-based physiological history of said subject by correlating geolocation data of said subject with physiological data and exogenous data,

wherein said geolocation data is obtained with the aid of a geolocation system on or associated with said subject, and

wherein said exogenous data is of or related to environmental conditions at a geographic location of said subject;

reviewing a location-based physiological history of a second subject for exogenous factors that have a likelihood of impacting the health or well-being of the first subject ;

correlating geolocations of the subject with exogenous data regarding pathogens at the geolocations and subject location based on personal behavior data to alert the subject that the subject may have contracted a sickness from the subject's visit to geolocations that had pathogens;

determining that the subject had visited the geolocation having the pathogens, and subsequently using the subject's personal behavior data to determine that the subject has an appreciable likelihood of the subject contracting an illness upon exposure to the pathogen.

30. A computer readable medium comprising machine-executable code implementing a method for generating a location-based physiological history of a subject, comprising:

generating, with the aid of a processor, a location-based physiological history of said subject by correlating geolocation data of said subject with physiological data and personal behavior data,

wherein said geolocation data is obtained with the aid of a geolocation system on or associated with said subject;

reviewing a location-based physiological history of a second subject for exogenous factors that have a likelihood of impacting the health or well-being of the first subject ;correlating geolocations of the subject with exogenous data regarding pathogens at the geolocations and subject location based on personal behavior data to alert the subject that the subject may have contracted a sickness from the subject's visit to geolocations that had pathogens;

determining that the subject had visited the geolocation having the pathogens, and subsequently using the subject's personal behavior data to determine that the subject has an appreciable likelihood of the subject contracting an illness upon exposure to the pathogen.

31. A health monitoring device, comprising:

a housing;

a geolocation module within said housing, said geolocation module configured to obtain geolocation data at one or more geographic locations of a subject; and

a point of service module within said housing, said point of service module configured to detect the concentration of an analyte in a biological sample of said subject at said one or more

geographic locations;

reviewing a location-based physiological history of a second subject for exogenous factors that have a likelihood of impacting the health or well-being of the first subject ;

correlating geolocations of the subject with exogenous data regarding pathogens at the geolocations and subject location based on personal behavior data to alert the subject that the subject may have contracted a sickness from the subject's visit to geolocations that had pathogens;

determining that the subject had visited the geolocation having the pathogens, and subsequently using the subject's personal behavior data to determine that the subject has an appreciable likelihood of the subject contracting an illness upon exposure to the pathogen.

32. The device of Claim 31, wherein said health management device further comprises another module for obtaining exogenous data.

33. The device of Claim 31, wherein said health management device further comprises a graphical user interface (GUI) configured to display to said subject i) said geolocation data, ii) said physiological data, or iii) said location-based physiological history of said subject.

34. A health monitoring system, comprising:

a health management device, comprising:

i) a geolocation module configured to obtain geolocation data, said geolocation data including geographic locations of a subject; and

ii) a point of service module configured to obtain physiological data from said subject;

a server operatively linked to said health management device, said server configured to collect said geolocation data and physiological data from said health management device,

wherein said server is configured to correlate, with the aid of a processor, said geolocation data with said physiological data and said exogenous data, said exogenous data of or related to environmental conditions at said geographic locations;

wherein said server is configured to review a location-based physiological history of a second subject for exogenous factors that have a likelihood of impacting the health or well-being of the first subject.

35. The system of Claim 34, further comprising one or more sensors configured to detect said exogenous data.

36. The system of Claim 34, wherein said health monitoring system is configured to generate health information related to said subject.

37. The system of Claim 34, wherein said health management device comprises a graphical user interface (GUI) configured to display to said subject i) said geolocation data, ii) said physiological data, or iii) said location-based physiological history of said subject.

38. The system of Claim 34, wherein said health monitoring system is configured to generate health information related to said subject.

39. A health monitoring system, comprising:

a computer system configured to correlate, with the aid of a processor, geolocation data of a subject with any two of physiological data, exogenous data and personal behavior data, thereby aiding in diagnosis, prognosis or treatment of a disease condition of said subject,

wherein said geolocation data is of or related to geographic locations of said subject,

wherein said exogenous data is of or related to environmental conditions at said geographic locations, and

wherein said physiological data and personal behavior data are of or related to said subject;

wherein said computer system is configured to review a location-based physiological history of a second subject for exogenous factors that have a likelihood of impacting the health or well-being of the first subject.

40. The system of Claim 39, wherein the computer system is operatively linked to a health management device configured to obtain physiological data from a subject.

41. The system of Claim 40, wherein said health management device comprises a geolocation module for collecting geolocation data.

42. The system of Claim 39, wherein said computer system is configured to collect said any two of physiological data, exogenous data and personal behavior data.

43. The system of Claim 39, wherein said computer system is configured to correlate geolocation data of said subject with any three of physiological data, exogenous data and personal behavior data.

44. The system of Claim 39, further comprising a housing having the computer system.

45. The system of Claim 44, wherein said geolocation data is collected with the aid of a geolocation module in said housing.

46. A method for providing a warning concerning the health of a subject, comprising:

correlating, with the aid of a processor, geolocation data of said subject with

physiological data and exogenous data, said exogenous data related to an environmental condition of a location in which said subject resides or plans to visit; and

providing said warning concerning the health of the subject based on said correlation when said correlation is statistically significant,

wherein said physiological data is collected during or subsequent to the visit to said location;

reviewing a location-based physiological history of a second subject for exogenous factors that have a likelihood of impacting the health or well-being of the first subject;

correlating geolocations of the subject with exogenous data regarding pathogens at the geolocations and subject location based on personal behavior data to alert the subject that the subject may have contracted a sickness from the subject's visit to geolocations that had pathogens;

determining that the subject had visited the geolocation having the pathogens, and subsequently using the subject's personal behavior data to determine that the subject has an appreciable likelihood of the subject contracting an illness upon exposure to the pathogen.

47. The method of Claim 46, wherein said exogenous data is collected before, during, or after said subject's visit to said location.

48. The method of Claim 46, wherein said geolocation data is obtained with the aid of a geolocation system on or associated with said subject.

49. The method of Claim 48, wherein said geolocation system uses wireless triangulation or global positioning system (GPS).

50. The method of Claim 48, wherein said geolocation system is configured to obtain exogenous data or physiological data from said subject.

51. The method of Claim 46, wherein said physiological data comprises at least one of protein concentration, blood pressure, breathing pattern, white blood cell count, red blood cell count, heart rate, body temperature, blood pressure, DNA/RNA expression, drug concentration, skin conductivity, amount of hand tremors, or metabolite concentration.

52. The method of Claim 46, wherein said exogenous data comprises at least one of temperature, air pressure, humidity, dew point, wind speed, food consumed by the subject, or concentration of allergens, pollen, pathogens , carbon monoxide, or toxins.