We claim:

1. A wireless relay module comprising:

a first receiver capable of wirelessly receiving medical device data over a wireless relay network from at least one medical device;

a first transmitter capable of wirelessly transmitting data over an internet-accessible wireless communications network;

a second transmitter capable of wirelessly transmitting medical device data to a second wireless relay module over the wireless relay network;

a controller coupled to the first and second transmitters, said controller capable of controlling said wireless relay module to select one of said first or second transmitter for transmitting medical device data received by said first receiver; and

a status module coupled to the first transmitter and controller, said status module capable of determining a status of potential communications over said wireless communications network and providing said status to the controller for selecting said first or second transmitter based on said status.

2. The wireless relay module of claim 1, wherein said second transmitter is further capable of transmitting operating instructions to said at least one medical device.

3. The wireless relay module of claim 2, further comprising:

a second receiver capable of wirelessly receiving said operating instructions from said internet-accessible wireless communications network; and

a memory electrically connected to said controller, said memory capable of buffering said received operating instructions destined for respective ones of said medical devices, wherein said controller controls the order and/or priority for transmission of said operating instructions to said respective ones of said medical devices.

4. Cancelled

5. The wireless relay module of claim 1, further comprising:

a wireless communications network indicator electrically connected to said status module for providing a status indication of a determined status of potential communications over said wireless communications network by said wireless relay module.

6. The wireless relay module of claim 1, further comprising:

a wireless relay network indicator electrically connected to said controller for providing a status indication of a determined status of potential communications over said wireless relay network.

7. The wireless relay module of claim 1, wherein said controller is capable of selecting one of said first or second transmitter based on receiving a status parameter over said wireless relay network.

8. Cancelled

9. Cancelled

10. Cancelled

11. The wireless relay module of claim 1 wherein said wireless relay network is a ZIGBEE network.

12. The wireless relay module of claim 1 wherein said wireless relay network is a relay-enabled Bluetooth network.

13. The wireless relay module of claim 1, wherein said an internet-accessible wireless communications network is a mobile communications network.

14. The wireless relay module of claim 13 wherein said mobile communications network is a CDMA or GSM-based network.

15. The wireless relay module of claim 1 wherein said medical device data is encrypted medical device data.

16. A process for operating a relay module in a medical device wireless network, comprising the steps of:

a. receiving data from at least one medical device over a wireless relay network;

b. determining the status of an internet-accessible wireless communications network in communication with a first transmitter of said relay module;

c. transmitting said data from said at least one medical device over said wireless communications network by said first transmitter if said determined status satisfies a particular criteria; and

d. transmitting said data from said at least one medical device by a second transmitter in communication with the wireless relay network to a second relay module over the wireless relay network if said determined status fails to satisfy the particular criteria.

17. The process of claim 16 further comprising the steps of:

receiving operating instructions over the internet-accessible wireless communications network intended for said at least one medical device; and

transmitting said received operating instructions to said intended ones of said at least one medical device.

18. The process of claim 17 further comprising the steps of:

buffering said received operating instructions destined for intended ones of said at least one medical device; and

controlling the order and/or priority for transmission of said operating instructions to said intended ones of said at least one medical device.

19. The process of claim 16 further comprising the steps of:

providing an indication of potential communications over said wireless communications network.

20. The process of claim 16 further comprising the steps of:

providing an indication of potential communications over said wireless relay network .

21. The process of claim 20, wherein the step of providing an indication of potential communications over said wireless relay network further comprises the step of:

providing an indication of a signal strength of said wireless relay network by selectively illuminating none or one or more LED indicators.

22. The process of claim 16, wherein said wireless relay network is a ZIGBEE network.

23. The process of claim 16, wherein said wireless relay network is a relay enabled Bluetooth network.

24. The process of claim 16, wherein said wireless communications network is a mobile communications network.

25. The process of claim 24, wherein said mobile communications network is a CDMA or GSM-based network.

26. The process of claim 24, wherein the determining step further comprises the steps of:

measuring a signal strength of said wireless communications network; and

determining said status of said wireless communications network as a function of said measured signal strength of said wireless communications network.

27. The process of claim 16, wherein said status is determined as a function of a value of a data element stored by a storage element of said relay module.

CLAIMS

1. A wireless relay module comprising:

a first receiver capable of wirelessly receiving medical device data over a wireless relay network from at least one medical device;

a first transmitter capable of wirelessly transmitting medical device data over an internet accessible wireless communications network;

a second transmitter capable of wirelessly transmitting medical device data to a second wireless relay module over the wireless relay network; and

a processor coupled to the first and second transmitters, wherein said processor is capable of determining a device status for each of the at least one medical device and a connection status of each of the first and second transmitters and the wireless relay module ; and

a status module in communication with the first transmitter and processor, wherein the status module is capable of determining an access status of the wireless relay network and providing the access status to the processor for selecting the first or second transmitter for data transmission based upon at least two of:

(1) the access status of the wireless relay network;

(2) the device status for each of the at least one medical device determined; and

(3) the connection status of each of the first and second transmitters in the wireless relay module.

2. The wireless relay module of claim 1, wherein said second transmitter is further capable of transmitting operating instructions to said at least one medical device.

3. The wireless relay module of claim 2, further comprising:

a second receiver capable of wirelessly receiving said operating instructions from said internet-accessible wireless communications network; and

a memory electrically connected to said processor, said memory capable of buffering said received operating instructions destined for respective ones of said medical device, wherein said processor controls the order and/or priority for transmission of said operating instructions to said respective ones of said medical device.

4. The wireless relay module of claim 1, further comprising:

an internet-accessible wireless communications network indicator in communication with said status module for providing a status indication of a determined status of potential communications over said wireless communications network by said wireless relay module.

5. The wireless relay module of claim 1, further comprising:

a wireless relay network indicator electrically connected to said controller for providing a status indication of a determined status of potential communications over said wireless relay network.

6. The wireless relay module of claim 1, wherein said processor determines a routing path of the medical device data based upon the status received by the status module at a time of data transmission.

7. The wireless relay module of claim 1, wherein the transmission path of the medical device data is based upon an assigned priority of the medical device data received from one of a plurality of medical devices for transmitting to one or more remote monitoring devices.

8. The wireless relay module of claim 1 wherein the connection status comprises:

a first connection status which indicates whether the internet accessible wireless communications network is accessible by the first transmitter; and

a second connection status indicates whether the wireless relay network is accessible by the second transmitter.

9. The wireless relay module of claim 1 wherein each of the relay modules in the wireless relay network is configured to determine its current status and to communicate its current status to other relay modules in the wireless relay network.

10. The wireless relay module of claim 1 wherein:

each of the relay modules in the wireless relay network is configured to determine its current status and to communicate its current status to other relay modules in the wireless relay network; and

each of the relay modules in the wireless relay network is configured to receive a current status of other relay modules in the wireless relay network.

11. The wireless relay module of claim 1 wherein said wireless relay network operates in accordance with a ZIGBEE network protocol.

12. The wireless relay module of claim 1 wherein said wireless relay network is a relay-enabled Bluetooth network.

13. The wireless relay module of claim 1, wherein said internet-accessible wireless communications network is a mobile communications network.

14. The wireless relay module of claim 8 wherein said mobile communications network is a CDMA or GSM-based network.

15. The wireless relay module of claim 1 wherein said medical device data is encrypted medical device data.

16. A process for operating a relay module in a medical device wireless network, comprising:

receiving data from at least one medical device over a wireless relay network;

communicating with at least one of a plurality of interface circuits and/or relay modules in the medical device network;

determining an access status of an internet-accessible wireless communications network in communication with a first transmitter of said relay module, and a device status for each of the at least one medical device and a connection status of the transmitter and the wireless relay module;

transmitting said data from said at least one medical device over said communications network by said first transmitter if the determined access status of the wireless relay network, device status for each of the at least one medical device, and connection status of the transmitter and the wireless relay module satisfy a particular criteria; and

transmitting said data from said at least one medical device by a second transmitter in communication with the wireless relay network to a second relay module over the wireless relay network if said determined access status of the wireless relay network, device status for each of the at least one medical device, and connection status of the transmitter and the wireless relay module fail to satisfy the particular criteria.

17. The process of claim 16 further comprising:

receiving operating instructions over the internet-accessible wireless communications network intended for said at least one medical device; and

transmitting said received operating instructions to said intended ones of said at least one medical device.

18. The process of claim 17 further comprising:

buffering said received operating instructions destined for intended ones of said at least one medical device; and

controlling the order and/or priority for transmission of said operating instructions to said intended ones of said at least one medical device.

19. The process of claim 16 further comprising:

providing an indication of potential communications over said wireless communications network.

20. The process of claim 16 further comprising:

providing an indication of potential communications over said wireless relay network.

21. The process of claim 20, wherein providing an indication of potential communications over said wireless relay network further comprises the step of:

providing an indication of a signal strength of said wireless relay network by selectively illuminating none or one or more LED indicators.

22. The process of claim 16, wherein said wireless relay network is a ZIGBEE network.

23. The process of claim 16, wherein said wireless relay network is a relay enabled Bluetooth network.

24. The process of claim 16, wherein said internet-accessible wireless communications network is a mobile communications network.

25. The process of claim 24, wherein said mobile communications network is a CDMA or GSM-based network.

26. The process of claim 16, wherein the determining further comprises:

measuring a signal strength of said wireless relay network; and

determining said status of said wireless relay network as a function of said measured signal strength of said wireless relay network.

27. The process of claim 16, wherein said status is determined as a function of a value of a data element stored by a storage element of said relay module.