

CLAIMS

What is claimed is:

1. A medical treatment tracking device, comprising:
 - a storage device having an opening for receiving a medical device;
 - one or more sensor configured to detect whether or not the medical device is within the opening of the storage device;
 - a data storage device configured to store time data corresponding to a time the medical device is detected within the opening; and
 - a transmitter configured to transmit the time data.
2. The medical treatment tracking device of claim 1, wherein the one or more sensor, or an actuator of such sensor(s), does not physically contact the medical device.
3. The medical treatment tracking device of claim 1, wherein the time data corresponds to a start time that the medical device is detected within the opening and an end time that the medical device is not detected within the opening.
4. The medical treatment tracking device of claim 1, wherein the time data corresponds to a duration of time and/or a cumulative duration within a period of time that the medical device is detected within the opening.
5. The medical treatment tracking device of claim 1, wherein the time data is transmitted to an external server.
6. The medical treatment tracking device of claim 5, wherein the external server is configured to store a treatment plan in a server data storage device.
7. The medical treatment tracking device of claim 6, wherein the external server further comprises one or more server processor that is configured to determine adherence to at least one aspect of the treatment plan.
8. The medical treatment tracking device of claim 7, wherein the one or more server processor is configured to determine compliance with the treatment plan based on the determined adherence to the one or more aspect of the treatment plan.

9. The medical treatment tracking device of claim 7, wherein an aspect of the treatment plan corresponds to a medical device wear time, wherein the medical device wear time corresponds to the time the medical device is detected within the cavity.
10. The medical treatment tracking device of claim 6, wherein the one or more server processor is configured to determine compliance based on the time the medical device is detected within the opening.
11. The medical treatment tracking device of claim 1, wherein the time data is sent to a mobile device.
12. The medical treatment tracking device of claim 11, wherein the mobile device is configured to store a treatment plan in a mobile data storage device.
13. The medical treatment tracking device of claim 12, wherein the mobile device is configured to determine compliance with the treatment plan using one or more mobile processor.
14. The medical treatment tracking device of claim 1, wherein the medical device is a dental appliance.
15. A dental appliance storage device, comprising:
 - a cavity configured to store a dental appliance;
 - a storage device configured to store treatment plan data that includes one or more aspect of a treatment plan;
 - one or more sensor configured to obtain data for determining adherence to one or more aspect of the treatment plan;
 - one or more processor configured to determine adherence to one or more aspect of the treatment plan, and configured to determine compliance with the treatment plan based on the adherence determination(s); and
 - a transmitter configured to transmit compliance data, corresponding to the compliance determination, to an external device.
16. The dental appliance storage device of claim 15, wherein the one or more sensor is configured to detect the presence and/or absence of the dental appliance.
17. The dental appliance storage device of claim 15, further comprising a timer configured to time the duration the dental appliance is present within and/or absent from the cavity.
18. The dental appliance storage device of claim 17, wherein:

one aspect of the treatment plan is a wear time of the dental appliance, and the one or more processor is configured to determine adherence to the aspect of wear time based on a comparison of the time duration the dental appliance is present within and/or absent from the cavity and the treatment plan data.

19. The dental appliance storage device of claim 15, further comprising a receiver configured to receive updated treatment plan data.

20. The dental appliance storage device of claim 19, wherein the updated treatment plan data corresponds to a modified or new dental appliance treatment plan, and/or corresponds to a modified or new dental appliance.

21. The dental appliance storage device of claim 15, wherein one aspect of the treatment plan is an amount of time a patient is utilizing the dental appliance.

22. The dental appliance storage device of claim 15, wherein the transmitter is further configured to transmit data corresponding to a level of adherence and/or the determination of adherence to one or more aspect of the dental plan.

23. The dental appliance storage device of claim 22, wherein the transmitter is configured to transmit the data corresponding to the level of adherence and/or the determination of adherence to one or more aspect of the dental plan when the compliance determination indicates non-compliance.

24. The dental appliance storage device of claim 17, wherein the storage device is further configured to store data corresponding to an aggregate time the dental appliance is present within and/or absent from the cavity.

25. The dental appliance storage device of claim 24, wherein the transmitter is further configured to transmit data corresponding to the aggregate time.

26. A dental appliance storage device, comprising:
a cavity configured to store a dental appliance;
one or more sensor configured to sense one or more aspect of the dental appliance;
a storage device configured to store data corresponding to the sensed aspect(s) of the dental appliance;
a transmitter configured to transmit at least a portion of the data corresponding to the sensed aspect(s) of the dental appliance.

27. The dental appliance storage device of claim 26, wherein the sensed aspect(s) of the dental appliance comprise time the dental appliance is within the cavity, cleanliness of the dental appliance, dental appliance fit, and/or structural integrity of the dental appliance.
28. The dental appliance storage device of claim 26, wherein the transmitted at least a portion of the data corresponding to the sensed aspect(s) of the dental appliance is combined with other data stored in an external client and/or external server.
29. The dental appliance storage device of claim 28, wherein the other data comprises at least one of data corresponding to perceived pain caused by the dental appliance and/or personal information about a patient using the dental appliance.
30. The dental appliance storage device of claim 28, wherein the external client and/or external server comprise one or more processor configured to determine a dental treatment plan based on the combined data corresponding to the sensed aspect(s) of the dental appliance and the other data.
31. The dental appliance storage device of claim 26, further comprising an external client and/or external server that comprise one or more processor configured to determine a dental treatment plan based on data corresponding to a perceived pain caused by the dental appliance and/or personal information about a patient using the dental appliance.
32. The dental appliance storage device of claim 26, wherein an external client and/or external server comprise one or more processor configured to determine compliance to a stored dental treatment plan based on the at least a portion of the data corresponding to the sensed aspect(s) of the dental appliance transmitted by the transmitter.
33. The dental appliance storage device of claim 26, further comprising an external device having a transmitter and receiver, wherein the receiver is configured to receive the at least a portion of the data.
34. The dental appliance storage device of claim 33, wherein the external device further comprises one or more processor configured to determine an updated treatment plan based on the received data.
35. The dental appliance storage device of claim 34, wherein the transmitter is configured to send the updated treatment plan to a receiver of the dental intraoral device holder.

36. The dental appliance storage device of claim 15, wherein the external device comprises one or more processor configured to determine an updated treatment plan the compliance determination.
37. The dental appliance storage device of claim 36, wherein the external device further comprises a transmitter configured to transmit the updated treatment plan to the dental appliance storage device.
38. A method of determining compliance with a treatment plan, comprising the steps of:
 parsing one or more aspect of a treatment plan;
 sensing one or more feature of a medical device corresponding to the one or more aspect of the treatment plan;
 determining adherence to each aspect of the treatment plan based on the sensed feature(s) of the medical device;
 determining compliance with the treatment plan based on the determination(s) of adherence of the aspect(s) of the treatment plan.
39. The method of claim 38, wherein the aspect of the treatment plan corresponds to a wear time of the medical device.
40. The method of claim 39, wherein compliance has been determined to have been met when the wear time of the medical device has met or exceeded a threshold.
41. The method of claim 38, wherein the sensed feature of the medical device is an amount of time the medical device is located within a storage cavity.
42. The method of claim 38, wherein the sensed feature of the medical device is a perceived pain level of a patient.
43. The method of claim 42, further comprising updating the treatment plan based on the perceived pain level of the patient.
44. The method of claim 38, wherein compliance is determined to have been met when adherence is determined to be less than strict adherence.
45. The method of claim 38, wherein compliance is determined to have been met when adherence is determined to be strict adherence to one aspect and strict or less than strict adherence to the other aspect.

46. The method of claim 38, further comprising the step of updating the treatment plan when compliance is determined to not have been met.
47. The method of claim 38, further comprising the step of modifying how compliance is determined based on previous compliance determinations.
48. The method of claim 38, further comprising the step of providing a new or updated medical device based on the compliance determination.
49. The method of claim 38, further comprising the step of transmitting the compliance determination to an external device.
50. The method of claim 38, further comprising the step of transmitting an aggregate compliance determination to an external device, wherein the aggregate compliance determination corresponds to a plurality of compliance determinations.
51. The method of claim 38, further comprising transmitting the adherence determination when compliance has been determined to not have been met.
52. The method of claim 38, further comprising transmitting data corresponding to the sensed one or more feature of the medical device when compliance has been determined to not have been met.