nication step to a third party can be performed wirelessly as described herein, and by transmitting the data to a third party's hand held device, the third party can be notified of the assay results virtually anytime and anywhere. Thus, in a time-sensitive scenario, a patient may be contacted immediately anywhere if urgent medical action may be required.

In some embodiments a method of automatically selecting a protocol to be run on a fluidic device comprises providing a fluidic device comprising an identifier detector and an identifier; detecting said identifier with said identifier detector; transferring said identifier to an external device; and selecting a protocol to be run on said fluidic device from a plurality of protocols on said external device associated with said identifier.

By detecting each fluidic device based on an identifier associated with the fluidic device after it is inserted in the reader assembly, the system of the present invention allows for fluidic device-specific protocols to be downloaded from an external device and run on the fluidic device. In some embodiments the external device can store a plurality of protocols associated with the fluidic device or associated with a particular subject or group of subjects. For example, when the identifier is transmitted to the external device, software on the external device can obtain the identifier. Once obtained, software on the external device, such as a database, can use the identifier to identify protocols stored in the database associated with the identifier. If only one protocol is associated with the identifier, for example, the database can select the protocol and software on the external device can then transmit the protocol to the communication assembly on the reader assembly. The ability to use protocols specifically associated with a fluidic device allows for any appropriate fluidic device to be used with a single reader assembly, and thus virtually any analyte of interest can be detected with a single reader assembly.

In some embodiments multiple protocols may be associated with a single identifier. For example, if it is beneficial to detect from the same subject an analyte once a week, and another analyte twice a week, protocols on the external device associated with the identifier can also each be associated with a different day of the week, so that when the identifier is detected, the software on the external device can select a specific protocol that is associated with the day of the week.

In some embodiments a subject may be provided with a plurality of fluidic devices to use to detect a variety of analytes. A subject may, for example, use different fluidic devices on different days of the week. In some embodiments the software on the external device associating the identifier with a protocol may include a process to compare the current day with the day the fluidic device is to be used based on a clinical trial for example. If for example, the two days of the week are not identical, the external device can wirelessly send notification to the subject using any of the methods described herein or known in the art to notify them that an incorrect fluidic device is in the reader assembly and also of the correct fluidic device to use that day. This example is only illustrative and can easily be extended to, for example, notifying a subject that a fluidic device is not being used at the correct time of day.

In some embodiments, the present invention provides a method of obtaining pharmacological data useful for assessing efficacy and/or toxicity of an anti-influenza pharmaceutical agent from a test animal. The method involves the steps of a) providing a fluidic device comprising at least one sample collection unit, an assay assembly; and a plurality of channels in fluid communication with said sample collection unit and/or said assay assembly; b) allowing a sample of biological fluid of less than about 50 ul to react with reactants contained within said assay assembly to yield a detectable signal generated from an analyte indicative of an influenza viral infection initially collected in said sample that is indicative of a pharmacological parameter; and c) detecting said detectable signal; and d) repeating the reaction and detection steps with a second sample of biological fluid from the same test animal. In a related embodiment, the present invention provides a method comprising a) providing a fluidic device comprising at least one sample collection unit, an assay assembly; and a plurality of channels in fluid communication with said sample collection unit and/or said assay assembly; b) allowing a sample of biological fluid to react with reactants contained within said assay assembly to yield a detectable signal generated from an analyte initially collected in said sample that is indicative of a pharmacological parameter; and c) detecting said detectable signal; and d) repeating the reaction and detection steps with a second sample of biological fluid from the same test animal, wherein the animal is not subjected to anesthesia.

When using laboratory animals in preclinical testing of an anti-influenza pharmaceutical agent, it is often necessary to kill the test subject to extract enough blood to perform an assay to detect an analyte of interest. This has both financial and ethical implications, and as such it may be advantageous to be able to draw an amount of blood from a test animal such that the animal does not need to be killed. In addition, this can also allow the same test animal to be tested with multiple pharmaceutical agents at different times, thus allowing for a more effective preclinical trial. On average, the total blood volume in a mouse, for example, is 6-8 mL of blood per 100 gram of body weight. A benefit of the current invention is that only a very small volume of blood is required to perform preclinical trials on mice or other small laboratory animals. In some embodiment between about 1 microliter and about 50 microliters are drawn. In preferred embodiment between about 1 microliter and 10 microliters are drawn. In preferred embodiments about 5 microliters of blood are drawn.

A further advantage of keeping the test animal alive is evident in a preclinical time course study. When multiple mice, for example, are used to monitor the levels of an analyte in a test subject's bodily fluid over time, the added variable of using multiple subjects is introduced into the trial. When, however, a single test animal can be used as its own control over a course of time, a more accurate and beneficial preclinical trial can be performed.

While preferred embodiments of the present invention have been shown and described herein, it will be obvious to those skilled in the art that such embodiments are provided by way of example only. Numerous variations, changes, and substitutions will now occur to those skilled in the art without departing from the invention. It should be understood that various alternatives to the embodiments of the invention described herein may be employed in practicing the invention. It is intended that the following claims define the scope of the invention and that methods and structures within the scope of these claims and their equivalents be covered thereby.

What is claimed is:

1. A system comprising:

a) a fluidic device, said fluidic device comprising a sample collection unit and a cartridge, wherein said cartridge comprises an immunoassay assembly and an identifier, wherein said sample collection unit allows a sample of bodily fluid from a subject suspected to contain an influenza viral particle to react with a first immunoassay reagent and a second immunoassay reagent, both of which being contained within said immunoassay assem-