Summary

[0005a] In an aspect of the present disclosure, there is provided a drug delivery device comprising: a disposable housing having an interior surface defining an interior space, and an exterior surface; a needle having a retracted state wherein the needle is withdrawn inside of the interior space and a deployed state wherein a pointed end of the needle projects beyond the exterior surface of the housing; an injector coupled to the needle to move the needle between the retracted and deployed states; a reservoir disposed within the interior space, the reservoir configured to receive a volume of a drug and to be in fluid communication with the needle; and a controller coupled to the injector and the reservoir, the controller being configured to actuate the injector to move the needle from the retracted state to the deployed state only once, and to actuate the reservoir to deliver the volume of the drug to the patient as a single bolus after a preselected time period has elapsed after initiation of action of the controller, the controller disposed within the interior space and configured prior to being disposed within the interior space, wherein the delivery device is wearable, disposable, and single-use.

[0006] Also disclosed is~~In an aspect of the present disclosure,~~ a drug delivery device includes a disposable housing having an interior surface defining an interior space and an exterior surface, a needle having a retracted state wherein the needle is withdrawn inside of the interior space and a deployed state wherein a pointed end of the needle projects beyond the exterior surface of the housing, an injector coupled to the needle to move the needle between the retracted and deployed states, and a reservoir disposed within the interior space, the reservoir configured to receive a volume of a drug and to be in fluid communication with the needle. The drug delivery device also includes a controller coupled to the injector and the reservoir, the controller being configured to actuate the injector to move the needle from the retracted state to the deployed state only once, and to actuate the reservoir to deliver the volume of the drug to the patient as a single bolus after a preselected time period has elapsed, the controller disposed within the interior space and configured prior to being disposed within the interior space. Further, the delivery device is wearable, disposable, and single-use.

[0006a] In another aspect of the present disclosure, there is provided a kit comprising a delivery device as defined herein, in combination with a syringe.

[0006b] In another aspect of the present disclosure, there is provided a method of operation of a wearable, disposable, single-use drug delivery device, the method comprising: automatically injecting a pointed end of a needle from an interior space defined in a housing of the delivery device into the patient to define an injection site only once according to a controller contained within the interior space; and automatically actuating a reservoir to deliver a volume of a drug to the patient through the injection site as a single bolus after a preselected time period has elapsed after initiation of action of the controller according to the controller contained within the interior space.

[0007] Also disclosed is~~In another aspect of the present disclosure,~~ a method of operation of a wearable, disposable, single-use drug delivery device is provided. The method includes automatically injecting a pointed end of a needle from an interior space defined in a housing of the delivery device into the patient to define an injection site only once according to a controller contained within the interior space. The method also includes automatically actuating a reservoir to deliver a volume of a drug to the patient through the injection site as a single bolus after a preselected time period has elapsed according to the controller contained within the interior space.

Brief Description of the Drawings

[0008] It is believed that the disclosure will be more fully understood from the following description taken in conjunction with the accompanying drawings. Some of the figures may have been simplified by the omission of selected elements for the purpose of more clearly showing other elements. Such omissions of elements in some figures are not necessarily indicative of the presence or absence of particular elements in any of the exemplary embodiments, except as may be explicitly delineated in the corresponding written description. None of the drawings are necessarily to scale.