8. The apparatus of any of claims 1 and 3-7 or the method of any of claims 2-7, wherein the actuator is held in its second position by the shuttle.

9. The apparatus of any of claims 1 and 3-8 or the method of any of claims 2-8, wherein the microneedle array holder is movable between the retracted position and the extended position along a first axis, wherein the shuttle is movable between the first position and the second position along a second axis, and wherein the first axis and the second axis are oriented at a non-zero angle with respect to one another.

10. The apparatus of any of claims 1 and 3-9 or the method of any of claims 2-9, wherein the actuator includes a shuttle stop movable between (i) a first position in which the shuttle stop is positioned to engage at least a portion of the shuttle to hold the shuttle in the first position, and (ii) a second position in which the shuttle stop is no longer positioned to engage the shuttle to hold the shuttle in the first position, such that when the shuttle stop is in the second position, the shuttle is free to move to the second position, and further comprising a stored energy device configured to drive the shuttle toward the second position.

11. The apparatus of any of claims 1 and 3-~~10~~-9 or the method of any of claims 2-~~10~~9, wherein the shuttle includes a holder stop movable from (i) a first position in which the holder stop is positioned to engage with at least a portion of the microneedle array holder to hold the microneedle array holder in the retracted position to (ii) a second position in which the holder stop is no longer positioned to engage with the microneedle array holder to hold the microneedle array holder in the retracted position, such that when the holder stop is in the second position, the microneedle array holder is free to move to the extended position, and further comprising a stored energy device configured to drive the microneedle array holder toward the extended position..

12. The apparatus of any of claims 1 and 3-11 or the method of any of claims 2-11, wherein at least a portion of the actuator is located on a lower portion of the housing, wherein the actuator is configured to be moved from the first position to the second position in response to the apparatus being pressed toward a skin surface by pressing on an upper portion of the housing, and wherein the upper portion of the housing is located in an off-axis position with respect to an actuation axis of the actuator.

13. The apparatus of any of claims 1 and 3-12 or the method of any of claims 2-12, wherein the actuator is movable with respect to the base of the housing, and wherein

when the actuator is in the first position, an outermost surface of the actuator extends beyond the base of the housing by a first distance, and

when the actuator is in the second position, the outermost surface of the actuator

does not extend beyond the base of the housing, or

extends beyond the base of the housing by a second distance that is less than the first distance.

14. The apparatus of any of claims 1 and 3-~~13~~ 8 or the method of any of claims 2-~~13~~8, wherein the actuator is movable between the first position and the second position along a first actuation axis, wherein the microneedle array holder is movable between the retracted position and the extended position along a second actuation axis, and wherein the first actuation axis and the second actuation axis are substantially parallel with respect to one another.

15. The apparatus or method of claim 14, wherein at least a portion of the actuator extends beyond the base of the housing when the actuator is in the first position.

16. The apparatus or method of claim 14 or 15, wherein the shuttle is movable between the first position and the second position along a third axis, and wherein the third axis is oriented substantially perpendicularly with respect to at least one of the first actuation axis and the second actuation axis.

17. The apparatus of any of claims 1 and 3-16 or the method of any of claims 2-16, wherein the actuator includes a base and an opening formed in the base, and wherein at least a portion of the microneedle array extends through the opening in the actuator and beyond the base of the actuator when the microneedle array holder is in the extended position, and wherein the base of the actuator is configured to be coupled to the skin surface.

18. The apparatus of any of claims 1 and 3-17 or the method of any of claims 2-17, wherein, when the actuator is in the first position, at least a portion of the actuator protrudes from the opening in the base of the housing and defines a base of the actuator configured to be coupled to the skin surface, wherein the base of the actuator includes a skin-contact adhesive.

19. The apparatus of any of claims 1 and 3-18 or the method of any of claims 2-18, wherein the shuttle is biased toward the second position, and wherein the shuttle is restrained from moving to the second position by the actuator, until the actuator is moved to the second position.

20. The apparatus of any of claims 1 and ~~3-19~~3-9 and 12-19 or the method of any of claims ~~2-19~~2-9 and 12-19, further comprising a stored energy device configured to drive the shuttle toward the second position.

21. The apparatus of any of claims 1 and ~~3-20~~3-9 and 12-19 or the method of any of claims ~~2-20~~2-9 and 12-19, further comprising an active agent and a piston located in the reservoir of the cartridge, the piston movable between a first position in which the active agent is not being forced out of the reservoir and moved into the fluid path and a second position in which the active agent is being forced out of the reservoir and moved into the fluid path.

22. The apparatus or method of claim 21, further comprising a first stored energy device configured to initiate movement of the shuttle toward the second position and a second stored energy device configured to assist in moving the shuttle toward the second position and further configured to drive the piston toward its second position.

23. The apparatus or method of claim 21, further comprising an indicator that is movable with the piston between the first position and the second position of the piston, wherein the indicator is visible from outside the housing to indicate the position of the piston with respect to the housing.

24. The apparatus or method of claim 23, wherein the indicator is movable with the shuttle from the first position of the shuttle to the second position of the shuttle, and wherein the indicator is further movable with the piston and with respect to the shuttle when the shuttle is in the second position.

25. The apparatus of any of claims 1 and 3-24 or the method of any of claims 2-24, wherein the fluid path includes or is in fluid communication with a piercing element configured to provide fluid communication between the reservoir of the cartridge and the fluid path, and further comprising a deformable sterility seal positioned to enclose the piercing element and configured to be pierced by the piercing element, and wherein the sterility seal is further configured to be changed from a first state in which the sterility seal defines a sterile chamber within which the piercing element is located to a second state in which the sterility seal has been pierced by the piercing element and the sterility seal is collapsed.