Turning now to Figs. 1-5 of the drawings, there is illustrated a dry powder pediatric nebulizer in accordance with the present invention. The nebulizer 10 comprises a housing or body 12 sized and shaped to fit comfortably within the hand of a human adult. Body 12 houses a dry powder aerosol engine, battery power and controls all as will be discussed below. Referring in particular to Figs. 2 and 3, the hand held nebulizer 10 is connected at its outlet 14 to a facemask 16. Facemask 16 is sized and shaped to fit over the mouth and nose of a patient, and is formed of a resiliently deformable material such as silicon rubber. Facemask 16 may comprise a single wall construction or, if desired may comprise a soft partially air-filled cuff 18 at its distal end ~~18~~, and optionally may include a one-way filter valve 19 to allow the patient's exhale breath to escape. Facemask 16 is friction fitted to the outlet end of nebulizer device 12 so that it may be removed for cleaning and/or disposal and a fresh facemask placed thereon. Also, if desired, facemask 16 may come in different sizes, e.g. for adults, children and infants. The face mask may incorporate a pressure sensor 17 to measure the quality of fit and seal over the patient or the sensor may be incorporated into the inhaler housing. A good seal is preferred to ensure high efficiency of delivery of the drug to the patient and to protect the care-giver from exposure to the drug and the patient from exposure of the drug to the eyes.

~~Referring also to Figs. 3-5 body~~ Body 12 includes a movable panel ~~18~~ 48 for permitting one or more blister packs or molded bodies 22 containing a powdered medication to be introduced into a chamber 23 (shown in phantom) defined within the interior of body 12. Blister pack 22 is guided by guides 24 to locate in contact with the top surface of an aerosolization engine in the form of a vibratory element 26. Alternatively, body 22 may be a molded body that is reused over a number of dosings. The body in this case provides a way for introducing the drug into the chamber. Vibratory element 26 preferably comprises a piezo activator or piezo transducer or a mechanical vibrator, an electro-mechanical vibrator or a magnetostrictive element or other vibratory mechanism. Preferred are aerosolization engines and aerosolization

chambers such as described in U.S. Patent Nos. 6,026,809, 6,142,146, 6,152,130, 7,318,434, 7,334,577, 7,343,914 and

Claim 26: The device of any of claims 19-25, wherein the sensor is selected from the group consisting of a flow sensor, a pressure sensor, a temperature sensor, a gas sensor and a chest strap.

Claim 27: A propellant free device for delivering nebulized dry powder medication to an inhaled airstream of an infant and a respiratory-compromised patient, a ventilated patient or an unconscious patient, comprising a vibratory element for aerosolizing the dry powder medication and introducing the medication into the airstream,

a facemask into which the airstream is introduced;

a microprocessor and control for the vibratory element;

a manual actuator for permitting a patient, user or a caretaker to activate the vibratory element, wherein said manual activation of the vibratory element introduces a controlled amount of medication into the airstream independent of the infant's or respiratory compromised, ventilated or unconscious patient's inhalation strength, rate and timing;

a sensor for sensing an inhalation and/or exhalation cycle of the infant or patient; and

a controller for controlling the vibratory element over two or more inhalation cycles.

Claim 28: The device of claim 27, further comprising a dose-controlled blister pack, said dose-controlled blister pack comprising at least one drug ejection aperture, and wherein the medication is introduced into the ~~chamber~~ airstream through said at least one drug ejection aperture.