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PHC Holdings Corporation 2-38-5 Nishishimbashi, Minato-ku, Tokyo 105-8433, Japan

JCR Pharmaceuticals Co., Ltd. 3-19 Kasuga-cho Ashiya, Hyogo, 659-0021, Japan

PHC Corporation and JCR Pharmaceuticals Co., Ltd. Jointly Develop Smartphone Application for Dosing Management of Growth Hormone Treatment and Cooperate with Clinical Research

TOKYO, March 4, 2019 — PHC Corporation (hereafter PHC), a wholly-owned subsidiary of PHC Holdings Corporation (headquarters: Tokyo, Japan), and JCR Pharmaceuticals Co., Ltd. (headquarters: Ashiya, Hyogo, Japan. Chairman and President: Shin Ashida; hereafter JCR) announce a jointly-developed dedicated smartphone app for motorized drug delivery devices for growth hormone products, called "GROWJECTOR® L" which was launched in January 2017 for the Japan market only. The app will be provided to clinical research which started this February under principal researcher Dr. Tatsuhiko Urakami of the Nihon University Hospital.

"GROWJECTOR® L" is a dedicated motorized drug delivery device manufactured and sold by PHC, for "GROWJECT® subcutaneous 6mg and 12mg (*1)" recombinant human growth hormone products manufactured and sold by JCR. The jointly-developed app for this product allows checking dosing history via smartphone by sending dosing data stored in "GROWJECTOR® L." In addition, the app can create and indicate growth curves of height and weight and allows children to enjoy "fun" functions (*2) during treatment, reducing the tension children may experience with treatment and injections. This also helps those administering the treatment reduce the burden of injecting medicines and promotes dosing adherence. (*3)

Growth hormone therapies may cause fear and evoke strong feelings among children being treated as well as place a burden on those administering the therapies so there is concern regarding a drop in dosing adherence and the adverse effects of QOL for children. The clinical research objectives are to analyze dosing adherence data when the app is used, examine the causes of dosing compliance decrease for the growth hormone treatment and to gather information needed to commercialize the app by analyzing logged access data and others.



Screen image of smartphone (subject to change)

(Notice) GROWJECT and GROWJECTOR are trademarks of JCR.

- (*1) Approved indications of GROWJECT® 6mg and GROWJECT® 12 mg
- Growth Hormone Deficiency
- Turner Syndrome
- Adult Growth Hormone Deficiency
- Small for Gestational Age

Please visit JCR website for further information:

http://jcrgh.com/index.html

- (*2) The app additionally incorporates "fun" functions that let children select and interact with an avatar, for example changing what the avatar wears to suit their preference and communicating via the avatar with other children regarding their treatments and related matters.
- (*3) Accepting the diseases and receiving treatment positively using medicines following doctor's instructions.

About PHC Holdings Corporation

Incorporated in 2014, PHC Holdings Corporation is a global healthcare company. Its subsidiaries include PHC Corporation and Ascensia Diabetes Care Holdings AG. Committed to its corporate mission, "We contribute to the wellbeing of society through our diligent efforts by creating new value for all the people who wish for better health," the company develops, manufactures, sells and services medical equipment and solutions across diabetes care, diagnosis, life sciences and healthcare IT. PHC Holdings Corporation group's consolidated net sales in FY2017 was 192.6 billion yen with global distribution of products and services for more than 125 countries. PHC Holdings Corporation changed its name from Panasonic Healthcare Holdings Co., Ltd. in April, 2018.

www.phchd.com

About JCR Pharmaceuticals Co., Ltd.

JCR is a specialty pharma engaged in the research, development, manufacture and marketing of biopharmaceuticals and regenerative medicine with a focus on rare diseases. Its philosophy, "Contributing towards people's healthcare through pharmaceutical products" drives JCR to create innovative pharmaceutical products as value-added treatment options for the under-served patient community.

Corporate Communications Group PHC Holdings Corporation

TEL: 03-6778-5311

Email: phc-pr@gg.phchd.com

Investors and Media
JCR Pharmaceuticals Co., Ltd.
Email: ir-inrfo@jcrpharma.co.jp