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all for the patients



Chugai Pharmaceutical Co., Ltd.  
Embrace Co., Ltd.

## A First Approach in the Pharmaceutical Industry Starting the Provision of a Treatment Support App for Immune Checkpoint Inhibitor Using Multidisciplinary SNS - Providing a New Solution for Side Effect Management -

TOKYO, October 18, 2018 -- [Chugai Pharmaceutical Co., Ltd.](#) (TOKYO: 4519) and Embrace Co., Ltd. (TOKYO) announced that both companies commenced the provision of an application program (app) they have developed to support treatment in conjunction with a multi-disciplinary Social Networking Service (SNS) that ensures smooth communication between patients and healthcare providers (HCPs) for the purpose of managing side effects that patients experience when treated with an immune checkpoint inhibitor TECENTRIQ® (atezolizumab) manufactured and sold by Chugai.

This app is a new Web app created based on “MedicalCareStation (MCS),” a completely private SNS that was developed by Embrace exclusively for HCPs and nursing providers for the establishment of an integrated community care system, and a “checklist of immune-related adverse events (irAEs) associated with immune checkpoint inhibitors” used at Kyushu University Hospital. This app offers the following features.

- Patients or their families can enter the patient’s physical condition and symptoms of concern
- Notification function for regular data entry
- Share physical condition and symptoms of concern entered by patients or their families with the entire medical team
- Display alert messages to patients, their families, and medical team, depending on the severity of symptoms of concern
- Communication between patients/their families and HCPs

Professor Yoichi Nakanishi at the Department of Respiratory Medicine, the Graduate School of Kyushu University, supervised the app and said, “Since immune checkpoint inhibitors have a different safety profile from traditional chemotherapy, such as expression of irAEs, it poses a new calling to both patients and HCPs. To solve the issue, it is expected that utilizing ICT will shorten the distance between patients and HCPs, prevent irAEs from becoming fatal through early detection and treatment, and lead to make patients feel at ease.”

This is the first app of its kind in Japan that is linked to medical SNS to support treatment with immune checkpoint inhibitors. A trial use of a drug adherence support app was conducted in 2017 in outpatient cancer treatment.\* By combining findings from the trial with MCS, it has been newly developed as a treatment support app for immune checkpoint inhibitors. The validity of conducting

programs using this app in actual clinical practice has been deliberated and approved\*\* at Non-Profit Organization (NPO) MINS Institutional Review Board (IRB). This app is operated on the MCS platform spreading nationwide as a multidisciplinary SNS and has scalability, which is one of its features. MCS is currently used by more than 30,000 healthcare and related facilities nationwide, and has been formally adopted by over 200 medical associations in Japan.

By linking this app to MCS, we expect to foster patient-centered communication among HCPs and promote smooth communication between patients and HCPs. In addition, we also expect that this will lead to early detection and treatment of irAEs, since at-home patients' daily physical condition and symptoms of concern can be shared with HCPs on a timely manner based on the "checklist of immune-related adverse events (irAEs) associated with immune checkpoint inhibitors".

Chugai and Embrace aim to promote treatment support and side effect management through the development of patient-centered communications.

### **Solution Structure**

Treatment Support App: Provide functions that record daily physical condition and subjective symptoms, and post recorded information to multidisciplinary SNS

Multidisciplinary SNS: Provide functions that facilitate communication between patients and HCPs, and also communication among HCPs, etc.

### **Future Developments**

We will consider offering a treatment support app using a multidisciplinary SNS in disease areas other than cancer.

\* Press release on April 4, 2017

A First Approach in the Japanese Pharmaceutical Industry

Starting a Trial of a Drug Adherence Support App Using Multidisciplinary SNS for Outpatient Cancer Treatment -- Providing a New Solution for Side Effect Management --

[https://www.chugai-pharm.co.jp/english/news/detail/20170404110000\\_90.html](https://www.chugai-pharm.co.jp/english/news/detail/20170404110000_90.html)

\*\* The 82nd NPO MINS-IRB Minutes Summary

<http://www.npo-mins.com/irb/>

Notes regarding this app

- Medical fee cannot be claimed.
- If an adverse event is observed after the administration of TECENTRIQ, HCPs are required to report the event to Chugai separately from the app.

## About Chugai

Chugai Pharmaceutical is one of Japan's leading research-based pharmaceutical companies with strengths in biotechnology products. Chugai, based in Tokyo, specializes in prescription pharmaceuticals and is listed on the 1st section of the Tokyo Stock Exchange. As an important member of the Roche Group, Chugai is actively involved in R&D activities in Japan and abroad. Specifically, Chugai is working to develop innovative products which may satisfy the unmet medical needs, mainly focusing on the oncology area.

In Japan, Chugai's research facilities in Gotemba and Kamakura are collaborating to develop new pharmaceuticals and laboratories in Ukima are conducting research for technology development for industrial production. Overseas, [Chugai Pharmabody Research](#) based in Singapore is engaged in research focusing on the generation of novel antibody drugs by utilizing Chugai's proprietary innovative antibody engineering technologies. [Chugai Pharma USA](#) and [Chugai Pharma Europe](#) are engaged in clinical development activities in the United States and Europe.

The consolidated revenue in 2017 of Chugai totaled 534.2 billion yen and the operating income was 103.2 billion yen (IFRS Core basis).

Additional information is available on the internet at <https://www.chugai-pharm.co.jp/english/>.

## About Embrace

Embrace's mission is to create the new social infrastructure by providing Medical and Nursing ICT Platform. Since 2013, our Medical and Nursing SNS called "MedicalCareStation" has been used by tens of thousands of medical facilities, doctors, nurses and caregivers including over 180 Medical Associations in Japan.

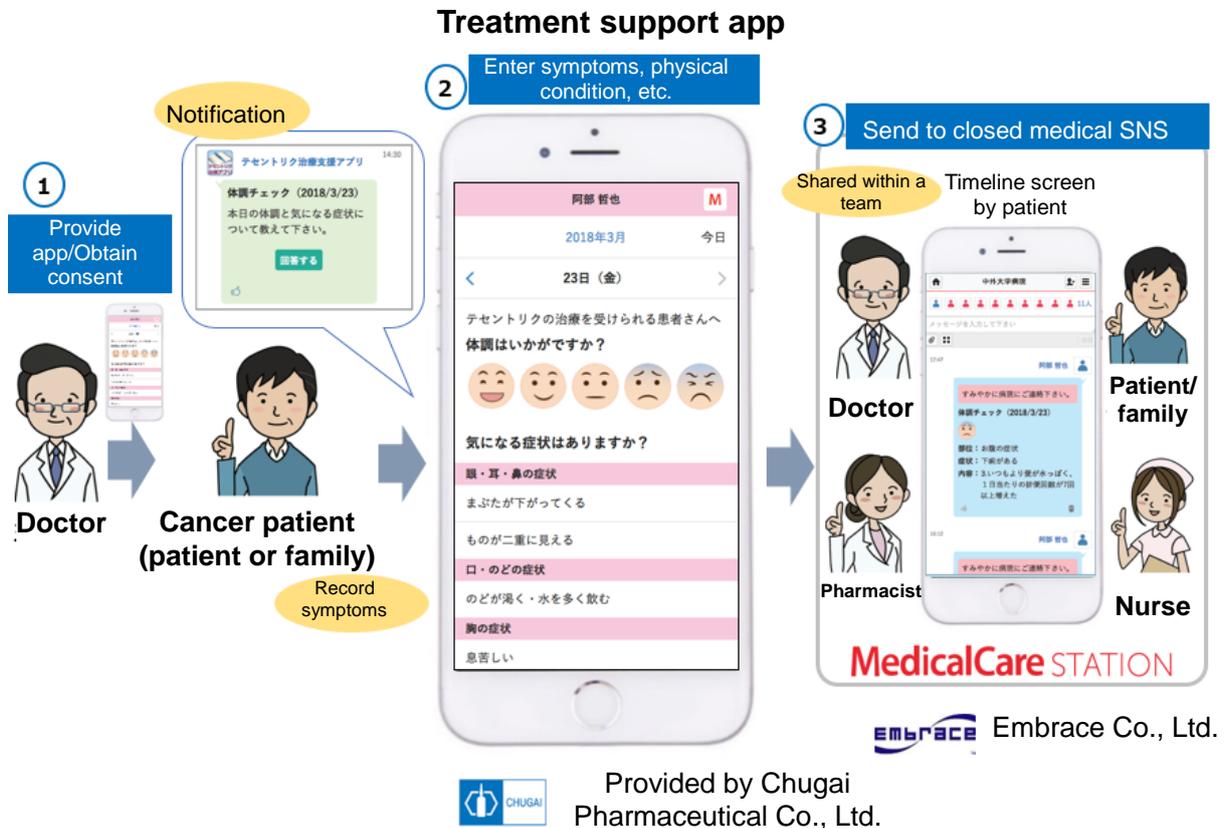
We focus on solving issues that has been and will be caused by the 'Aging Society' and we try to establish the new eco-system among medical-staffs, patients, residents, partner companies and the government by connecting them on MedicalCareStation platform.

Trademarks used or mentioned in this release are protected by law.

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## References

Communication flow with a treatment support app operated on the multidisciplinary SNS platform (Conceptual Illustration)



Treatment support app screen (Conceptual Illustration)

**Symptoms entry screen**

阿部 哲也 M

2018年3月 今日

23日 (金)

テセントリクの治療を受けられる患者さんへ 体調はいかがですか?

気になる症状はありますか?

お腹の症状

食欲不振である

下痢がある

1.いつもより便が水っぽく、1日当たりの排便回数が1-3回増えた

2.いつもより便が水っぽく、1日当たりの排便回数が4-6回増えた

3.いつもより便が水っぽく、1日当たりの排便回数が7回以上増えた

**Entry confirmation screen**

阿部 哲也 M

確認画面

記録日時: 2018年3月23日 16:01

部位: お腹の症状

症状: 下痢がある

内容: 3.いつもより便が水っぽく、1日当たりの排便回数が7回以上増えた

症状なし

まぶたが下がってくる、ものが二重に見える、のどが渇く・水を多く飲む、息苦しい、咳がでる、食欲不振である、便に血が混じる、尿量が増える、熱がある、手足がしびれる・痛む・感覚がなくなる、手足に力が入らない、全身がだるい・疲れやすい、筋肉痛がある、皮膚が赤くなる・発疹ができる、皮膚がかゆい

**Calendar screen**

阿部 哲也 M

治療薬 テセントリク

通知設定 毎週金曜 14:30

緊急連絡先 未設定

2018年3月

データを取得する

利用規約 説明資料

**Timeline screen**

中野大学病院

11人

メッセージを入力して下さい

阿部 哲也

すみやかに病院にご連絡下さい。

体調チェック (2018/3/23)

部位: お腹の症状

症状: 下痢がある

内容: 3.いつもより便が水っぽく、1日当たりの排便回数が7回以上増えた

阿部 哲也

すみやかに病院にご連絡下さい。

Team ICI checklist used at Kyushu University Hospital  
(Partially modified from the latest version of April 2018)

**- Side effect check sheet -** Name: \_\_\_\_\_

Month/Date: \_\_\_\_\_ Course: \_\_\_\_\_ Body weight: \_\_\_\_\_ Body temperature: \_\_\_\_\_ Blood pressure: \_\_\_\_\_ Pulse rate: \_\_\_\_\_ SpO<sub>2</sub>: \_\_\_\_\_

**● Please check all that apply**

**\* Myasthenia gravis/myositis**

Have drooping eyelids  
 See double  
 Have sore muscles

**\* Type 1 diabetes**

Feel very thirsty  
 Drink a lot of water  
 Increased urinary volume

**\*\* Interstitial lung disease**

Have difficulty breathing  
 Increased cough  
 Have a fever over 37.5 degrees

**\* Colitis**

Diarrhea  
 Have blood in the stool

**Endocrine disorder**

Feel tired  
 Lose appetite  
 Have nausea

**Venous thromboembolism**

Have edema or swelling

**Skin problems**

Have a rash  
 Have itchy skin

**Neurological disorder**

Have numbness in the limbs  
 Have a feeling of weakness

**\* Please contact the hospital immediately if the symptoms remain for a couple of days.**

**\*\* Please contact the hospital immediately in the presence of the symptoms suggesting interstitial lung disease.**