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SCCBM
Sociedad Chilena
de Cirugía Bariátrica
y Metabólica

Follow up applications . What can we expect

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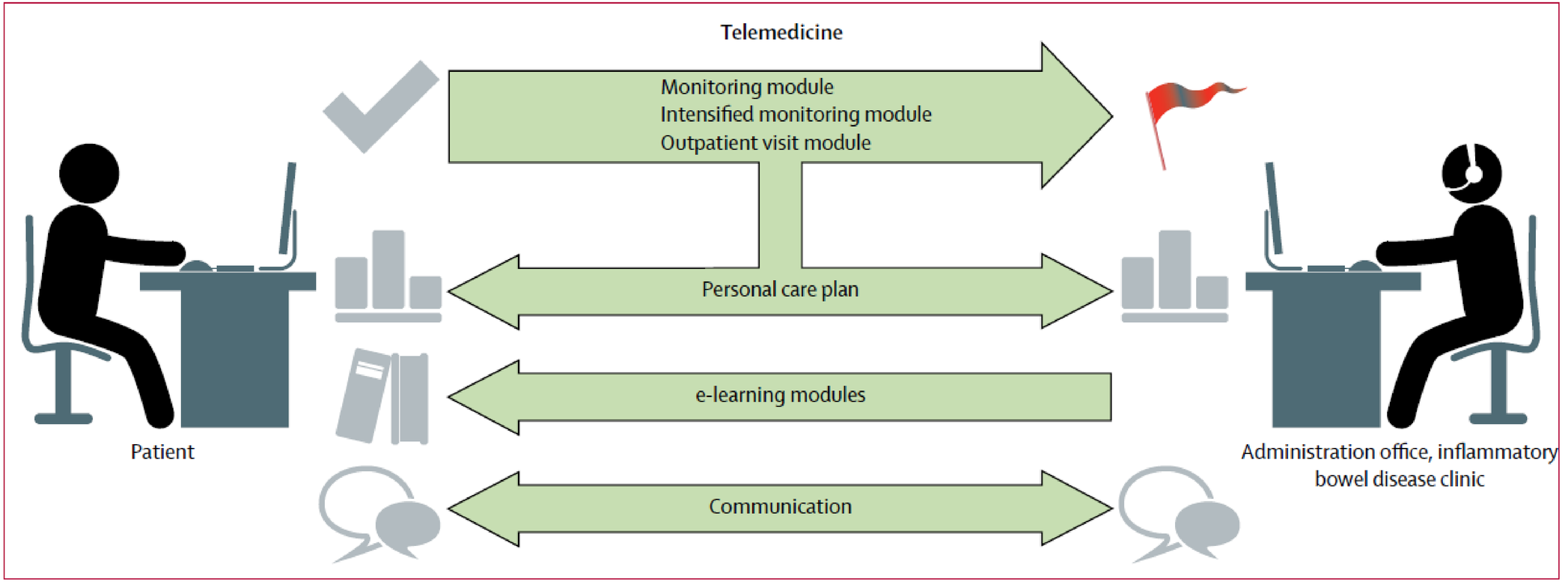
Disclosures

• Ethicon	Consultant
• Apollo	Consultant
• Agucare	Stocks

MOBILE HEALTH APPLICATIONS HAVE BEEN SHOWN TO HAVE POSITIVE IMPROVEMENT FOR:

- Chronic diseases such as inflammatory bowel disease by reducing hospital admisions.
- Diabetes glycemic control.
- Medication adherence in patients living with HIV.



de Jong MJ, van der Meulen-de Jong AE, Romberg-Camps MJ, Becx MC, Maljaars JP, Cilissen M, van Bodegraven AA, Mahmmod N, Markus T, Hameeteman WM, Dijkstra G, Masclee AA, Boonen A, Winkens B, van Tubergen A, Jonkers DM, Pierik MJ. **Telemedicine for management of inflammatory bowel disease (myIBDcoach): a pragmatic, multicentre, randomised controlled trial**. Lancet. 2017 Sep 2;390(10098):959-968. doi: 10.1016/S0140-6736(17)31327-2..

Telemedicine for management of inflammatory bowel disease (myIBDcoach): a pragmatic, multicentre, randomised controlled trial

Marin J de Jong, Andrea E van der Meulen-de Jong, Mariëlle J Romberg-Camps, Marco C Becx, Jeroen P Maljaars, Mia Cilissen, Ad A van Bodegraven, Nofel Mahmmod, Tineke Markus, Wim M Hameeteman, Gerard Dijkstra, Ad A Masclee, Annelies Boonen, Bjorn Winkens, Astrid van Tubergen, Daisy M Jonkers, Marie J Pierik

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http://dx.doi.org/10.1016/S0140-6736(17)31857-3

Randomised trial in 4 Netherlands hospitals.
Outpatients, aged 18-75 years with inflammatory bowel disease.
909 patients were randomly assigned to telemedicine system ***mijnIBDcoach*** (465) or standard care (444).

RESULTS
At 12 months:
- **The mean number of outpatient visits to the gastroenterologist or nurse was significantly lower in the telemedicine group than standard group.**
- **The mean number of hospital admisions was significatly lower in the telemedicine group than standard group.**

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Effectiveness of Disease-Specific mHealth Apps in Patients With Diabetes Mellitus: Scoping Review

Claudia Eberle [1]; Maxine Löhnert [1]; Stefanie Stichling [1]

Published on 15.2.2021 in Vol 9 , No 2 (2021) :February

27 studies comprising 2887 patients were included. 19 randomized controlled trials, 1 randomized crossover trial, 1 exploratory study, 1 observational study, and 5 pre-post design studies.

RESULTS

- There was a clear improvement in HbA1c values in patients diagnosed with T1DM and T2DM.
- DM-specific mHealth apps improved the glycemic control by significant reducing HbA1c values in patients with T1DM and T2DM.

CONCLUSIONS

- DM-specific mHealth apps improved the glycemic control by significant reducing HbA1c values in patients with T1DM and T2DM.
- In general, mHealth apps effectively enhanced DM management.

Eberle C, Löhnert M, Stichling S. **Effectiveness of Disease-Specific mHealth Apps in Patients With Diabetes Mellitus: Scoping Review.** JMIR Mhealth Uhealth. 2021 Feb 15;9(2):e23477. doi: 10.2196/23477. PMID: 33587045; PMCID: PMC7920757.

Obesity Surgery (2023) 33:1866–1875
https://doi.org/10.1007/s11695-023-06566-7

REVIEW

A Contemporary Review of Smart Phone Applications in Bariatric and Metabolic Surgery: an Underdeveloped Support Service

Christophe Thomas[1] · Eleanor Simmons[1] · Aya Musbahi[1] · Peter Small[1] · Michael Courtney[1]

52 apps were deemed relevant to Bariatric and Metabolic Surgery.

Mobile Operating System	Apps	Percentage
Play Store (android)	28	53.8%
Play Store and iOS Store	20	38.5%
iOS Store (iOS)	4	7.7%
Total	52	100%

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Target User Location	No. of apps	Linked with a Clinic
USA	27(52%)	22
Global	13(25%)	6
Australia	4(8%)	3
UK	2(4%)	1
Netherlands	1(2%)	1
Sweden	1(2%)	0
Singapore	1(2%)	1
Saudi Arabia	1(2%)	0
Egypt	1(2%)	0
India	1(2%)	1
Total	52(100%)	35(67%)

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MEDICAL / ALLIED HEALTH PROFESSIONAL INVOLVEMENT (MAPI)

42 (81%) of the 52 apps had MAPI in their design, function, information provided, or services offered via the app.

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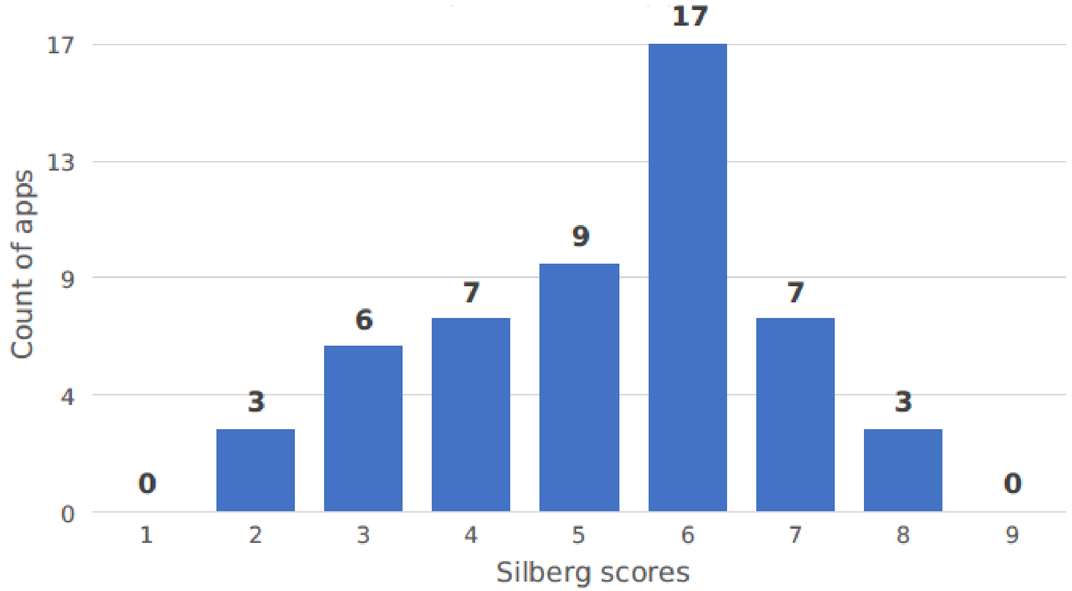
SILBERG SCORE SYSTEM
Is a validated tool for looking at the quality of healthcare information digitally.

a. Authorship	1. Whether authors are credited
	2. Affiliations of the authors
	3. Credentials of the authors provided for
b. Attribution	1. Whether information sources are given
	2. Whether references are given or hyperlinked
c. Disclosure	1. Whether application ownership disclosed
	2. Whether sponsorship disclosed
d. Currency	1. Whether application has been modified in the previous month
	2. Whether the application has specified indicated a creation or last modification date
Total score	(9 Points)



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CONCLUSIONS

1. The availability of BMS apps has increased by 33% since the previous review, indicating a growing recognition of their potential in healthcare.
2. There has been an improvement in medical / allied health professional involvement (MAPI) in BMS apps, rising from 42.9% to 81%.
3. The mean Silberg score, which assess the quality of apps, has also increased compared to previous studies, indicating improvements in functionality and usability.
4. Limited high-quality apps are available to a broad range of users, with only a small number of free apps having MAPI.
5. Larger scale studies are needed to replicate succesful outcomes reported in some studies.

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Impact of a Mobile App to Support Home Recovery of Patients Undergoing Bariatric Surgery

Jordan Heuser, MD,[a] Azusa Maeda, PhD,[a] Lynn Yang, BSc (cand),[a] Caterina Masino, MA,[a] Shikha Duggal, MD,[a] Timothy Jackson, MD, MPH,[a,b] and Allan Okrainec, MD, MHPE[a,b,]*

[a] *Division of General Surgery, Toronto Western Hospital, University Health Network, Toronto, Ontario, Canada*
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396 patient were enrolled in the app and compared with 458 patients who were not enrolled in the app.

RESULTS AND CONCLUSIONS

- The app helped them avoid pone calls to the hospital (48.5%) and Emergency Departments visits (13.0%).
- **The app may be effective in decreasing unnecessary health care utilization.**
- 94.8% of these patients reported that they would recommend the app to other patients undergoing the same surgery.
- **The app may result in high patient satisfaction.**

Heuser J, Maeda A, Yang L, Masino C, Duggal S, Jackson T, Okrainec A. **Impact of a Mobile App to Support Home Recovery of Patients Undergoing Bariatric Surgery**. J Surg Res. 2021 May;261:179-184. doi: 10.1016/j.jss.2020.12.005. Epub 2021 Jan 12. PMID: 33444947.

Mobile health applications enhance weight loss efficacy following bariatric surgery

Christopher W. Mangieri*, Rebekah J. Johnson, Lori B. Sweeney, Yong U. Choi, Joseph C. Wood

Dwight D. Eisenhower Army Medical Center, 300 East Hospital Road, Fort Gordon, GA 30905, United States

Article history:
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Single institution prospective randomized control trial.

Total patients who underwent a Sleeve Gastrectomy = 56
Standard post-operative monitoring: 28 patients
mHealth application (MyFitnessPal): 28 patients

EWL: Excess Weight Loss

EBL: Excess BMI Loss

Variable	Control Group (N=28)	mHealth Group (N=28)	p Value
%EWL 12 month	74.40	81.41	0.0468
%EWL 24 month	59.10	71.40	0.0078
%EBL 12 month	28.02	32.15	0.0007
%EBL 24 month	25.39	27.87	0.0479

Mangieri CW, Johnson RJ, Sweeney LB, Choi YU, Wood JC. **Mobile health applications enhance weight loss efficacy following bariatric surgery**. Obes Res Clin Pract. 2019 Mar-Apr;13(2):176-179. doi: 10.1016/j.orcp.2019.01.004. Epub 2019 Feb 28. PMID: 30826256.

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CONCLUSION

- mHealth applications have the ability to significantly improve weight loss results and weight loss maintenance following bariatric surgery.

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Smartphone application-based follow-up care of patients after bariatric surgery: A mixed-method study of usability

Cui Yang[1], Mia Kessler[1], Niki Taebi[1], Preetha Moorthy[2], Christoph Reissfelder[1], Mirko Otto[1] and Georgi Vassilev[1]

Digital Health
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52 patients who use smartphone application-based follow-up program completed system usability scale (SUS) quetionnaire to evaluate usability of app in patients after bariatric surgery.

Yang C, Kessler M, Taebi N, Moorthy P, Reissfelder C, Otto M, Vassilev G. **Smartphone application-based follow-up care of patients after bariatric surgery: A mixed-method study of usability**. Digit Health. 2022 Nov 30;8:20552076221129072. doi: 10.1177/20552076221129072. PMID: 36478987; PMCID: PMC9720834.

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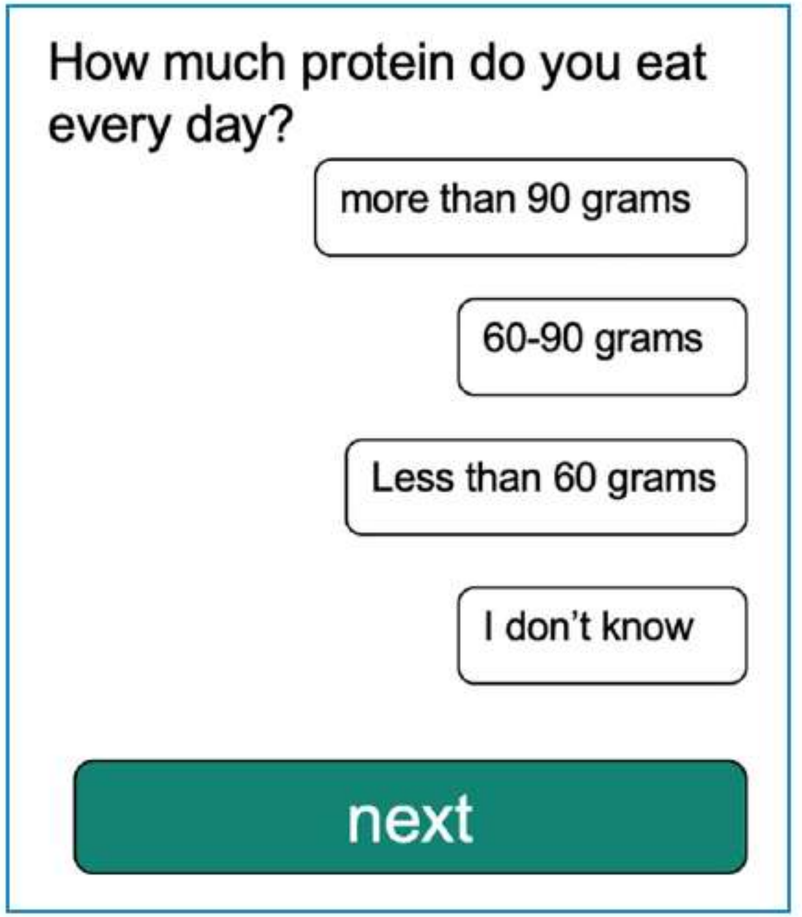

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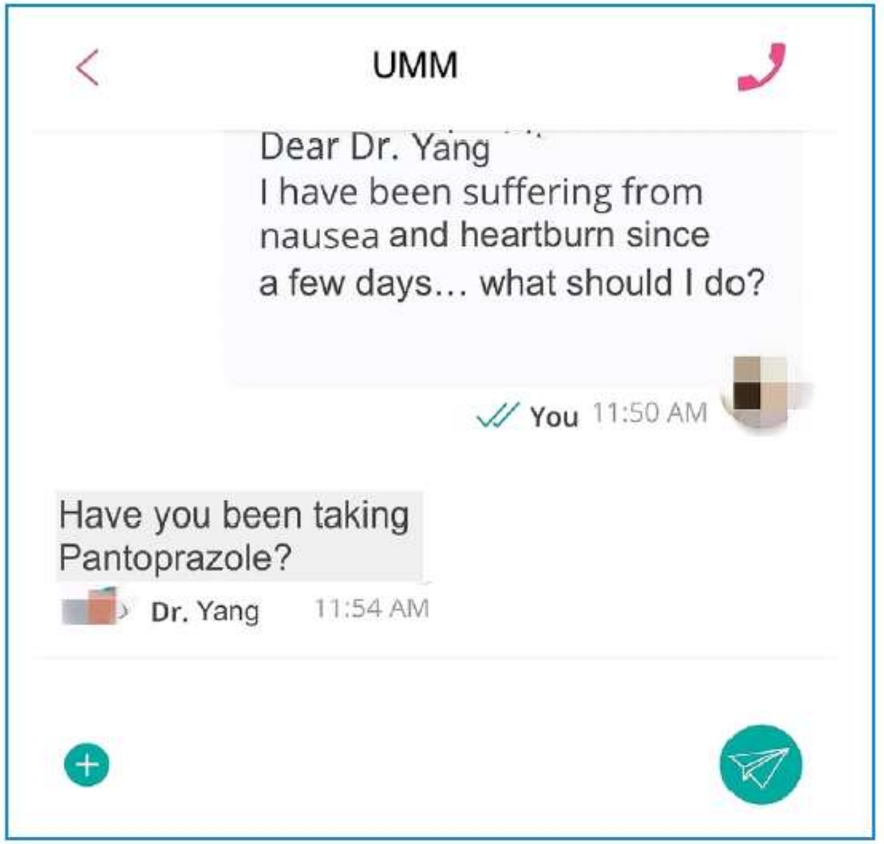

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Benchmarks for SUS ítems that correspond with overall SUS benchmarks of 80.8

Item	Score	Target for SUS≥ 80.8
Satisfaction: I think that I would like to use this system frequently.	4.1 ± 1.4	≥ 3.8
Efficiency: I found the system unnecessarily complex.	1.4 ± 0.9	≤ 1.8
Ease of use: I thought the system was easy to use.	4.5 ± 1.1	≥ 4.3
Learnability: I think that I would need the support of a technical person to be able to use this system.	1.4 ± 0.8	≤ 1.5

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CONCLUSIONS

- First Report on the usability of a smartphone app-based follow-up program for patients after bariatric surgery.
- Data indicate that the acceptance, satisfaction, efficiency, learnability, and ease to use were excellent in this patient population.

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CLINICA MEDS

Patient Flow app

aguCARE

Discusion

- Mobile apps in Bariatric Surgery are increasing
- Excellent Usability
- Increasing interaction and comunication with the team
- Future directions : Artificial Inteligence , Follow up, Registries

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