



KoalaCare

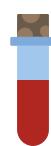
Wearable nocturnal
hypoglycemia alarm
for diabetics.



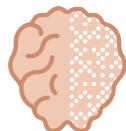
19 April 2017

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The Problem



Diabetes causes imbalances in insulin, the hormone that controls blood glucose levels. BGL **below 70 mg/dL** is known as 'hypoglycemia'.



Untreated hypoglycemia can cause **fatigue, convulsions, unconsciousness, brain damage** and even **death**.



More than 55% of all severe hypoglycemia episodes happen during sleep, **49-100%** of which go unnoticed.

Sources: Brunton SA. *Medscape General Medicine*. 2007;9(2):38.

Allen KV, et al. Nocturnal hypoglycemia: clinical manifestations and therapeutic strategies toward prevention. 2003 Nov-Dec;9(6):530-43.
Interviews with medical experts

2

The Solution

The KoalaCare wearable monitors the users' bio-signals throughout the night and alerts them if it detects a hypoglycemia event.



Always Connected



Comfortable



One-time Purchase

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How does it work?

1. User wears KoalaCare unit with changeable, hypoallergenic textile band.



When it detects a low blood sugar event, the band vibrates to wake up the user.



On-board Wi-Fi microchip connects directly to the cloud to sync data.

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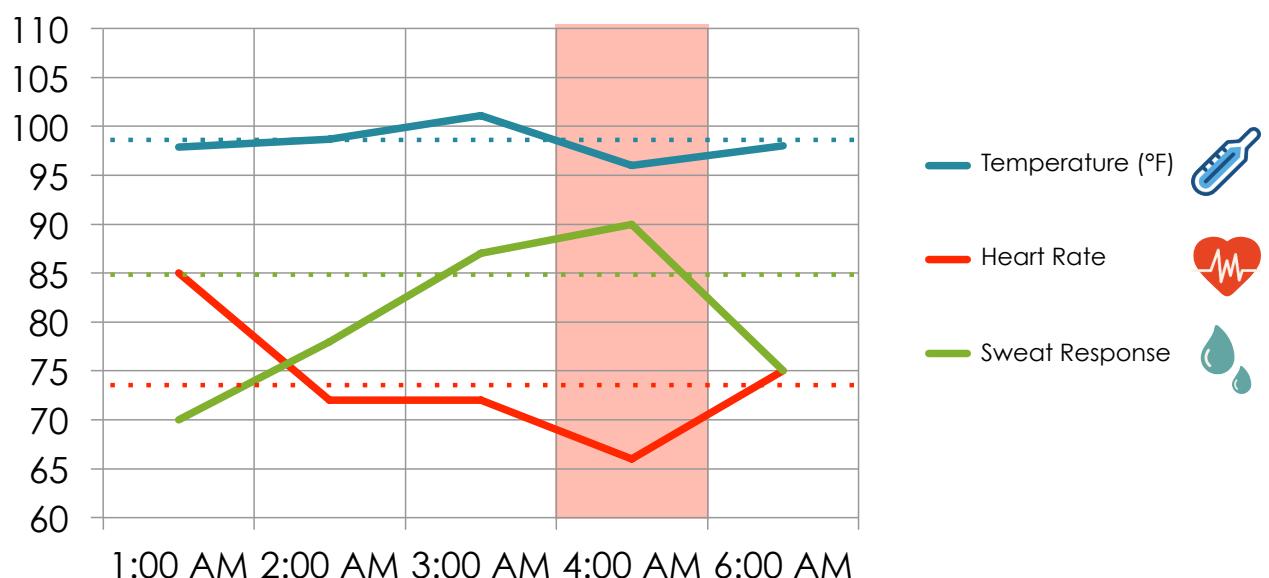
How does it work?

2. User can log-on to web-based dashboard to track data and view trends.



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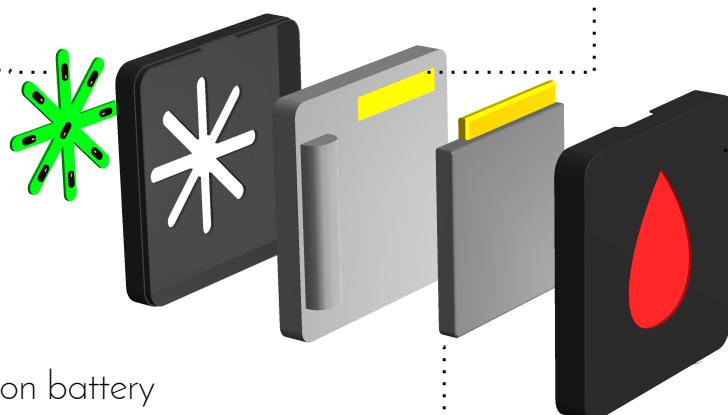
The Technology



Sources: Hoffman RP, et al. Sympathetic mechanisms of hypoglycemic counterregulation. PubMed. 2007 Aug;3(3):185-93
Allen KV, et al. Nocturnal hypoglycemia: clinical manifestations and therapeutic strategies toward prevention. PubMed. 2003 Nov-Dec;9(6):530-43.
Interviews with medical experts

The Technology

Embedded electrodes and sensors measure bio-signals



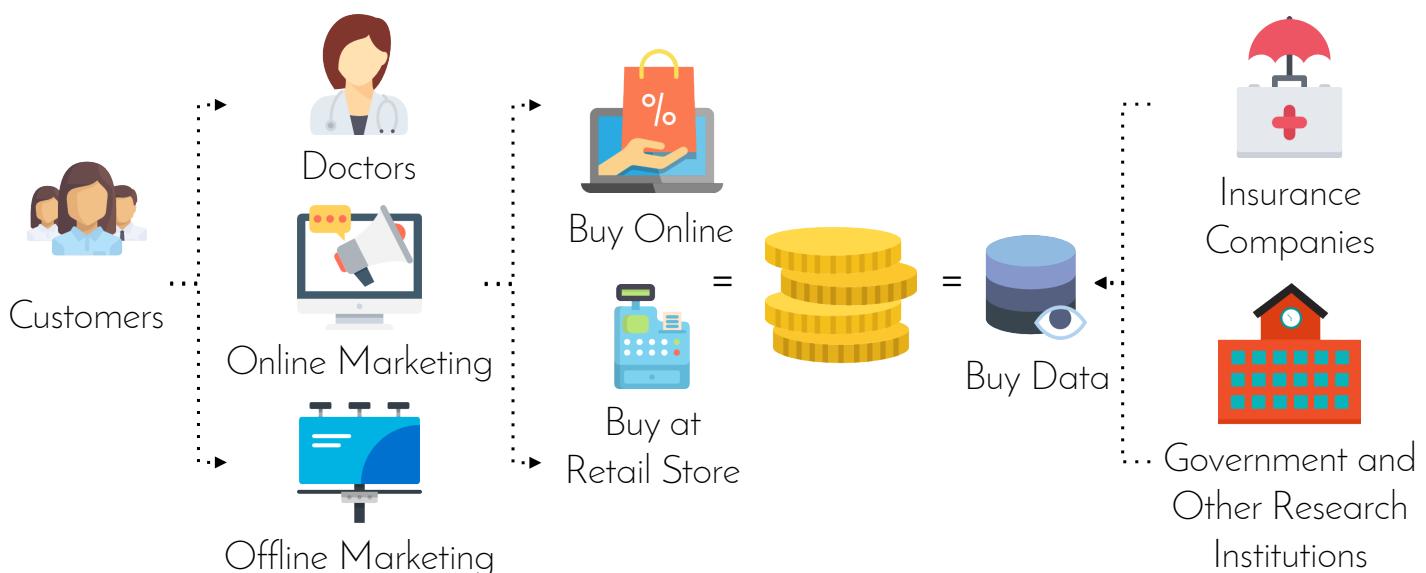
Circuit with motor and wireless chip

Rechargeable li-ion battery allows sensors to sample at high frequency for up to 24 hours.

Lightweight aluminum casing with battery indicator and USB port

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Business Model



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Competitive Landscape



	Oral Solutions	CGMS Devices	Digital Apps	KoalaCare
Non Invasive	★		★	★
Available OTC	★		★	★
Alerts User		★	★	★
One-time Purchase			★	★
User Friendly	★		★	★
Accurate at Night				★

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Competitive Landscape



KoalaCare

Oral Solutions	CGMS Devices	Digital Apps	KoalaCare
~ \$4000 p.a.	~ \$2150 p.a.*	~ \$1 - \$499 p.a.*	\$ 200

* Standalone cost, additional charges may apply for re-fills and combinations.

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Facebook Marketing Campaign

KoalaCare Smartband can detect nocturnal hypoglycaemia non-invasively and wakes you up before it's too late. Sign Up Now for Free for special offers.

KoalaCare - Life Saving Wearable for Diabetics Detects and alerts on night blood sugar lows KOALACARE.GITHUB.IO Learn More

KoalaCare Smartband can detect nocturnal hypoglycaemia non-invasively and wakes you up before it's too late. Sign Up Now for Free for special offers.

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KoalaCare – The Comfort of Safety
KoalaCare is made to make you comfortable, both mentally and physically. We focus on 4 key features in designing our device: nameability, dependability, ease of use, comfort, and hassle-free customer experience.

Easy To Use
Clip it on your wrist and you're ready to go. KoalaCare directly connects to the cloud using Wi-Fi and you can access all your data securely through a web app, no app needed!

Comfortable
We've worked tirelessly to design a product that is comfortable to fit on your wrist, while also ensuring that your right time health. Available in different flexible form factors, KoalaCare is made to make you comfortable - both mentally and physically.

Dependable
KoalaCare uses proven monitoring techniques to alert you if your blood sugar falls into a danger zone. With the in-built vibration motor, the band can alert you even when it is not connected to the internet.

One-time Purchase
No monthly fees, no subscription, no hassles. One decision to potentially save your life.

Stay connected for the latest updates, pricing, launch date and special offers! Enter your email address and we will do the rest.

Your email... SUBSCRIBE
PS: We hate spam as much as you do and promise not to send you any unnecessary emails!

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Facebook Marketing Campaign

Dual Degree Program in Technology and Management, HKUST April 14 at 11:38pm · [View](#)

[KoalaCare]擁有一個安心睡眠】根據《新英格蘭醫學期刊》一項研究顯示，四成半糖尿病患者曾出現低血糖症。而低血糖容易在夜間發生，如果患者在睡夢中病發，很容易錯過簡單補充糖分的機會而對身體造成傷害。低血糖嚴重者可致腦細胞壞死甚至死亡，因此不容忽視。

KoalaCare手帶能夠以非侵入性方式辨認出低血糖症發作的病徵，從而喚醒用家補充足夠糖分，以避免做成不可逆轉的傷害。如有興趣請一click登入網站追蹤我們！

See Translation

救命手帶！喚醒夜間低血糖發作患者
KoalaCare守護在旁，讓您可以睡得安心
KOALACARE.GITHUB.IO Learn More

Dual Degree Program in Technology and Management, HKUST April 14 at 11:37pm · [View](#)

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KOALACARE.GITHUB.IO Learn More

夜間低血糖鳴響裝置
所有低血糖患者的手帶均有可能有機會出現低血糖危機，情況嚴重者可致腦細胞壞死甚至死亡。KoalaCare手帶是唯一能以「非侵入性方式」辨認出低血糖發作並喚醒用家的裝置。

特徵 訂閱

KoalaCare

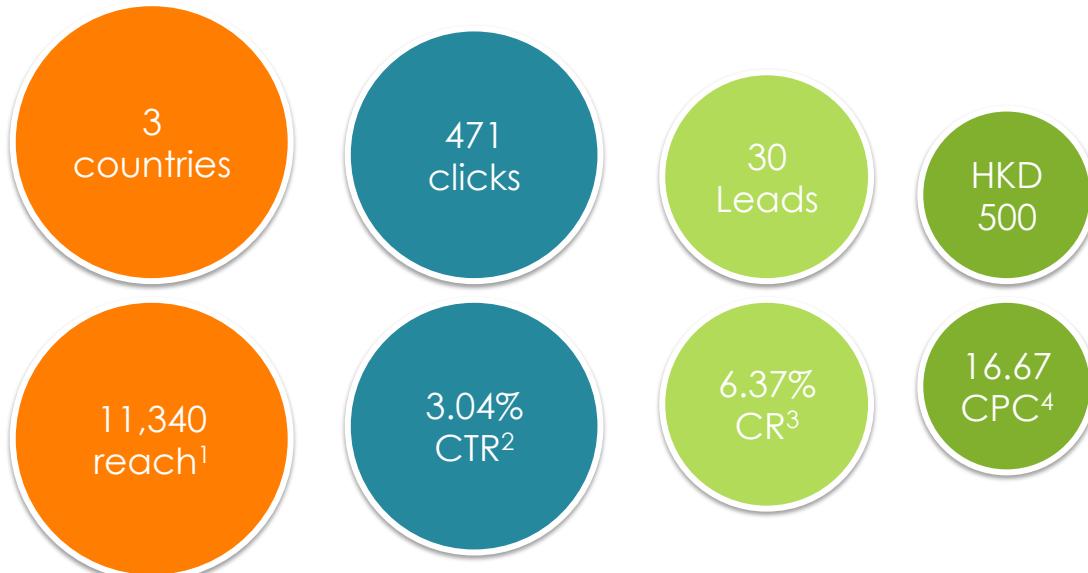
KoalaCare守護在旁，讓您可以睡得安心
KoalaCare是一款智能手帶，它透過多重感應器偵測夜間難醒病，並聲音及震动功能喚醒用家。手帶同時具備待機待機模式以節省電力和製造。讓用家擁有一個更安心的睡眠。

終身年金計劃投保
印度一名女士在船這一宗命案中喪生，KoalaCare 知悉其中一名死者是她的丈夫，她的保持著真，穩定的表現，直至新聞結果來後才崩潰淚流。25歲的卡麻(Supreet Kaur)在印度電視台的24小時主場，日前報道一宗華裔空姐的消息時，印度一名女士在報導一宗被殺事件時，知悉其中一名死者是她的丈夫，但她仍保持著真，穩定的表現，直至新聞結果來後才崩潰淚流。28歲的卡麻(Supreet Kaur)在印度電視台IBC24擔任主場，日前報道一宗華裔空姐哭訴消息時

Download Now

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Facebook Marketing Campaign

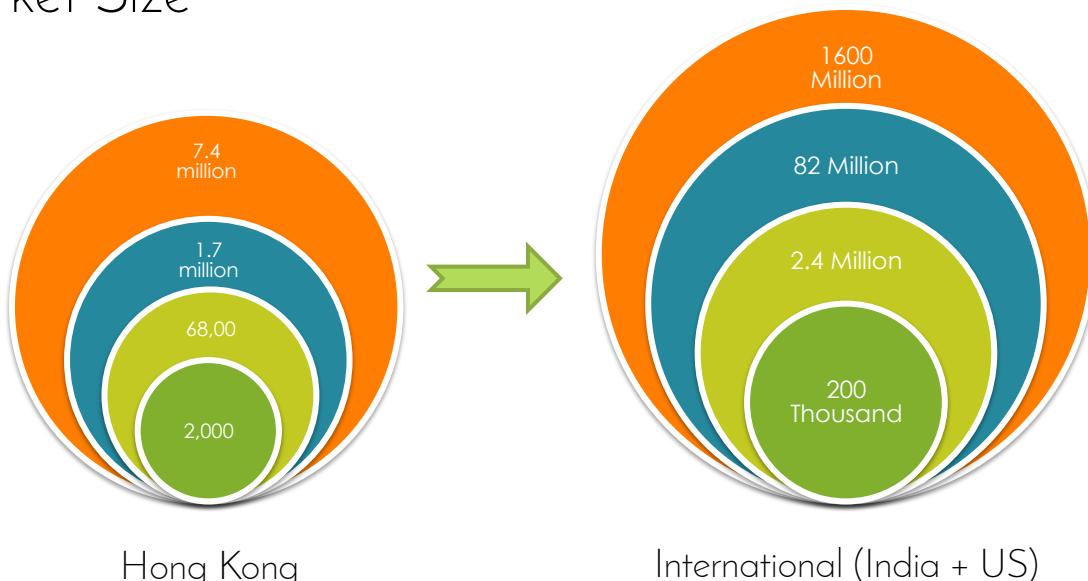


1 Unique Viewers
2 Click Through Rate

3 Conversion Rate
4 Cost Per Conversion

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Market Size



Sources: HK Health Department Health Stats 2016, International Diabetes Federation
Estimations based on Facebook campaign statistics

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KoalaCare

Stays alert all night so you can sleep as peacefully as a Koala.



Group 2, TEMG4950
HKUST Spring 2017
koalacare@zoho.com

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Appendix : Monetization



Estimated Cost of Manufacturing (per piece)

- USD 40 (parts)
- USD 10 (assembly and packaging)
- USD 10 (shipping and misc.)



Selling Price

- USD 100 - 200 online
- USD 150 - 250 retail (to offset retail markup)

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Appendix : Novo Nordisk notice on night-time hypoglycemia and Tech

Hypoglycaemia
An everyday challenge for people with diabetes



Night-time hypoglycaemia

A real concern for people living with diabetes as it is often unpredictable and difficult to detect¹

Symptoms
poor quality sleep, chronic fatigue, morning headache, night-time convulsions, night sweats and nightmares² that can impact productivity at work²

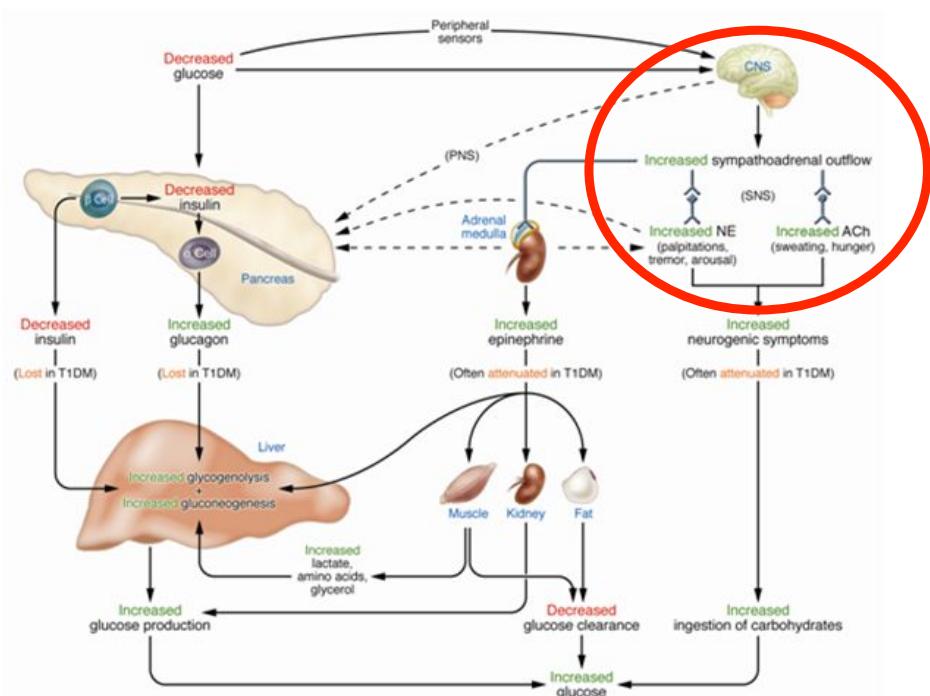
Affects up to 50% of adults with type 1 diabetes¹ and >33% with type 2 diabetes who are on insulin treatments³

1. Allen KV et al., Nocturnal hypoglycemia: clinical manifestations and therapeutic strategies toward preepisodeon. *Endocr Pract* 2003; 9(6):530-43.
2. Brod M et al., The impact of non-severe hypoglycemic episodes on work productivity and diabetes management. *Value Health*. 2011;14(5):665-71
3. Rosenstock J et al., Reduced hypoglycemia risk with insulin glargine: a meta-analysis comparing insulin glargine with human NPH insulin in type 2 diabetes. *Diabetes Care*. 2005;28(4):950-5.

Temperature - MLX90614 IR
Heart Rate - PPG TI regulator
GSR - Custom electrode sensor

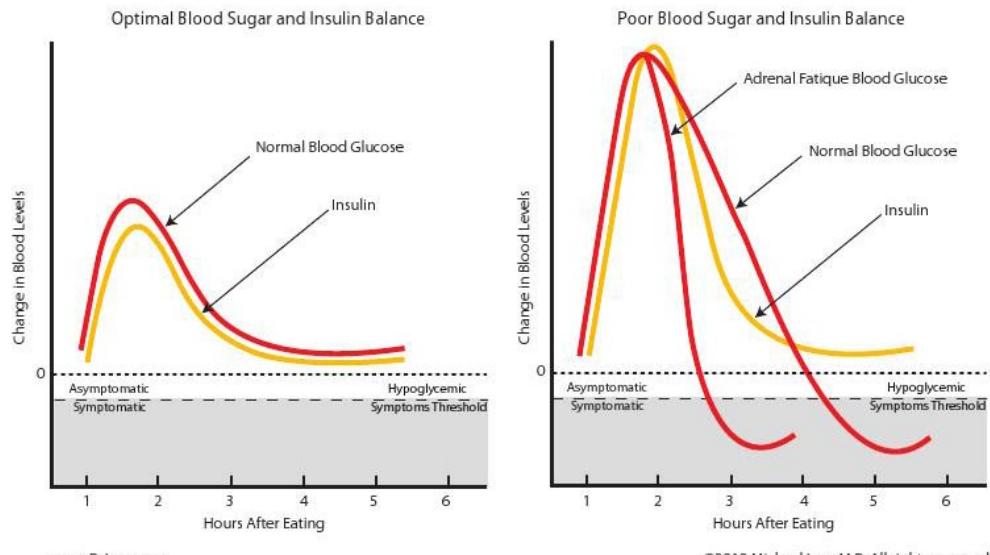
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Appendix : Physiological Response to hypoglycemia



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Appendix : Alert zone explanation



DrLam
Body. Mind. Nutrition.