



# Hassle-Free Self Designed Holter Pouch

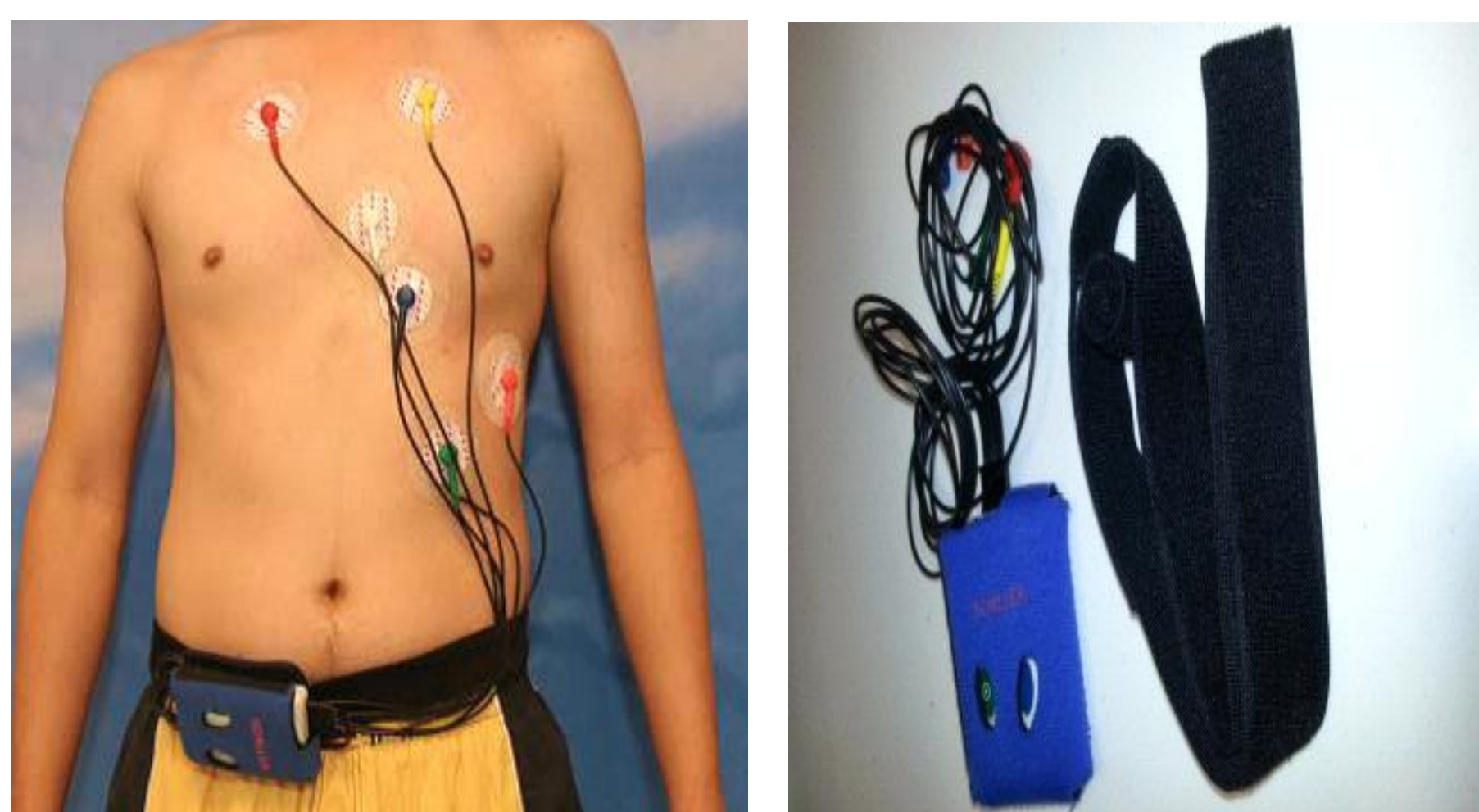


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## Background

- The ambulatory Holter monitoring is a test where the ECG is continuously recorded for 24 hours.
- The Holter device is worn by the patient in a pouch and belt strap on the waist.
- The pouches and belts were hand washed and air-dried in the clinic (does not meet the requirement of infection control criteria), thus standard laundry service was used to address this issue.
- The laundry service was cheaper in the long run but we needed more pouches for circulation.
- Due to the high cost of purchasing the original pouch at \$350 each, Cardiology Clinic and Linen Department worked together to produce our own Holter pouches.



Holter monitor on patient with the Original version of pouch.

## Objectives

- To acquire **cheaper and durable** pouches to match with the increased load.
- To **meet infection control** criteria of washing pouch by using a laundry service instead of in-house cleaning.

## Method

### Creation of first batch of pouches (2012):

- The pouch **wears off** after a few washes because of its poor quality.
- The buckle-belt causes **discomfort**, especially to obese patients.



Pouch slip off from the waist with redness created by the buckled belt.

### Creation of second batch of pouches (2013):

- The team decided to improve on the shortcomings of Version 1 by sourcing for **better quality material**.
  - Velco-fasten** elastic belt
  - Durable, sustainable** pouches for washing



Original \$350

(Version 1) \$15

(Version 2) \$25

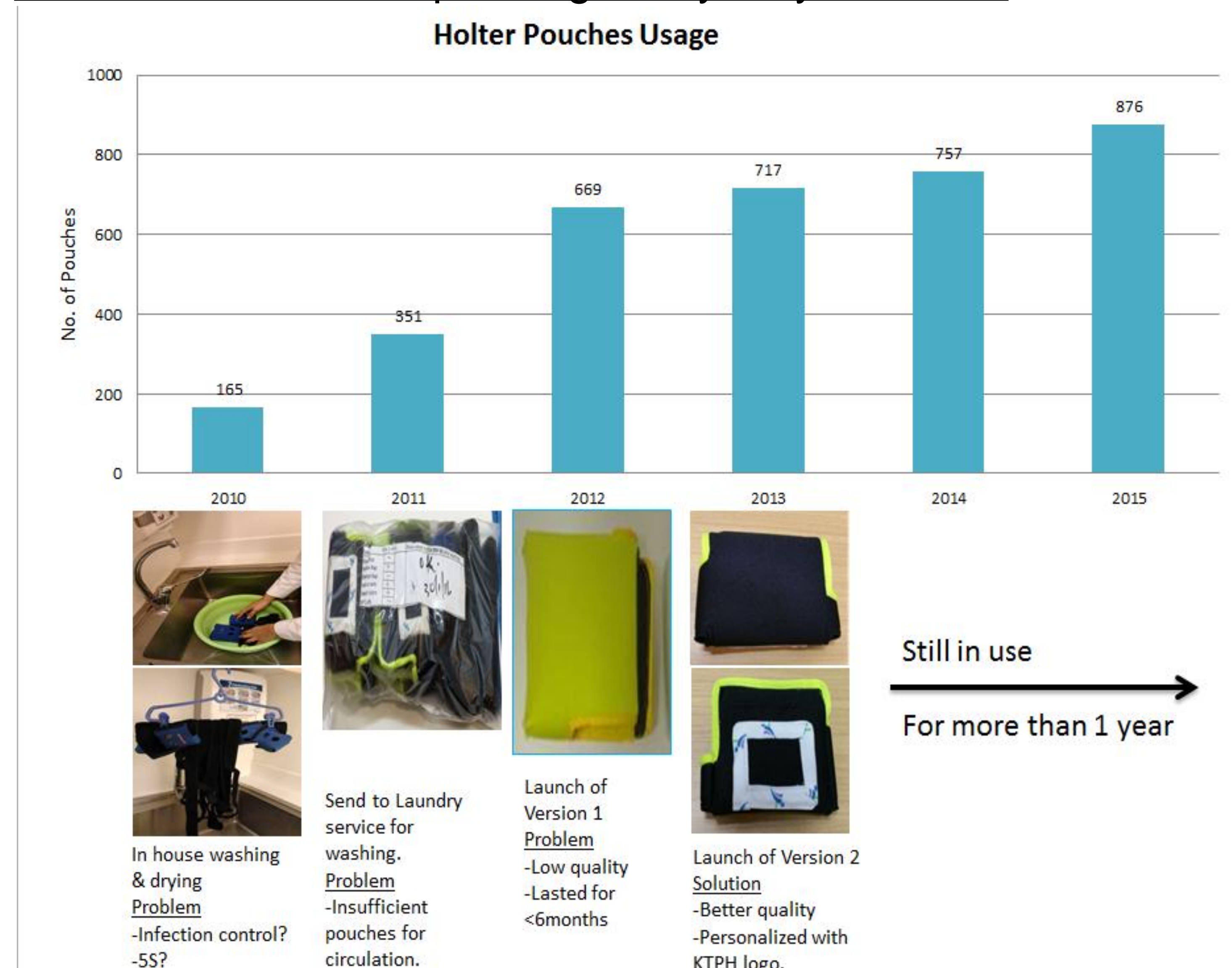
## Outcome



With the improvements made, the final pouches had:

- A **better quality and more durable; semi waterproof** material.
- A **personalized KTPH logo** (Picture B).
- Longer, stretchable and comfortable** belts for all sizes of patient (Picture C and D).
- The stiffness of the material used was able to **hold the device in place** (Picture D).
- A **'Cushioning' effect** to shield the Holter device (Picture E).

### Event timeline corresponding with yearly workload



## Conclusion

	Original	Version 1	Savings	Version 2	Savings
Cost of 30 pouches per year	\$10,500	\$900	\$9,600	\$750	\$9,750
Cost of washing in the clinic	\$4,200	\$4,200	\$3,762	\$4,200	\$3,762
Cost of washing by Laundry service	\$438	\$438		\$438	
<b>Total savings</b>			<b>\$13,362</b>		<b>\$13,512</b>

- In terms of washing, there is a **saving of \$3762** from laundry service.
- Another saving of \$9750** from the production of our pouches.
- In conclusion, there is a **significant reduction in operating cost of \$13,512** per annum.