Medical Tactile Examiners improve early breast cancer detection while leveraging a perceived „disability“ as a real talent

Exposé
Dr. Frank hoffmann

April 2014
DISCOVERING HANDS® HAS A VISION:

„A perceived ‘disability’ is leveraged as a real talent for improved well-being of patients“

The founders of discovering hands® pursue three specific objectives:

1. Creating employment opportunities for visually impaired people
2. Providing improved healthcare through the systematic application of the well-trained sense of touch of visually impaired people
3. In the short-term, ensuring that breast cancer patients gain maximum benefit from the superior abilities of blind and visually impaired women

Discovering hands® is a professional social enterprise pursuing a social mission. All profits are immediately re-invested in the further expansion of our business-model, according to this mission.

The following gives context and an overview about the business model of discovering hands®:

- The idea
- How the model works
- Key market-data
- Current situation
- Key elements to scale up
THE IDEA BEHIND DISCOVERING HANDS®

- discovering hands® trains blind and visually impaired women as Medical Tactile Examiners (MTEs), who then support breast cancer prevention and early detection in the context of the existing health system.
- Breast cancer is still the most common type of cancer and among the most frequent causes of death for women – every year, roughly 60,000 women in Germany are diagnosed with this disease.

FIGURE 1

Breast cancer is the most frequent form of cancer among women

Incidence Rate
New cases p.a. per 100,000 inhabitants

- About 60,000 women are diagnosed with breast cancer in Germany every year
- The incidence rate has been growing continuously for many years
- With a share of 29%, breast cancer accounts for the highest rate of all newly diagnosed female cancer patients
- Despite the development of new treatment methods many women still die of breast cancer
- It is the most common cause of death for women between 40 and 44 years of age in Germany

The early detection and treatment of breast cancer allows for less harmful treatment and significantly increases patients’ chances of survival

For improved health and quality of life outcomes adequate prevention and early detection programs are necessary. The service delivery situation in Germany is suboptimal:

- Mammography-screening is only available for women aged 50 or older (in the context of the mandatory social health insurance which covers ~90% of the population). The cost for mammography for younger women is not covered, although about 20% of all women diagnosed with breast cancer are under 50 years of age. Moreover, the average palpation of the breast is executed under enormous time pressure in the physician’s daily routine¹

¹ On average, gynecologists take between 1 and 3 minutes for the palpation of the breast.

discovering hands®
gemeinnützige UG (haftungsbeschränkt)

CEO:
Dr. Frank Hoffmann
Germany

Contact:
T: +49-208- 375 83499
F: +49-208- 375 75650
frank.hoffmann@discovering-hands.de
discovering hands® helps to address these shortcomings by offering a meaningful and sustainable occupational field for blind and visually impaired women with the following great benefits for patients:

- Blind and visually impaired people have proven superior sense of touch, manifested e.g. in the capability to read braille\(^2\)
- The examination is carried out according to a professionally developed, standardized and quality assured examination concept
- The MTE takes at least 30 minutes time for each examination, dedicating a maximum of time and attention to every individual patient

A first qualitative study shows, that MTEs detect ~30% more and ~50% smaller tissue-alterations in the breast in direct comparison to gynecologists. A clinical study to verify these findings is going on since November 2013 at the University Gynecological Hospital Erlangen under supervision of Prof. Beckmann.

FIGURE 2

discovering hands® deploys Medical Tactile Examiners in early breast cancer detection

The discovering hands® concept in a nutshell:

- Carried out using haptic orientation stripes
- Standardized method developed by discovering hands®

\(^2\) see e.g. Congenital blindness leads to enhanced vibrotactile perception” - Neuropsychologia. 2010; 631
HOW THE MODEL WORKS

Currently, blind and visually impaired women are trained to be MTEs in four certified vocational training centers across Germany. During the theoretical part of the nine-month program, they are trained in palpation, anatomy, communication and breast-specific psychology inter alia, followed by a three-month internship. The officially certified MTEs are then deployed in gynecological outpatient practices or hospitals.

FIGURE 3

The examination carried out by a MTE follows a standardized process

Examination Procedure

- First of all, the patient is interviewed regarding her medical history
- Then the patient is seated on the examination bed, while the MTE obtains a first overview over the patient’s body and checks for temperature differences
- In a second step lymph nodes are scanned
- Subsequently the MTE places five haptic orientation stripes on the patient’s upper torso, helping her to locate and retrieve any findings from palpation
- Following these preparatory steps, the MTE carries out a detailed palpation of the breast, taking between 30 and 60 minutes (depending on size and quality of the breast)
- After every examination, the attending physician is consulted to discuss possible findings and further diagnostics with the patient.

All MTEs, gynecological practices and hospitals are certified by discovering hands® to form part of the discovering hands® system. The contracting with social health insurance funds as well as the all PR and marketing activities are centrally organized by discovering hands®.
Patients, covered through the mandatory social health insurance scheme in Germany, cover the cost for the Clinical Breast Examination out-of-pocket\(^3\) (which is very common for individual gynecological health services in Germany).

However discovering hands\(^\circledast\) is negotiating the reimbursement of the examination under the social health insurance scheme catalogue. As a result already six public health have agreed to reimburse their beneficiaries for the cost of the examination and are under direct billing contract with discovering hands\(^\circledast\) (covering more than 3.4 million beneficiaries). Other public health insurance funds agreed to reimburse patients for the service upon request. Contract negotiations with numerous further public health insurance funds are ongoing.

While the social health insurance scheme in Germany is mandatory, \(~10\%\) of the population can opt out to enroll with private insurance providers. All of the private providers, covering \(~2.1\) million female beneficiaries, guarantee full reimbursement of the cost for the Clinical Breast Examination.

Out-of-pocket payments from patients and reimbursements from insurance funds are collected by the outpatient gynecologist who employs the MTE and provides the medical supervision for the examinations. Revenues generated through such fees cover the salary of the MTE (employed by the gynecologist directly in the outpatient practice) and the payment of supplies to discovering hands\(^\circledast\).

The discovering hands\(^\circledast\)-model offers an attractive value proposition for all stakeholders:

- **Patients** benefit from a pleasant and more “human” examination situation, improved early detection and a better chance of cure in case of carcinoma.
- **The MTEs** are being offered sustainable, meaningful employment, providing a secure source of income.
- **Health insurance funds** lower treatment cost through earliest possible detection and additional marketing value that discovering hands\(^\circledast\) provides.
- **Public rehabilitation authorities** increase job-placement quotes among frequently unemployed blind and visually impaired women.
- **Gynecologists** greatly improve patient-care and marketing and increase revenues for their outpatient practices.

---

\(^3\) Ultrasound and complementary cancer screening examinations are the most common individual health services in Germany, see WIdO, PM vom 10.07.2007
FIGURE 4

The discovering hands® system receives positive feedback from all people involved

 Patients  Gynecologists  MTEs
"The examination is highly recommendable. My MTE was very nice, sensitive and professional. She detected a tissue-alteration that wasn’t malignant, luckily. From now on, I will visit the MTE regularly. It’s really worth the money." (Monika S., Hamburg)
"A gynecologist from D. has been employing a CBE in her practice since 2010. "I am very pleased with the work my MTE does. Especially because my patients are happy and the palpation of the breast finally receives the attention it deserves."
"Ms. V. went blind at 48 years of age and was trained as an MTE in 2008. "Since then she has been working as an MTE at a gynecological practice. "I am very content with my job. I can keep working while making the best possible use of my capabilities."

SOURCE: discovering hands®

KEY MARKET-DATA: THE NUMBERS SPEAK IN FAVOR OF DISCOVERING HANDS®

- Germany has a population of more than 22 million women between 30 and 70 years of age, all of which could benefit from a Clinical Breast Examination
- Fee-for-services interventions are common practice for complementary early cancer detection. The total market-volume in Germany exceeds 1.5 billion EUR
- There are ~14,000 employable blind or visually impaired women in Germany between 18 and 54 years of age, all of which could potentially be trained as MTEs
- A total of ~9,000 resident German gynecologists are possible employers for MTEs
- A full-time MTE can examine ~60 patients per month. Revenues through that secure her yearly salary of ~18,000 EUR⁴, a profit for the employing outpatient doctor of about ~7,000 EUR and revenues of about ~8,000 EUR for discovering hands®⁵.
- Health insurance funds can save about 9,000 EUR in treatment cost per early detected breast cancer, while chances of survival for patients are significantly increased.

⁴ Gross salary plus ~3,000 EUR social security contribution by the employer
⁵ Assumptions: 40 weeks/year, 46.50 EUR/examination, 10 EUR/examination for haptic orientation stripes exclusively distributet by discovering hands®
**FIGURE 5**

An early diagnosis of breast cancer enhances chances of survival and lowers treatment cost

**Survival rate according to cancer stage after diagnosis**

<table>
<thead>
<tr>
<th>Stadium</th>
<th>Survival Rate (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>90</td>
</tr>
<tr>
<td>II</td>
<td>80</td>
</tr>
<tr>
<td>III</td>
<td>70</td>
</tr>
<tr>
<td>IV</td>
<td>60</td>
</tr>
</tbody>
</table>

**Savings in treatment cost through early detection of breast cancer**

| Savings per patient through detection in stadium I instead of stadium II (EUR) |
|---------------------------------|---------------------------------|
| Savings in treatment cost       | Reduced productivity loss       | Total value of early diagnosis |
| 9,038                           | 48,474                          | 57,512                         |


---

**THE CURRENT SITUATION: DISCOVERING HANDS® HAS ACHIEVED MUCH AND RECEIVES BROAD ATTENTION**

- discovering hands® has already trained more than 20 blind and visually impaired women as certified MTEs
- Seventeen gynecological outpatient practices and hospitals employ MTEs across Germany
- Four certified vocational training centers offer the training in cooperation discovering hands®
- The patented haptic orientation stripes, being the future main source of income, are produced by a licensed manufacturer and exclusively distributed to discovering hands®
- discovering hands® has received numerous awards and awards:
  - Ideenpark Gesundheitswirtschaft 2007 (Financial Times Deutschland)
  - Sonderpreis des deutschen Innovationspreises im Gesundheitswesen 2011
- In 2010, Dr. Frank Hoffman was awarded the „Ashoka-Fellowship“ as an outstanding Social Entrepreneur

6 Ashoka is the largest support-network for Social Entrepreneurs world wide (www.ahsoka.org)
Since the initiation of the project, discovering hands® was covered in over 90 national and international media pieces (e.g. Deutsches Ärzteblatt, Cosmopolitan, FREUNDIN, BILD-Zeitung, DIE ZEIT, SternTV, FastCompany).

Vocational training centers in different European countries have concrete plans to establish the MTE-training program and promote discovering hands®. Furthermore, discovering hands® currently conducts market introduction studies with relevant partner organizations in European and Asian countries.

**KEY ELEMENTS TO SCALE UP DISCOVERING HANDS®**

- We are currently planning our expansion to Austria. A market-study has been completed, a training partner an an investor have been identified. A train the trainer program was finished in April 2014.

- An efficient and effective roll-out outside of Germany can only be realized through a social franchise System: discovering hands® is supported by The Ruderman Family Foundation to built up the franchise handbook.

- The discovering hands® social franchise model will allow faster growth of the discovering hands® model in every considered country. It will accelerate the scaling strategy, form the foundation and function as the global reference center for the deployment of blind and visually impaired people in medical diagnostics. It will design quality standards, create a licensing-system and assign a discovering hands® quality seal.

- Our vision is to implement the social franchise model within 2014 which serves as the social entrepreneurial basis of the discovering hands® success story. To put this vision into operation, we need to identify cooperation partners and financial endorsement.

- For the realization we count on your strategic advice and support!

**FOR MORE INFORMATION**

see [www.discovering-hands.de](http://www.discovering-hands.de) or contact our Service office:

discovering hands® Service GmbH
Ernst Mohler / Stefan Wilhelm
Wiesenstr. 35
D-45473 Mülheim an der Ruhr
T 0049-208-375 834 99
F 0049-208-375 756 50
office@discovering-hands.de

or check [http://www.youtube.com/watch?v=Pq2s6T9LHC0](http://www.youtube.com/watch?v=Pq2s6T9LHC0)