Multidisciplinaire Diabetic Foot Clinic
Karel Bakker, MD PhD
Organisation of footcare

• There is strong evidence that the institution of a multidisciplinary foot-care team reduces amputation rate
“Improved survival of the Diabetic Foot: The role of a specialized foot clinic”

ME Edmonds, et al
King’s College Hospital, London

Q J Med. 1986 Aug;60(232):763-71
Multidisciplinary Diabetic Foot Team

… Dependent upon motivated members …
Levels of foot care management

In all countries at least three levels of foot care management are needed:

Level 1 Minimal model: general practitioner, diabetic nurse and podiatrist

Level 2 Intermediate model: diabetologist, surgeon (general and/or vascular and/or orthopedic), diabetic nurse and podiatrist

Level 3 Centre of excellence
Level of Management 1

- Personnel
  - GP
  - Diabetic Nurse
  - Podiatrist
## Minimal model (1)

<table>
<thead>
<tr>
<th>Aim</th>
<th>Prevention and basic curative care</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patients</td>
<td>Own population</td>
</tr>
<tr>
<td>Setting</td>
<td>General practitioners’ office, health centre or small regional hospital</td>
</tr>
<tr>
<td>Facilitating elements</td>
<td>Close collaboration with a referral centre</td>
</tr>
</tbody>
</table>
Level of Management 2

- Personnel
  - Diabetologist
  - Surgeon (general and/or vascular and/or orthopedic)
  - Diabetic nurse
  - Podiatrist
## Intermediate model (2)

<table>
<thead>
<tr>
<th>Aim</th>
<th>Prevention and curative care for all types of patients and more advanced assessment and diagnosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patients</td>
<td>From the regional catchment area of the hospital with possibly some referrals from outside the region</td>
</tr>
<tr>
<td>Setting</td>
<td>Hospital</td>
</tr>
</tbody>
</table>
| Facilitating elements | Motivated coordinator to inspire team  
Exchange experience with other centres  
Staff meetings to discuss diabetic foot patients  
Active collaboration with other departments within the hospital  
Active collaboration with extra-mural facilities (GP’s, nursing homes, etc) |
Dr Abbas’ Foot clinic in Dar
Level of Management 3

- Personnel
  - Diabetologist
  - Surgeon (vascular, orthopedic)
  - Podiatrist
  - Orthotist
  - Educator
  - Plaster technician
  - Rehabilitation specialist
  - Diabetic Nurse
  - Psychiatrist
### Centre of excellence (3)

| Aim | Prevention and specialised curative care for complex cases  
To teach other centres |
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Patients</td>
<td>National, regional or even international referral centre</td>
</tr>
<tr>
<td>Setting</td>
<td>Usually a large teaching or university hospital</td>
</tr>
</tbody>
</table>
| Facilitating elements | Organise regional, national or international meetings  
Allow providers to visit to improve knowledge and practical skills  
Active collaboration with other reference centres  
Active participation in the development of guidelines |
Groepsspirit-teamoverleg
“A specialized wound-healing center concept: importance of a multidisciplinary department structure and surgical treatment facilities in the treatment of chronic wounds“

F Gottrup
Copenhagen Wound Healing Center, Bispebjerg
University Hospital

Organisation of footcare

• The specialist foot-care team must not only treat patients, but must also work in the primary care setting
Organisation of footcare

• Make each patient a respected member of the team - you cannot succeed without their help
Education
Education for “relatives”
Evaluation
Realistic time-dependent targets should be set. Several outcomes can be measured:

- Amputation rates
- Foot-related deaths
- Numbers of ulcers
- Healing times of ulcers
- Prevalence (a reduction in projected increase, rather than an overall reduction may be a more realistic target)
- Hospital stays related to the diabetic foot
- Cost of providing diabetic foot care

A monitoring system is essential for assessing the impact on foot clinic’s outcomes.
Evaluation of outcomes
“A specialized outpatient foot clinic for diabetic patients decreases the number of amputations and is cost saving”

K Bakker, J Dooren
Spaarne Hospital, Heemstede

Patients Footclinic Heemstede


- **new**
- **control**

Values: 0, 200, 400, 600, 800, 1000, 1200, 1400, 1600

Legend:
- Green: new
- Purple: control
Number of admission days per admission per year before (1983-1986) the start of foot clinic in the Spaarne Hospital Heemstede compared to the period after (1987-1990)
gemiddeld per jaar 1983-1986 vóór voetenpolikliniek

gemiddeld per jaar 1987-1990 na start voetenpolikliniek

\* p<0.05
Spaarne Hospital Heemstede (The Netherlands)

Results of 4 year foot clinic (1987-1990)

- Amputation reduction by 44%
- Reduction of hospital costs of 170,000 dollar per year
The Netherlands

Almost 500,000 known patients with diabetes
Ulceration in 4% of diabetics in general practice

Lower extremity amputation
Incidence per 10,000 (amputees)

Year

Incidence per 10,000 (amputees)
Male Female Total
### Hospitals in The Netherlands with podiatrist

<table>
<thead>
<tr>
<th>Year</th>
<th>1995</th>
<th>2000</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Number of hospitals</strong></td>
<td>39 (32%)</td>
<td>84 (71%)</td>
</tr>
<tr>
<td><strong>Private practice</strong></td>
<td>32 (82%)</td>
<td>56 (67%)</td>
</tr>
<tr>
<td><strong>Paid by hospital</strong></td>
<td>7 (18%)</td>
<td>22 (26%)</td>
</tr>
<tr>
<td><strong>Combination of both</strong></td>
<td>0</td>
<td>4 (5%)</td>
</tr>
</tbody>
</table>

| **Number of hours per week** | 4,6 | 5,9 |
Hospitals in The Netherlands with a specialized foot clinic

<table>
<thead>
<tr>
<th>Year</th>
<th>1995</th>
<th>2000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of hospitals</td>
<td>20 (16%)</td>
<td>43 (36%)</td>
</tr>
<tr>
<td>Number of hours per week</td>
<td>3,2</td>
<td>4,6</td>
</tr>
</tbody>
</table>