WEBINAR ON THE
HOSPITALS STRATEGY
AND TACTICS TREE

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Founder and CEO, Illuminutopia

Antoine van Gelder, M.D.
Chairman of Internal Medicine Dept.
Pretoria Medical School
<table>
<thead>
<tr>
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<th>Viable Vision for Hospitals</th>
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| **Strategy** | The hospital is more and more adept at providing excellent healthcare*, while providing a rewarding work environment (for health care providers, staff and management) and significantly improving financial performance.  
*(patient outcomes, patient safety, effective treatment times and patient satisfaction)* |
| **Parallel assumptions** | • Actions taken to improve the quality of healthcare can jeopardize financial performance, while actions taken to not jeopardize or to improve financial performance can hurt quality.  
• Exhausting the hospital’s resources and/or taking too high risks severely endangers the chance of reaching the strategy.  
• When industry applications are appropriately adapted and effectively focused (based on patient centricity) in a hospital, its performance (level of healthcare, rewarding work environment and financials) improves significantly through more effective usage of the current resources available. |
<p>| <strong>Tactic</strong> | The hospital successfully changes its mode of operation through effective adaptation of industry applications without exhausting its resources and without taking real risks. |
| <strong>Sufficiency assumption</strong> | The way to achieve dramatic improvements is based on knowing where and how to successfully focus efforts. |</p>
<table>
<thead>
<tr>
<th>Necessary assumptions</th>
<th>Improved Flow</th>
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| • The flow of work within and between departments has a significant impact on quality and financial performance. This workflow is difficult to manage because the therapeutic pathway for each patient can differ and is further complicated by the inherent unpredictability of the number and types of patients coming into the ER and variable treatment times (in the OR and other areas).  
• The flow of information, resources and inventory affects not only the patient flow, but also the work environment and financial performance. |  |
| Strategy | A successful mode of operation is accomplished when effective flow is achieved within the hospital (between departments and within each department), when all other parameters remain the same. |
| Parallel assumptions | • Scheduling of the workflows must accommodate the inherent variability, rather than acting as if imposing predictability is possible.  
• A robust system is needed to give proper priorities for work. |
| Tactic | The hospital develops the capabilities to effectively improve flow with a focus on patient centricity, while improving the work environment and financial performance. |
| Sufficiency assumption | Building a successful mode of operation is not easy; building the capabilities to capitalize on it is not less difficult. But, sustaining these two elements is the real challenge. |
### Necessary assumptions
- *Unnecessary* time in the patient flow time (from entering the hospital to completed treatment) negatively affects patient outcomes, safety and/or satisfaction.
- When the patient is in the hospital (unnecessarily long), resources are being utilized to deal with the patient (i.e. beds, HCP’s, staff).

### Strategy
Effective patient flow is achieved throughout the hospital.

### Parallel assumptions
- Variability (uncertainties) exists in most processes in a flow.
- Improvements can be done in any process.
- Many local improvements do not have a significant impact on improving overall flow.
- Therefore, an effective, practical focusing mechanism is required to know where to address disruptions to flow.
- Experience indicates that logistical applications from industry provide an effective mechanism for improving flow (i.e. Henry Ford, Taiichi Ohno's work at Toyota which is known as Lean, and TOC)

### Tactic
The Hospital effectively implements logistical applications from industry.

### Sufficiency assumption
The key to successfully implementing an application in a different environment is the effective translation of the fundamental concepts underlying the application to the different environment.
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<thead>
<tr>
<th>Necessary assumption</th>
<th>Marketing</th>
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<tr>
<td>From the outset of the VV project, the hospital aligns its marketing approach to fully take advantage of its improved performance.</td>
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<table>
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<tr>
<th>Strategy</th>
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<tr>
<td>The number of patients treated in the hospital continues to grow.</td>
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<table>
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<tr>
<th>Parallel assumptions</th>
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<tr>
<td>• Patients usually are unable to decide which hospital to go to since the choice is often made by their physician or even their health care provider (i.e. insurer).</td>
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<td>• Physicians make the decision based on the performance of the hospital in terms of quality and the work environment.</td>
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<table>
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<tr>
<th>Necessary assumption</th>
<th>As the number of patients treated increases, a permanent bottleneck may appear. The existence of a bottleneck may limit the ability of the hospital to continue to improve its performance.</th>
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<tr>
<td>Strategy</td>
<td>The hospital’s performance is never endangered by the emergence of a bottleneck.</td>
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| Parallel assumptions | • Financial performance improves when more patients are effectively treated using the same resources.  
                          • After some time, the first actions to achieve the VV bring the hospital to perform well financially. At that stage, spending money to increase capacity is not a barrier. |
| Tactic               | A mechanism is in place to rapidly increase capacity (personnel, diagnostic and therapeutic equipment).                                                                                                                                  |
| Sufficiency assumption | Too often, hospital’s capacity expansions resemble playing Russian roulette (making large long-term commitments based on vague knowledge of probability, timing and need).                                                                         |
1991 – Pretoria academic hospital outpatient division waiting time decreased from 12 weeks to 4 weeks in 6 months using DBR principles

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**Results**

- Average waiting time decreased from 12 weeks to 4 weeks
- Clinic time and space utilization increased from 60% to 90%
- Patient complaints changed to long waiting time for medicines
- Doctors complaints about nurses stopped
- Nurses complaints about doctors stopped
- Records still not available in clinic
1991 – Pretoria academic hospital outpatient division waiting time decreased from 12 weeks to 4 weeks in 6 months

2009:
TOC IN HEALTH CARE – AN IDEA WHOSE TIME HAS COME

THE THEORY OF CONSTRAINTS – PROVEN BEYOND DOUBT IN REALITY

Presented by Alex Knight, QFI Consulting
# TOC IN HEALTH CARE – AN IDEA WHOSE TIME HAS COME

## BARNET AND CHASE FARM HOSPITALS NHS TRUST – RESULTS

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<tbody>
<tr>
<td>Delayed patient days</td>
<td>915</td>
<td>60</td>
<td>450</td>
<td>100</td>
</tr>
<tr>
<td>Number of delayed patients</td>
<td>84</td>
<td>14</td>
<td>47</td>
<td>18</td>
</tr>
<tr>
<td>Emergency bed availability at 9 am Monday morning</td>
<td>Minus 60 to minus 40 beds available</td>
<td>Emergency Bed availability positive</td>
<td>Minus 25 to minus 15 beds available</td>
<td>Emergency Bed availability positive</td>
</tr>
<tr>
<td>Length of stay across all Jonah wards</td>
<td>11</td>
<td>8</td>
<td>10</td>
<td>7</td>
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*A & E performance above 98% - 12 months in a row Achieved with no extra resources*

*Total Bed capacity reduced by 38 beds over the same period*
TOC IN HEALTH CARE – AN IDEA WHOSE TIME HAS COME

OXFORD – DIDCOT COMMUNITY HOSPITAL

Didcot Community Hospital - Average Length Stay All Patients

[Graph showing the average length of stay from February 2003 to December 2003, with a decreasing trend from 60 days to 0 days.]
TOC IN HEALTH CARE –
AN IDEA WHOSE TIME HAS COME

Annual Increase in Productivity
Hospital Transformation by Theory Of Constraints Methodology

A Case Report
A.L. van Gelder FRCP

University of Pretoria
South Africa
Society of Medical decision making
Baltimore 2002
TOC IN HEALTH CARE – 
AN IDEA WHOSE TIME HAS COME
Managing patient flow using time buffers

Presented by: Alex Knight, QFI Consulting, UK
Roy Stratton, Nottingham Business School, NTU, UK

Date: June 2010
TOC IN HEALTH CARE – AN IDEA WHOSE TIME HAS COME

Health and social care system - the chain of activities

TOCICO 2010 Conference

Access targets: ED=4 hrs  Elective surgery=18 weeks
SDBR buffer management simplification in healthcare applications

Split the 4 hour process into 3 zones: green, amber, red.

Actively manage patients in the amber zone to avoid them moving into the red zone. Patients in the Red/Black zone to be ‘expedited’ through the remaining steps in the system.
Dr. Lisa A. Ferguson is the founder and CEO of Illuminutopia℠, an organization that is focused on "Illuminating the way to utopia for individuals, organizations and society.℠" She is the author of the chapter on Strategy and Tactics (S&T) trees in the Theory of Constraints (TOC) Handbook published by McGraw-Hill, which includes content written by 44 of the top TOC experts in the world. Dr. Ferguson and Dr. Antoine van Gelder are co-authors of the generic S&T tree for hospitals. Lisa has spent several years training consultants in different countries, as a faculty member of Goldratt Schools, to become TOC Experts and Supply Chain Logistics implementers. She has a PhD in Operations Management from Arizona State University and an MBA. She taught operations management full-time in a university business school for 10 years. She is a TOCICO board member and is TOCICO certified in Supply Chain Logistics, Project Management, and the Thinking Processes.
Dr. Antoine van Gelder FRCP is the head of the department of Internal Medicine at the Pretoria Academic Hospital South Africa and a Fellow of the Royal College of Medicine, London. He underwent Jonah training in 1991 and presented an implementation of TOC in the outpatient department to a Jonah's upgrade workshop soon afterwards. At the time this was recognized by Dr. Goldratt as the first medical application of TOC. He completed the Jonah's Jonah course in New Haven in 1994 and the instructor course in the Management Skills Workshop. His experience is documented in the 3rd edition of The Goal. He became a Certified Academic Associate of the Goldratt institute in 1996 and his experience was recognized by certification in all six areas of TOC when the TOCICO was founded. He has (with Henning du Preez) implemented a holistic hospital TOC implementation in a for-profit hospital in South Africa, and has (with Stephen Pauker MD) presented one day courses in TOC in health care at the Society for Medical Decision Making congresses in Baltimore and Chicago in 2002 and 2003. He has spent his professional career in a not-for-profit (NFP) state run environment and from his earliest Jonah training remarked on the differences in the NFP TOC approach from for-profit organizations. He is presently collaborating with Dr. Lisa Ferguson in developing a generic health care Strategy and Tactics Tree. He is, with Barry Urban co-author of an S&T tree in municipal waste management which has, with the collaboration of Adolfo Held and Thomas Shoemaker, been adapted to municipal water management.

Antoine can be contacted at avg @ tocmed.com.
We offer consulting services, online programs and support for writing and customizing S&T trees. To learn more about our offerings, see our web site at www.illuminutopia.com or call us at +1-928-204-9200.

Starting in November 2010, we are offering an 8-week long online program for learning how to customize and write S&T trees. In the future, we will offer online programs focused specifically for healthcare.