Appendix:
Target population data

The future of medicine is personalised
Roche Investor Day 2012
MabThera-Rituxan/GA101: Follicular Non-Hodgkin’s Lymphoma (NHL)

2012 estimates for number of patients

- Incident cases: 24,700
- Drug treated indolent 1st-line: 21,400
- Drug treated follicular 1st-line: 19,700
- Drug treated follicular relapsed: 11,300

Top 5 EU
US

MabThera-Rituxan/GA101: Diffuse large B-Cell Non-Hodgkin’s Lymphoma (DLBCL)

MabThera-Rituxan/GA101/GDC-0199: Chronic Lymphocytic Leukemia (CLL)

- Incident cases: 14,900
- CLL 1st-line: 18,900
- CLL relapsed: 12,400

2012 estimates for number of patients

World Population Prospects; 2008 revision; medium variant; MabThera patient flow model; & patient case market research Q2 2012
Estimates only; US based on Census Bureau, SEER, Mattson Jack TA data, and Q1 2012 Rituxan tracking; GNE Hematology Epi Model
The potential target population for Avastin in first-line colorectal cancer is ~118,000 drug treated patients (40,000 US/78,000 Top 5 EU); the potential target population in second-line colorectal cancer is ~67,000 chemo treated patients (25,500 US/41,500 Top 5 EU)


NB: EU Avastin eligibility, no cut is made for patients who are contraindicated for Avastin – all drug treated patients are assumed eligible for Avastin
Avastin: Non-Small Cell Lung Cancer (NSCLC)

The potential target population for Avastin in first-line non-small cell lung cancer is ~107,000 non-squamous drug treated patients (51,000 US/56,000 Top 5 EU)

mNSCLC is defined as stage IIIIB/IV NSCLC
Avastin
HER2-negative metastatic Breast Cancer (mBC)

The potential target population for Avastin in first-line HER2-negative metastatic breast cancer is ~66,400 chemo-treated patients (29,000 US/37,400 Top 5 EU); in second-line HER2-negative metastatic breast cancer the potential target population is ~45,500 chemo treated patients (23,000 US/22,500 Top 5 EU).

Note: Includes 1L and 2L patient populations only
Avastin: Glioblastoma Multiforme (GBM)

The potential target population for Avastin in first-line GBM is ~21,400 Avastin-eligible, drug treated incident patients (9,100 US/12,300 Top 5 EU). The potential target population for Avastin in relapsed GBM is ~13,200 Avastin-eligible, drug treated incident patients (5,500 US/7,700 Top 5 EU).


Note: Genentech assumes 75%-80% of incident patients are eligible for drug treatment. **Avastin for relapsed GBM is not approved in EU.
Avastin: Ovarian Cancer

The potential target population for Avastin in front line ovarian cancer is ~36,000 drug treated incident patients (17,700 US/18,300 Top 5 EU)

The potential target population for Avastin in 2nd-line platinum sensitive ovarian cancer is ~17,000 drug treated incident Avastin naïve patients (7,000 US/10,000 Top 5 EU)

** EU label is FL stage IIIb-IV (GOG-218)US labels expected to reflect eligibility of ICON7 and OCEANS in 1L and 2LPS, respectively

The potential target population for Avastin in first-line metastatic renal cell cancer is ~28,100 drug treated incident patients (15,100 US/13,000 Top 5 EU)

The target population for Herceptin in HER2+ early (adjuvant) breast cancer is ~70,000 patients (36,000 US/34,000 Top 5 EU)

**HER2+ metastatic Breast Cancer (mBC)**

The target US and Top 5 EU population for 1L HER2+ metastatic breast cancer is ~18,000 patients (6,000 de novo and 12,000 adjuvant relapse)

The target US and Top 5 EU population for 2L-4L HER2+ metastatic breast cancer is ~26,000 patients (~14,000 US/~12,000 Top 5 EU)

![Bar chart showing HER2+ metastatic Breast Cancer (mBC)](chart)

### 2012 Estimated Incidence

<table>
<thead>
<tr>
<th>Stage IV</th>
<th>HER2 Tested</th>
<th>1L HER2+ De Novo</th>
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<tbody>
<tr>
<td>Top 5 EU</td>
<td>US</td>
<td></td>
</tr>
<tr>
<td>12,000</td>
<td>11,500</td>
<td>11,300</td>
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<tr>
<td></td>
<td></td>
<td>3,300</td>
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### HER2+ Rx opportunities

<table>
<thead>
<tr>
<th></th>
<th>1L Patients (Top5 EU)</th>
<th>1L Patients (US)</th>
</tr>
</thead>
<tbody>
<tr>
<td>US</td>
<td>Adjuvant relapse</td>
<td>De Novo</td>
</tr>
<tr>
<td>1L</td>
<td>6,400</td>
<td>3,300</td>
</tr>
<tr>
<td>2L</td>
<td>5,400</td>
<td>2,800</td>
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</table>


Stage IV=newly diagnosed cases of stage IV BC; HER2 Forecast Model
In 2017, the target population for Herceptin in HER2+ metastatic gastric cancer is approximately 9,300 eligible patients (4,900 US/4,400 Top 5 EU).

Note: HER2 Testing and eligible assumptions differ between US and 5 EU; Source: GC Forecast Model.
The target population for Xeloda in mCRC is \( \sim 224,000 \) eligible drug treated incident patients (80,000 US/144,000 Top 5 EU). Of the drug treated population, the US target population in first-line and second-line mCRC is \( \sim 40,000 \) and \( \sim 26,000 \) patients, respectively.

Drug treated patients=all patients who begin a treatment in a new line of therapy

Xeloda: Metastatic Breast Cancer (mBC)

The target population for Xeloda in metastatic breast cancer in 2012 is ~193,000 eligible drug treated incident patients (100,000 US/93,000 Top 5 EU)

*Drug treated patients=all patients who begin a treatment in a new line of therapy
Adjuvant HER2- patients are drug treated while metastatic HER2- patients are chemo treated.
Tarceva: Non-Small Cell Lung Cancer (mNSCLC)

2012 estimates for number of patients

- Incidence mNSCLC*: 137,000
  - Top 5 EU: 134,000
  - US: 3,000

- mNSCLC 1st line drug-treated: 165,000
  - Top 5 EU: 93,000
  - US: 72,000

- mNSCLC 2nd line drug-treated: 94,000
  - Top 5 EU: 51,000
  - US: 43,000

- mNSCLC 3rd line + drug-treated: 21,000
  - Top 5 EU: 28,000
  - US: 3,000

EGFR mutation

- Positive: ~ 11%
- Negative: ~ 89%

EGFR mutation

- Positive: ~ 23%
- Negative: ~ 77%

*Total metastatic NSCLC newly diagnosed or newly progressed drug treated patients
The potential target population for Tarceva in first-line metastatic pancreatic cancer is ~60,000 newly diagnosed and drug treated patients (27,000 US/29,000 Top 5 EU)

"Advanced" = Stage IIIIB/IV in US and Stage IV in EU

Zelboraf: 1st line metastatic Melanoma Cancer

The target population for Zelboraf in 1L BRAF mutation positive metastatic melanoma is ~9,100 drug treated patients (4,500 US/4,600 Top 5 EU)

**Zelboraf: Adjuvant Melanoma Cancer**

The target population for Zelboraf in BRAF mutation positive stage IIc and III melanoma is ~7,100 drug treated patients (2,100 US/5,000 Top 5 EU)

![Bar chart showing incidence and drug treated incidence](image)

**Sources:**
- Roche-Genentech Clinical, Patient Chart Audits; internal estimates
Erivedge (vismodegib): Advanced Basal Cell Carcinoma

The target population for Erivedge in metastatic and locally advanced basal cell carcinoma is ~40,000 patients (28,000 US/12,000 Top 5 EU)

*Basal cell carcinoma is not tracked in most cancer registries, including SEER. Prevalence is estimated from incidence rates reported in literature and primary market research.

MetMAb: Non-Small Cell Lung Cancer (mNSCLC)

*Total metastatic NSCLC newly diagnosed or newly progressed patients
Lucentis: Age-related Macular Degeneration (AMD)

Of the ∼560k patients with wet AMD (wAMD), our potential U.S. target patient population is ∼280k patients in 2012

Lucentis: Diabetic Macular Edema (DME)

Of the ~700k patients with DME, we believe our Lucentis U.S. target population is ~170k patients in 2012

Sources: Bressler NM, Varma R, Doan Q, et al. Prevalence of Visual Impairment from Diabetic Macular Edema and Relationship to Eye Care from the 2005-2008 National Health and Nutrition Examination Survey (NHANES) extrapolated to 2012; The Retina Society 45th Annual Scientific Meetings, Washington, DC; October 4–7, 2012 (accepted for presentation); Eye Diseases Prevalence Research Group (EDPRG) paper April 2004; 2008 DME Buying Process; Roche-Genentech Clinical, Patient Chart Audits; internal estimates
# Lucentis: Retinal Vein Occlusion (RVO)

- Of the ~290k patients with CRVO, our potential U.S. target patient population is 40k patients in 2012
- Of the ~870k patients with BRVO, we believe our potential U.S. target patient population is 50k patients in 2012

### 2012 estimates for CRVO target population

<table>
<thead>
<tr>
<th></th>
<th>CRVO population</th>
<th>Rate of vision loss</th>
<th>Presentation/ Diagnosis rate</th>
<th>Treatment rate</th>
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<tbody>
<tr>
<td>2012 estimates</td>
<td>246,000</td>
<td>66,000</td>
<td>54,000</td>
<td>18,100</td>
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<td></td>
<td>288,000</td>
<td>30,000</td>
<td>29,200</td>
<td>21,500</td>
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<tr>
<td></td>
<td>42,400</td>
<td>36,000</td>
<td>24,300</td>
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### 2012 estimates for BRVO target population

<table>
<thead>
<tr>
<th></th>
<th>BRVO population</th>
<th>Rate of vision loss</th>
<th>Presentation/ Diagnosis rate</th>
<th>Treatment rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012 estimates</td>
<td>871,000</td>
<td>135,000</td>
<td>72,000</td>
<td></td>
</tr>
<tr>
<td></td>
<td>719,600</td>
<td>52,200</td>
<td>44,200</td>
<td></td>
</tr>
<tr>
<td></td>
<td>32,700</td>
<td>83,200</td>
<td>27,800</td>
<td></td>
</tr>
</tbody>
</table>

BRVO=Branch Retinal Vein Occlusion; CRVO=Central Retinal Vein Occlusion.

Rituxan and Actemra: TNF-IR Rheumatoid Arthritis

Our global target population for MabThera/Rituxan and Actemra in rheumatoid arthritis is ~900k bio eligible patients.

Top 5 EU: Target population for MabThera is Bio-IR (2L+: 85k), for ACTEMRA it is all biologics (~190k)
US: Target Population for Rituxan and Actemra* is BIO IR (2L+: ~330k)

2012 estimates for target population

<table>
<thead>
<tr>
<th></th>
<th>2012 estimates for number of patients</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(in millions)</td>
</tr>
<tr>
<td></td>
<td>US</td>
</tr>
<tr>
<td>Diagnosed RA patients</td>
<td>1.9</td>
</tr>
<tr>
<td>Mod-to-Sev RA patients</td>
<td>1.5</td>
</tr>
<tr>
<td>Mod-to-Sev treated RA patients</td>
<td>1.3</td>
</tr>
<tr>
<td>Biologic treated</td>
<td>0.19</td>
</tr>
</tbody>
</table>

Diagnosed RA patients | Mod-to-Sev RA patients | Mod-to-Sev treated RA patients | Biologic treated |

2012 estimates for number of patients

<table>
<thead>
<tr>
<th></th>
<th>2012 estimates for number of patients</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(in millions)</td>
</tr>
<tr>
<td></td>
<td>US</td>
</tr>
<tr>
<td>BIO-IR (2L+)</td>
<td>371,000</td>
</tr>
<tr>
<td>DMARD-IR (1L)</td>
<td>327,000</td>
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</table>

*1st line indication pending FDA approval in October 2012


5EU Sources: RA Bio-Population alignment (based on BlackSwan assessment); RA Tracker Adelphi & Genactis 2011 and 2012
**Actemra:**
Systemic Juvenile Idiopathic Arthritis (sJIA)

*US:* The target sJIA patient population is estimated to be ~5,700 who are eligible for treatment with Actemra – the first and only FDA approved therapy

*EU5:* The bio eligible sjIA sjIA target population is estimated to be ~1,500 patients

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**2012 US potential target population**

![Graph showing the number of patients in the US and EU5 in 2012.](image)

- **Prevalent population:**
  - US: 6,000
  - EU5: ~1,100

- **Diagnosed and treated:**
  - US: ~7,200
  - EU5: ~2,100

Sources: US: Q4 2011sJIA Market Research, 2010 sJIA ad-board, CDC NHANES, Global Epi Group, EU5: GHEP Epidemiology
Rituxan: ANCA-Associated Vasculitis

2012 US potential target population

- 41K Diagnosed
- Eligible for Rituxan
- 19K WG
- 15K MPA
- 7K CS
- 18K Active Tx WG/MPA
- 3K Active Tx CS
- 20K In remission

Diagnosed AAV patients in US 2012
Patients by disease type
Actively treated vs. In remission at any given time

- Label from FDA indicated for GPA and MPA only
- Actively treated patients may enter remission
- Patients in remission may re-enter ‘actively treated’ upon disease flare-up

GPA=Granulomatosis with polyangiitis, MPA=Microscopic polyangiitis, CS=Churg-Strauss syndrome, ANCA=antineutrophil cytoplasmic antibodies
Source: Triangulation and analysis using multiple published studies and primary market research, including:
Rituxan GPA/MPA Opportunity Assessment, February 2012
Xolair: Chronic Idiopathic Urticaria (CIU)
US potential target population

2014 U.S. Xolair eligible patients seen by Target MDs = ~78,500 patients

Sources include: CIU Market Research with physicians (Q2 2012), Genentech Burden of Illness Report (2010), Greaves (2007), Tong (1997), Kaplan (2002), Najib (2009), Xolair team input
Xolair: Allergic asthma

2012 U.S. Xolair eligible patients seen by Target MDs = ~382,000 patients

2012 US potential target population

Lebrikizumab: Severe uncontrolled adult asthma

Forecasted estimates for target population

- Treated asthmatics: 13,023
  - Top 5 EU: 10,152
  - US: 2,871

- Treated with high dose ICS: 4,428
  - Top 5 EU: 1,442
  - US: 2,986

- Uncontrolled: ~2,000*
  - Top 5 EU: 1,204
  - US: 793

*Lebrikizumab eligible patients (periostin high) are a subset of this population

Sources:
- REACT, AAAAI, TENOR, IMS Dx. Updated prevalence based on CDC Data Jan 2011, Phase II MLLY trial, January 2011 Market Research
The target population of diagnosed Schizophrenic patients with residual symptoms is ~2.4M patients (1,323M US/1,080M EU)

2012 potential target population

<table>
<thead>
<tr>
<th>Schizophrenic prevalence</th>
<th>Schizophrenics diagnosed</th>
<th>Treated schizophrenics</th>
<th>Schizophrenics with Neg and/or Pos symptoms</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,375</td>
<td>2,197</td>
<td>1,889</td>
<td>1,323</td>
</tr>
</tbody>
</table>

Target patient population

- Top 5 EU
- US

Sources: Decision Resources, Data Monitor, Roche Epidemiology Group
US Sources: McGrath et. al., 2008 (Prevalence); Adelphi time to mortality data (Diagnosed); WK PLD Analysis 2010, Adelphi Database 2010, Weiden & Olfson et al., 1990, ECA, 1991, Internal Patient Flow Model (Treatment Rate); Internal Schizophrenia Chart Audit (residual symptoms)
2nd generation anti-CD20: Relapsing Multiple Sclerosis (RMS)

Potential target population for 2nd generation anti-CD20 for Relapsing Multiple Sclerosis (RMS) is ~475,000 patients (250,300 US/223,000 EU)

Source: Genentech/Roche internal assumptions
2nd generation anti-CD20: Primary Progressive Multiple Sclerosis (PPMS)

Potential target population for 2nd generation anti-CD20 for Primary Progressive Multiple Sclerosis (PPMS) is ~ 38,400 patients (18,400 US/20,000 EU5)

Source: Genentech/Roche internal assumptions
Alzheimer’s Disease
US target population

The target population of diagnosed, treated Mild, Moderate and Severe Alzheimer’s patients is ~1,200,000

2012 potential US target population

Source: Plassman (2007), IMS Claims Data, Internal Roche/GNE Data
Alzheimer’s Disease

5EU target population

The target population of diagnosed, treated Mild, Moderate and Severe Alzheimer’s patients is ~1,200,000

Source: Plassman (2007), IMS Claims Data, Internal Roche/GNE Data

2012 potential EU5 target population

<table>
<thead>
<tr>
<th>No. of Patients in 2012 (000s)</th>
<th>Prevalent population</th>
<th>Mild &amp; moderate population</th>
<th>Dx'd population</th>
<th>Tx'd population</th>
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<tr>
<td></td>
<td>2,806</td>
<td>1,403</td>
<td>1,038</td>
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<td></td>
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<td>1,365</td>
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<td>336</td>
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<td>555</td>
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<td></td>
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<td>341</td>
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<tr>
<td></td>
<td>~1.2m</td>
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</table>

Source: Plassman (2007), IMS Claims Data, Internal Roche/GNE Data
Global prevalence of chronic HBsAg infection

WHO estimate ~350 million global chronic HBV infections

Chronic HBsAg prevalence in Developed Markets (France, Germany, Italy and USA)

2012 potential target population

Chronic HBsAg patients (N)

- 2010: 2.5m
- 2025: 2.0m

Chronic anti-HBsAg Diagnosed chronic anti-HBsAg
Chronic HBsAg prevalence in Emerging Markets (China [urban], Brazil, Turkey)

2012 potential target population

Chronic HBsAg patients (N)

- 2010: 88m
- 2025: 51m

Diagram:
- Chronic anti-HBsAg
- Diagnosed chronic anti-HBsAg
Objective:
Reduction of CV mortality, non-fatal MI, stroke, following a recent ACS in adults with concomitant T2D.

Source: Internal Roche and Genentech forecasts using National Center for Health Statistics NHANES (US) and country-specific data (ex-US)