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4 HEARING ON ``EXAMINING THE INCREASE IN DRUG SHORTAGES''

5 FRIDAY, SEPTEMBER 23, 2011

6 House of Representatives,

7 Subcommittee on Health

8 Committee on Energy and Commerce

9 Washington, D.C.

10 The subcommittee met, pursuant to call, at 9:36 a.m., in
11 Room 2322 of the Rayburn House Office Building, Hon. Joseph
12 Pitts [Chairman of the Subcommittee] presiding.

13 Members present: Representatives Pitts, Burgess,
14 Shimkus, Myrick, Murphy, Blackburn, Gingrey, Lance, Cassidy,
15 Guthrie, Walden, Pallone, Dingell, Schakowsky, Matheson,
16 DeGette, and Waxman (ex officio).

17 Staff present: Clay Alspach, Counsel, Health; Ray Baum,
18 Senior Policy Advisory/Director of Coalitions; Marty

19 Dannenfelser, Senior Advisor, Health Policy & Coalitions;
20 Andy Duberstein, Special Assistant to Chairman Upton; Debbie
21 Keller, Press Secretary; Jeff Mortier, Professional Staff
22 Member; Katie Novaria, Legislative Clerk; John O'Shea,
23 Professional Staff Member, Health; Chris Sarley, Policy
24 Coordinator, Environment & Economy; Alan Slobodin, Deputy
25 Chief Counsel, Oversight; Heidi Stirrup, Health Policy
26 Coordinator; John Stone, Associate Counsel; Phil Barnett,
27 Democratic Staff Director; Stephen Cha, Democratic Senior
28 Professional Staff Member; Alli Corr, Democratic Policy
29 Analyst; Eric Flamm, FDA Detailee; Ruth Katz, Democratic
30 Chief Public Health Counsel; Elizabeth Letter, Democratic
31 Assistant Press Secretary; and Karen Lightfoot, Democratic
32 Communications Director, and Senior Policy Advisor.

|
33 Mr. {Pitts.} This subcommittee will come to order. The
34 chair recognizes himself for 5 minutes for an opening
35 statement.

36 In 2005, 61 drug shortages were reported to FDA. By
37 2010, there were 178 reported drug shortages, 132 of which
38 involved sterile injectable drugs. So far this year, FDA has
39 continued to see an increasing number of shortages,
40 especially those involving older sterile injectable drugs.
41 These shortages have involved cancer drugs, anesthetics used
42 for patients undergoing surgery, as well as drugs needed for
43 emergency medicine, and electrolytes needed for patients on
44 IV feeding.

45 It appears that there are many potential causes of these
46 drug shortages. In some cases, shortages have been caused by
47 quality and manufacturing issues. Additionally, production
48 delays at the manufacturer level, including limited
49 production lines for certain older drugs, and difficulty in
50 receiving raw materials and components from suppliers have
51 caused drug shortages. Many raw material suppliers also
52 experience capacity problems at their facilities, causing
53 delays that ripple through the drug production process.

54 Shortages can also result from a company discontinuing a
55 particular drug. Certain drugs are susceptible to shortages,

56 particularly those that are complex to manufacture, such as
57 injectable drugs, or require longer lead times. FDA cannot
58 compel a company to manufacture a particular drug, and, if
59 there is a shortage of that drug, it cannot compel other
60 firms to increase their capacity. Further, companies are not
61 required to notify FDA in advance of a potential drug
62 shortage, unless a company is discontinuing a sole source,
63 medically necessary drug. In that case, a company must
64 inform FDA 6 months in advance.

65 Drug shortages have real effects on real patients. Due
66 to shortages, patients have not received the appropriate
67 drugs for their conditions, often getting a less effective
68 drug or a more costly substitute as a result. According to a
69 study done by Premier Healthcare Alliance of 228 hospitals,
70 retail pharmacies, and other health care facilities, nearly
71 90 percent of hospitals reported a drug shortage in the last
72 half of last year that may have caused a patient safety
73 issue, resulted in a procedure's delay or cancellation,
74 required a more expensive substitute, or resulted in a
75 pharmacist compounding a drug.

76 I look forward to hearing from our witnesses today about
77 their experiences with drug shortages and learning what
78 remedies they believe are necessary. I would like to say a
79 special hello to Richard Paoletti, Vice President,

80 Operations; Pharmacy, Laboratory, and Radiology at Lancaster
81 General Hospital in my home district.

82 Lancaster General is the largest employer in the 16th
83 Congressional District, and, for 10 of the past 13 years, it
84 has been named among the ``Top 100 Hospitals in America'' by
85 Thomson Reuters, a leading source of healthcare business
86 intelligence. The hospital is also helping to revitalize the
87 northwestern part of Lancaster City through a partnership
88 with Franklin and Marshall College.

89 Again, thank you to our witnesses, and I will yield the
90 balance of my time to Congressman Shimkus from Illinois.

91 [The prepared statement of Mr. Pitts follows:]

92 ***** COMMITTEE INSERT *****

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93 Mr. {Shimkus.} Thank you, Mr. Chairman. And we want to
94 welcome our folks at the 2 panels. Obviously, this is of
95 concern. I am a market-based conservative capitalist and
96 whenever there is a lag in a commodity good or product, you
97 have to really wonder about the demand and the supply and the
98 available cost because when there is limited supply and a
99 high demand, cost should go up.

100 So that begs a question is what is constraining the
101 market signals from producing the product that the consumers
102 need? Is that insurance companies? Is that government
103 reimbursement rates? Is that the state Medicaid provisions?
104 That is what I will be looking at because the bigger the
105 government is, the more manipulative it gets in the market
106 services, the less its ability to provide goods and services
107 to consumers.

108 So we appreciate that and look forward to it and I yield
109 back my time, Mr. Chairman. Thank you.

110 [The prepared statement of Mr. Shimkus follows:]

111 ***** COMMITTEE INSERT *****

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112 Mr. {Pitts.} The chair thanks the gentleman and
113 recognizes the ranking member of this subcommittee, Mr.
114 Pallone, for 5 minutes.

115 Mr. {Pallone.} Thank you, Mr. Chairman. I want to
116 thank you for holding today's hearing on this important
117 issue. I am encouraged by the bipartisan nature of this
118 effort and thank our witnesses for joining us.

119 Today, we will discuss the recent increase in drug
120 shortages that have been the subject of numerous reports.
121 Drug shortages appear to be on the rise at an alarming rate
122 and are threatening the supply of some of our most important
123 medications from lifesaving oncology drugs to antibiotics
124 that rid us of infection to antiseptics that get us through
125 the most minor surgical procedures. These drugs have become
126 an important part of our healthcare system.

127 No patient must be told that their chemotherapy must be
128 postponed because the only drug used to treat their type of
129 cancer is unavailable. And likewise, no anesthesiologist
130 wants to begin their workday with the realization that they
131 will have to use subpar drugs on a patient because the one
132 they normally rely on is out of stock indefinitely. So we
133 can't let this become the new norm.

134 We are dependent upon the medications on the FDA's drug

135 shortage list for years and continue to look for them for our
136 health and wellbeing. It is alarming that drugs that have
137 been around for so long would suddenly be the most difficult
138 to keep hospitals, pharmacies, and doctors' offices supplied
139 with. Furthermore, these drugs tend to be low-cost generics,
140 which are an essential component of healthcare for most
141 Americans as they seek to keep their healthcare costs low.

142 In this fiscal climate, having a readily accessible
143 supply of generic medication is of profound importance, and
144 to that end, it has been disheartening to learn that the so-
145 called gray market would take advantage of such a dire
146 situation to engage in price-gouging at the expense of those
147 desperate enough to pay.

148 So I am hoping that we can begin today to identify the
149 cause of these shortages and discuss solutions for
150 replenishing our drug supply. We must address this sudden
151 increase so that Americans can continue to receive high-
152 quality treatments at low cost and remain confident in both
153 the pharmaceutical industry and the healthcare providers.

154 Unfortunately, companies are not currently required to
155 report to the FDA when a shortage will be occurring whether
156 because of change in investment strategy or manufacturing
157 difficulties, there is currently no policy for notification
158 unless the company is the sole manufacturer.

159 My colleague, Representative DeGette, has introduced
160 bipartisan legislation, H.R. 2245, the Preserving Access to
161 Life-Saving Medications Act of 2011, as the first step in
162 addressing this issue. This legislation would require
163 manufacturers to notify the FDA of any actual or prospective
164 drug shortages. And I want to commend Representative DeGette
165 on pioneering this effort and hope that as a result of
166 hearing from our witnesses today, we can identify additional
167 solutions to this growing problem.

168 This hearing will allow us to learn more about why drug
169 shortages are occurring, what the Administration and industry
170 are doing to address the problem, and what new authorities
171 the FDA might need to prevent shortages from happening in the
172 future. And I am encouraged that we are exploring this issue
173 in our subcommittee today, look forward to working with you,
174 Chairman Pitts, as you get to the bottom of this issue. And
175 again, thank you for having the hearing.

176 I yield back.

177 [The prepared statement of Mr. Pallone follows:]

178 ***** COMMITTEE INSERT *****

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179 Mr. {Pitts.} The chair recognizes the ranking member of
180 the full committee, Mr. Waxman, for 5 minutes.

181 Mr. {Waxman.} Thank you, Chairman Pitts, for
182 recognizing me and for holding this hearing.

183 Recent media and other reports indicate that drug
184 shortages are now at an unprecedented level. Indeed,
185 according to FDA, the number of drugs in short supply in 2010
186 was almost triple that of 2005. The shortages affect a broad
187 spectrum of critically important drugs--including oncology
188 drugs to treat lymphoma, leukemia, breast and other cancers--
189 and the seizure drugs without which surgeries have to be
190 postponed and antibiotics to remedy life-threatening
191 bacterial infections. Without these drugs, patients' lives
192 are at risk.

193 Drug scarcities generally affect sterile injectable
194 drugs. These drugs are technically difficult to make and
195 each drug is usually manufactured by only one or a handful of
196 producers. If any one company develops manufacturing
197 problems, which is not uncommon, other companies may have
198 little excess capacity to help fill the need.

199 With the aging of our population, the outsourcing of
200 drug manufacturing, the increasing consolidation of drug
201 companies, and the general adoption of a just-in-time

202 approach to drug production and distribution, this problem
203 may be significantly worse unless immediate measures
204 including congressional action are taken to address its
205 multiple causes.

206 Representative DeGette has introduced legislation that
207 would be an important first step in this process. H.R. 2245,
208 the Preserving Access to Life-Saving Medications Act of 2011,
209 would require manufacturers to notify FDA of any actual or
210 prospective drug shortages. Such advance notice would enable
211 FDA to help avoid or mitigate the shortage by both working
212 with the manufacturer and alerting hospitals and physicians
213 of the problem.

214 While this is an important piece of legislation that has
215 broad bipartisan support, I don't think anyone believes it
216 alone can solve the drug shortage problem. So I look forward
217 to hearing from our witnesses today to better understand the
218 causes of what is already a crisis for many patients and to
219 find out what we in Congress can do to help prevent shortages
220 in the future. We already had been working in bipartisan
221 manner to learn about this very disturbing issue, and I trust
222 that we will continue to work together to develop and enact
223 legislation to help address it and address it quickly.

224 Thank you, Mr. Chairman. I yield back the time.

225 [The prepared statement of Mr. Waxman follows:]

226 ***** COMMITTEE INSERT *****

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227 Mr. {Pitts.} The chair thanks the gentleman. That
228 concludes our opening statements.

229 Our first panel will be Assistant Secretary for Health
230 at HHS, Mr. Howard Koh. And Mr. Koh, you may begin your
231 testimony. Please summarize in 5 minutes. We will put your
232 entire written testimony in the record. You may begin.

|
233 ^STATEMENT OF DR. HOWARD KOH, ASSISTANT SECRETARY FOR HEALTH,
234 U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES; ACCOMPANIED BY
235 DR. SANDRA KWEDER, DEPUTY DIRECTOR, FDA OFFICE OF NEW DRUGS

236 } Dr. {Koh.} Thank you, Chairman Pitts, Ranking Member
237 Pallone, and distinguished members of the committee. I am
238 Dr. Howard Koh, the Assistant Secretary for Health at the
239 U.S. Department of Health and Human Services. I am very
240 pleased to be joined here by my colleague, Dr. Sandy Kweder,
241 Deputy Director of the FDA Office of New Drugs.

242 As you already heard, the growing problem with drug
243 shortages is a troubling situation and one that the
244 Department and the Secretary take very seriously. This
245 growing trend has the potential to impact on our entire
246 healthcare system, and as we discuss this problem today, we
247 should always remember that our goal is to protect the health
248 of people affected most by these shortages--patients and
249 their families. And I say that as a physician who has cared
250 for patients for over 30 years.

251 According to the FDA's Center for Drug Evaluation and
252 Research (CDER), the number of drug shortages has been rising
253 steadily over the last 5 years, as you have already heard.
254 And although shortages can occur with any drug, generic

255 sterile injectables currently make up a large and increasing
256 share. And in fact, in 2010, 74 percent of these shortages
257 involved these older sterile injectable agents. So these
258 include critical products such as oncology drugs,
259 anesthetics, parenteral nutrition drugs, and many drugs used
260 in emergency rooms.

261 There is no single reason why drug shortages occur so
262 ultimately, in any given situation, many factors are involved
263 and underlying causes they operate either alone or in
264 combination to cause a shortage. These factors include but
265 are not limited to industry consolidation, major issues of
266 quality and manufacturing challenges, changes to inventory
267 and distribution practices, difficulty in producing a given
268 drug, production delays, discontinuations for business
269 reasons, unanticipated increased demand, and shortages of
270 underlying raw materials. These are some of the causes, but
271 more importantly, we the Department are trying to focus now
272 on finding solutions that protect patients.

273 In 1999, the FDA formed the drug shortage program within
274 CDER in an effort to proactively begin monitoring and
275 mitigating--that is, lessening the impact of--potential and
276 actual drug shortages. And when the FDA becomes aware of any
277 potential shortage, it was collaboratively with the affected
278 firm to return the product to its usual market availability

279 as quickly and as safely as possible while striving to
280 prevent any harm to any patient. Although the FDA cannot
281 require firms to continue production of a product or increase
282 production in response to a shortage, it does encourage other
283 firms to do so.

284 FDA also expedites the review of submissions from
285 manufacturers, which may include request to extend the
286 expiration date of products, increase capacity, use a new raw
287 material source, license new manufacturers, and prevent
288 changes in product specifications. The FDA is committed to
289 working with drug manufacturers to prevent shortages whenever
290 possible, and in fact, as a direct result of this commitment
291 and the work of the FDA drug shortages staff and experts from
292 across the Agency, last year, 2010, 38 shortages were
293 prevented. And so far for 2011, this year, I am pleased to
294 report for the first time that 99 shortages have been
295 prevented.

296 Also, at the same time, the FDA goes to great lengths to
297 mitigate shortages--that is, lessening the impact when they
298 occur. One notable recent example involves the well
299 described shortage of the drug cytarabine used to treat
300 certain types of acute leukemia. Crystal formation in the
301 vials of this drug represented a quality and manufacturing
302 problem that led to a disruption in production and a shortage

303 that received tremendous publicity across the Nation within
304 recent months. In this case, the FDA worked with the
305 manufacturer, found that if the vials were warm, the crystals
306 would dissolve and the drug could be then safely administered
307 to the patient, and as a result of this collaboration, the
308 manufacturer was then subsequently able to ship the vials to
309 healthcare professionals along with a letter from the FDA
310 notifying them to inspect for crystal formation, and if
311 present, warm the vials to dissolve the crystals. And in
312 this way, the collaboration led to ensuring and upholding
313 patient safety. So as a result of this work, we can report
314 today that this well reported drug shortage has been recently
315 resolved.

316 In limited circumstances, the FDA can allow the
317 temporary importation of critical drugs when the shortage
318 cannot be resolved immediately. However, there are several
319 factors that limit the applicability of this option. The
320 product may already be in short supply abroad, so importation
321 to the U.S. could exacerbate the shortage. FDA must also
322 ensure that drugs imported from abroad are manufactured in
323 facilities that meet FDA quality standards.

324 To discuss these and other possible solutions, the FDA
325 will be hosting a public meeting next Monday, September 26,
326 and this meeting is being held to gain additional insight

327 about causes and impact of this challenge and possible
328 strategies for solutions.

329 Then on Friday, September 30, the FDA is conducting a
330 webinar for the general public, and this is an opportunity
331 for people to learn more about what the FDA is doing to
332 address this challenge, and it will also be a venue for
333 citizens to ask questions directly to FDA experts who are
334 working on this topic every day.

335 Although I have focused my comments until now on the
336 FDA, I should stress that the entire Department of Health and
337 Human Services has been fully engaged on this topic for quite
338 some time. We view this as a pressing public health
339 challenge, and we want to resolve this on behalf of the
340 Department and indeed the entire country.

341 This past summer, I personally convened a series of
342 meetings with representatives from FDA; NCI, our National
343 Cancer Institute; CDC, our Centers for Disease Control and
344 Prevention; the Office of the Assistant Secretary for
345 Preparedness and Respondent; the Office to the Assistant
346 Secretary for Planning of an Evaluation; the Centers for
347 Medicare and Medicaid Services, CMS; and others. We have
348 joined together as one department to explore more deeply the
349 root causes of this problem and the possible steps that can
350 be taken to address them. These have been productive

351 meetings and we pledge to continue them until the problem is
352 solved. We look for as many ways as possible to maximize our
353 efforts within the Department to protect the public health.

354 Also, earlier this morning, Secretary Sebelius, along
355 with other senior leaders in the Department hosted a meeting
356 with over a dozen representatives from pharmaceutical
357 manufacturers, professional medical organizations, hospitals,
358 insurance companies, group-purchasing entities, and patient
359 advocacy organizations, and this crucial meeting gave us
360 firsthand insight into these challenges, generated a good
361 discussion with the stakeholders, and also served as a
362 foundation for our future collaboration.

363 Shortly, later on this fall, the FDA will release a
364 report which reflects an even more detailed analysis of the
365 problem and updated recommendations for the future.
366 Potential solutions are being examined. One suggestion is a
367 mechanism for manufacturers to report impending supply
368 disruptions and discontinuation of drugs, which could help to
369 curb shortages and improve the continuity of the drug supply.
370 The sooner the FDA learns of a drug shortage, the more
371 effective they are going to be in helping to notify providers
372 and the public and upholding patients' safety.

373 So we remain committed to working with all parties--
374 manufacturers, providers, patient advocates, and other

375 stakeholders to help minimize and solve this problem. So in
376 conclusion, the Department is committed to addressing and
377 solving this critical public health challenge. It is our
378 goal to advance this dialogue with all interested parties
379 both internal and external, and we also recognize and deeply
380 respect the important roles of the Members of Congress, and
381 we welcome the opportunity to discuss this important topic
382 with you today.

383 So thank you very much, and Dr. Kweder and I will be
384 very happy now to take any questions you may have.

385 [The prepared statement of Dr. Koh follows:]

386 ***** INSERT 1 *****

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387 Mr. {Pitts.} The chair thanks the gentleman. Dr. Koh,
388 why have drug shortages increased so much in the last few
389 years?

390 Dr. {Koh.} Well, again, there is no one single reason
391 but there are changes here that we are seeing in the backdrop
392 of an economic and business climate that is leading to market
393 consolidation, a complicated manufacturing process that is
394 being conducted increasingly in aging facilities that is
395 leading to quality and manufacturing issues as we have heard
396 now. Sometimes products are discontinued for business
397 reasons. Oftentimes the production of any of these agents is
398 a complicated process. So all these factors converge to
399 create the issue that we are facing right now.

400 Mr. {Pitts.} Have other countries experienced shortages
401 such as we have?

402 Dr. {Koh.} Unfortunately, the United States is not
403 unique in this situation and yes, we are indeed seeing
404 similar situations in other countries around the world.

405 Mr. {Pitts.} And when a shortage occurs in another
406 developing country, how is that situation resolved there?

407 Dr. {Koh.} Well, we want to learn more from our
408 colleagues there. I don't know if Dr. Kweder wants to say
409 more about that particular issue.

410 Dr. {Kweder.} We are often contacted by our regulatory
411 colleagues from other countries looking to collaborate on
412 finding solutions to particularly when there are worldwide
413 problems. Different countries have different ways of
414 producing drug, as assuring production of product, but we
415 work as much as possible with others to try and make sure
416 that shortages are limited and mitigated.

417 Mr. {Pitts.} Does Europe have a particular method of
418 resolving this situation?

419 Dr. {Kweder.} I believe the method is pretty much
420 similar to ours, particularly since they have multiple
421 countries. They seek other sources of supply from other
422 countries.

423 Mr. {Pitts.} And do you know what is causing these drug
424 shortages in these countries in Europe?

425 Dr. {Kweder.} Many of them are the same sorts of
426 things. They are, you know, many of these products are
427 marketed globally. They are not just in the U.S. The
428 sources of the drug substances itself, most of them are
429 foreign sources, so if there is an interruption of a source
430 in the U.S. at a U.S. plant, if a manufacturer in another
431 country has the same source, they will be in the same
432 situation and everyone will be out looking for alternatives
433 at the same time.

434 Mr. {Pitts.} Okay. Dr. Kweder, what specific steps has
435 the FDA taken to prevent or alleviate drug shortages?

436 Dr. {Kweder.} First, we tend to learn in terms of
437 preventing drug shortages. When companies let us know that
438 they are experiencing a problem, it is usually a problem in
439 production. Sometimes it is a business decision to
440 discontinue a product. When they inform us in advance that
441 that is the case, we work very closely with them to
442 understand the problem and assess whether this shortage would
443 be something that would be critical for patients.

444 So, for example, if a company is making a product that
445 20 other companies make, that is not likely to be a critical
446 public health situation. But particularly for these sterile
447 injectables, that is usually not the case. So we will work
448 with a company to help them develop solutions to fix the
449 problem and avoid an interruption in production. That is not
450 always possible. It is just simply not always possible.

451 When it is not possible and it looks like the company
452 may have to interrupt production, we go to other
453 manufacturers and we talk to them about their capacity to
454 increase their production. They usually can't turn that
455 around on a dime, but we work with them to facilitate ramping
456 up in order to supply the market with usual sources.

457 In the original company that is having a problem, we

458 have a number of tools in our kit that we can use to help
459 them address the problem. Dr. Koh gave you an example of the
460 kinds of things that we can do in some cases, you know, to
461 look at the end product itself if there is a problem with the
462 end product itself. In that case it was crystallization of
463 the actual active drug. And we worked with the company.
464 They got right on the case to figure out why those crystals
465 were forming, what could be done to mitigate that, inform
466 providers, and since then, the crystal problem has been
467 fixed.

468 Mr. {Pitts.} Do you feel you need earlier warning than
469 you currently have?

470 Dr. {Kweder.} We can always use earlier notification.
471 There certainly are circumstances where things happen very,
472 very unexpectedly. But the majority of cases of shortages,
473 we could have been notified, and in the majority of cases, we
474 are not notified in advance. It is getting better. I will
475 say it is getting better, but we still have a large
476 percentage of actual shortages where we were not aware that
477 it was coming.

478 Mr. {Pitts.} Thank you. My time has expired.

479 The chair recognizes the ranking member, Mr. Pallone,
480 for 5 minutes for questions.

481 Mr. {Pallone.} Thank you, Mr. Chairman. I would like

482 to initially ask unanimous consent to enter into the record
483 the testimony of the National Coalition for Cancer Research.
484 I think you have a copy of it.

485 Mr. {Pitts.} Without objection, so ordered.

486 [The information follows:]

487 ***** COMMITTEE INSERT *****

|
488 Mr. {Pallone.} Thank you, Mr. Chairman.

489 Dr. Koh, I mean we all agree that drug shortages, you
490 know, are a real problem facing the country and, you know,
491 from what I understand, it is actually getting worse. But I
492 guess it is hard to figure out at least for me what the cause
493 is and I would like to ask, you know, some questions about
494 the root cause of the problem.

495 The FDA has said that in 2010, last year, over half of
496 the shortages were due to manufacturing and product-quality
497 issues and I understand I think you mentioned that many or a
498 majority of those are sterile injectable drugs. Why would
499 these drugs be prone to manufacturing and product-quality
500 issues in particular?

501 Dr. {Koh.} Well, many of these products are the result
502 of a long production process, and those production processes
503 are now occurring in fewer manufacturing sites because of
504 industry consolidation. There is also aging of the
505 facilities where this work is ongoing. There are business
506 and economic factors in the background that are lowering the
507 profit margin. So oftentimes, businesses will make a
508 decision to perhaps discontinue a particular product for
509 business reasons, and as a result, we are seeing the quality
510 in manufacturing issues, Congressman, that you are referring

511 to.

512 Some of these quality issues are quite disturbing where
513 we literally are tracking products that have particulate
514 matter, even pieces of glass and pieces of metal in what
515 should be sterile products that are injected into patients.
516 So this is the reason why the FDA continues to uphold this
517 mission of safe and effective drugs, also high-quality drugs
518 in the middle of this challenging environment.

519 Mr. {Pallone.} Now, Teva is on the next panel, but in
520 their written testimony, they state that it takes 2 or 3
521 years to get FDA approval for a new supplier for ingredients
522 or an alternative manufacturing site. Is that really true?
523 Does it really take 2 or 3 years to get the FDA approval?
524 And why would that be if it is true? And does it take that
525 long if there is a drug shortage issue involved?

526 Dr. {Koh.} Well, let me start, and I am sure Dr. Kweder
527 can add. One of the advances of the FDA in this situation is
528 to prioritize generic drug applications, expedite and
529 accelerate approval in every way possible, particularly if
530 the public health is threatened. So there are efforts to try
531 to advance that time frame. That is also the goal of the
532 Generic Drug User Fee Act, which is under review right now.
533 So these are issues that are very important to the FDA and
534 they take it seriously.

535 Mr. {Pallone.} But I mean is that time period that Teva
536 mentioned, would that generally be true and is there any kind
537 of flexibility that you have to expedite review and
538 inspections of new facilities so they could address the
539 shortage when it exists?

540 Dr. {Kweder.} There absolutely is flexibility, and we
541 do that routinely when we are aware that, say, a new facility
542 is needed or a new supplier is needed and when there is a
543 circumstance that might lead to a potential shortage of an
544 important medical product. We do it routinely. We can often
545 turn things around in a matter of weeks.

546 Mr. {Pallone.} But I mean you haven't answered that 2-
547 or 3-year time span.

548 Dr. {Kweder.} Sure, I would be happy to do that. The
549 2- or 3-year time span is what is being referred to under
550 usual conditions when there is not a shortage situation or
551 not a shortage situation pending.

552 Mr. {Pallone.} But if there is, then you deal with it
553 quicker?

554 Dr. {Kweder.} Absolutely. But even the 2- to 3-year
555 time frame, as Dr. Koh said, we are working and we are happy
556 to see that there has been agreement on generic user fees
557 that will change that and make that a matter of months and
558 not years.

559 Mr. {Pallone.} I mean my concern is, you know, we face
560 these extraordinary fiscal pressures. The House passed
561 budget for FDA contained a 21 percent cut in appropriated
562 funds. I mean is this cut, would that adversely affect your
563 ability to work with companies to avoid or mitigate
564 shortages? And, you know, I know you mentioned generics.
565 Are you negotiating with the generic industry to develop a
566 user fee and can that help prevent or alleviate drug
567 shortages? This is about the funding now.

568 Dr. {Kweder.} We are negotiating and have reached
569 agreement with the generic industry about user fees. And
570 that will be coming up for discussion by yourself, you know,
571 within the next year.

572 Mr. {Pallone.} And what about this House budget cut,
573 the 21 percent?

574 Dr. {Kweder.} There is no question that resources
575 matter and these are not automated processes. They take
576 people with judgment and knowledge and having enough people
577 makes a big difference.

578 Mr. {Pallone.} All right. Thank you very much.

579 Thank you, Mr. Chairman.

580 Mr. {Pitts.} The chair thanks the gentleman.

581 And I would like to request the following statements be
582 entered into the record. I think you have copies. The

583 statement of the National Community Pharmacist Association,
584 the letter from the American Society for Hematology to the
585 House Energy and Commerce Subcommittee on Health, and the
586 statement of the Generic Pharmaceutical Association.

587 Mr. {Pallone.} I have no objection, no.

588 Mr. {Pitts.} Without objection, so ordered.

589 [The information follows:]

590 ***** COMMITTEE INSERT *****

|
591 Mr. {Pitts.} I recognize this time the gentleman from
592 Illinois, Mr. Shimkus, for 5 minutes.

593 Mr. {Shimkus.} Thank you, Mr. Chairman.

594 I think all would agree that resources matter in this
595 tough fiscal period as the ranking member said. I think also
596 part of our issue would be prioritization, especially in
597 life-saving issues and what are agencies doing to put first
598 things first and what can they do obviously redirect funds in
599 a different direction.

600 For Dr. Koh, going in line with my opening statement,
601 how have cost and payment factors impacted these drug
602 shortages?

603 Dr. {Koh.} Well, again, this is an industry that is
604 producing products in an environment where they are facing
605 increasing economic pressures. The profit margin for any
606 particular agent is declining for them, so they have to make
607 business decisions but also keep their products moving until
608 the decision is made, perhaps to discontinue a product. On
609 the quality manufacturing issues and possibly delay issues
610 and what is often a complicated production process, it just
611 all contributes to the situation that we are seeing now.

612 Mr. {Shimkus.} And who are the big payers?

613 Dr. {Koh.} Well, there is a process where purchasers--

614 hospitals and physicians and providers--buy these products
615 but there are also group-purchasing organizations and
616 pharmacy benefit managers who are trying to drive down the
617 price for understandable business reasons. So these are all
618 the stakeholders who are involved in the purchasing chain.

619 Mr. {Shimkus.} And I do appreciate your opening
620 testimony because we had a series of questions and really you
621 answered them in your opening statement. And I am just going
622 to highlight one of the things was a question we were going
623 to ask was closely collaborating and you gave the example of
624 the drug with the crystallization, and I thought that was
625 very helpful.

626 The other issue I was going to focus on was alternative
627 sponsors, and that is where you talked about maybe temporary
628 easing import restrictions or importation or--I can't even
629 read my writing--temporarily doing something else. But you
630 said that is constrained based upon if there is a shortage
631 overseas of the same product, and something that we have
632 talked about over the past years with Ranking Member Dingell
633 is the ability to make sure that the drugs that we are
634 importing are inspected by our inspectors so we know the
635 efficacy and safety of that.

636 I have always been a risk-based person on the focus
637 point of saying that those that are more questionable

638 facilities ought to get a lot of look. If they have been
639 operating safely and they have inspected like a U.S. facility
640 every year, then it might make that you could go every 2
641 years or maybe every 18 months. And that is the whole issue
642 of shifting sources, too, to the more critical elements and
643 safety versus known products and industries that you all have
644 real confidence in. We want to expect you to do that in
645 industries that have a poor record, but those that you have
646 really good confidence in, that is the funding issue.

647 You also mentioned, you know, business reasons and aging
648 facilities and I think you mentioned increased regulations.
649 Is that part of your testimony?

650 Dr. {Koh.} Well, the quality standards that the FDA
651 puts forward in areas like this have been unchanged for the
652 last 4 decades. And in fact the FDA has really gone the
653 extra mile in my view to show tremendous regulatory
654 flexibility here. So again, since we can't require any
655 manufacturer to do much of anything, all we can ask is for
656 information, communication, collaboration, and then the FDA
657 shows maximum regulatory flexibility. This re-warming of the
658 cytarabine that I mentioned to you is one example of
659 filtering out particular matter so again these medications
660 can be used and not put aside is another example.

661 Mr. {Shimkus.} Yeah, I only have 12 seconds--

662 Dr. {Koh.} Sure.

663 Mr. {Shimkus.} --I will go back to the testimony--

664 Dr. {Koh.} Um-hum.

665 Mr. {Shimkus.} --because I did scribble a note a
666 comment on increased regs, and I will have to go back and
667 look at that. But why doesn't the shortage of a product in
668 this sector then send an increased price signal to
669 manufacturers for them to then produce the good?

670 Dr. {Koh.} Well, we have come to learn that the
671 standard economic principles of supply and demand--

672 Mr. {Shimkus.} And the question is why is that
673 distorted? I think that is the basic fundamental question of
674 this problem. What has distorted the fundamental principle
675 of supply and demand, and my time has expired, but I think
676 that is the heart of this issue. I yield back my time.

677 Dr. {Koh.} Sure. And I am sure Dr. Kweder can add,
678 too. First of all, these agreements are made often through
679 these long-term contracts and so also this whole process
680 involves multiple stakeholders, especially and including the
681 pharmacy benefit managers and the group purchasing
682 organizations. So it complicates this environment and sort
683 of does not make relevant the sort of standard supply and
684 demand economic principles that we see in other businesses.

685 Mr. {Pitts.} Dr. Kweder?

686 Dr. {Kweder.} You have said what I would say. Thank
687 you.

688 Mr. {Pitts.} The chair thanks the gentleman and
689 recognizes the gentlelady from Illinois, Ms. Schakowsky, for
690 5 minutes for questions.

691 Ms. {Schakowsky.} Thank you, Mr. Chairman.

692 I, too, am sponsor of the DeGette legislation that would
693 ask for early notification. I just wanted to mention we
694 actually have a Chicago-based injectable drug company Hospira
695 that has endorsed the bill and they already do many of the
696 things including proactively reporting to the FDA about
697 potential drug shortages.

698 You have explained, Dr. Koh and Dr. Kweder, the
699 advantage of that early notification. Let me just raise a
700 question that some have raised. Early warning could
701 exacerbate the problem and lead to hoarding of critical
702 drugs. Is this anything we need to watch out for, account
703 for? I mean I am hoping that that is not the result of this
704 legislation, obviously, which I support. Have you heard of
705 that?

706 Dr. {Kweder.} I will respond to that question. When we
707 are notified of a potential shortage, we do not automatically
708 turn around and put that on our website and notify the public
709 of a potential shortage, which would have the opposite effect

710 of what we want. We judge very carefully when is the right
711 time to make a public announcement about a potential
712 shortage. First, we assess what are we talking about? Is
713 this a true product shortage or is it an imbalance in
714 distribution? Because sometimes you see things that seem to
715 be in shortage in one part of the country but there is plenty
716 of it and more so in another part.

717 So we take that potential for making things worse very,
718 very seriously. We meanwhile are working on it to assess it
719 and assess what we might do to mitigate it if it is real. If
720 it is real, we usually announce the fact that it exists and
721 try to let the public know what we are doing to try to
722 address it.

723 Ms. {Schakowsky.} So early notification, then, is
724 something that is a very useful tool?

725 Dr. {Kweder.} Right, early notification to FDA is a
726 very useful tool. We see that as different than early
727 publication.

728 Ms. {Schakowsky.} Got it. Let me ask you this. The
729 FDA has limited authorities. Let me run through some of
730 those. At this point you can't require manufacturers to do
731 this early notification, you have no authority to require
732 companies to increase production of a drug during a shortage,
733 you can't impose an allocation plan when a shortage causes

734 life-threatening conditions, and FDA has limited ability to
735 post timely information on its website for healthcare
736 professionals and patients regarding reasons for shortages
737 and timelines for resolution. I don't really understand that
738 one. But in addition to early notification, are there other
739 authorities that you need that would help mitigate this
740 problem?

741 Dr. {Kweder.} I think there are 2 things. One, in the
742 early notification is something that helps us in the
743 mitigation and prevention greatly. What we need to be able
744 to do is we need to be able to have the industry assure that
745 they are making a quality product and upholding their
746 responsibility to produce high-quality products where these
747 things won't happen. Our goal is to prevent even the
748 potential for a shortage from occurring, not always possible.

749 In the case of many of these threatened and real
750 shortages, as Dr. Koh said, these are in plants that
751 manufacture multiple, multiple products. If you look at the
752 record, the things that led to the actual problem with
753 production are things that we have been telling the companies
754 about in routine inspections for years but only became
755 critical in order that they needed to address these,
756 modernize, so that they could continue producing quality
757 product without a glitch.

758 So that is first and foremost from our standpoint,
759 assuring that we are aware so that we can step in and use
760 every possible communication tool and flexibility and
761 regulatory action.

762 Ms. {Schakowsky.} Let me just ask you to what extent is
763 the issue of business decisions--what percent of those cases
764 where we have shortages would you say this is a business
765 decision?

766 Dr. {Kweder.} You know, I can't give you an exact
767 percentage. I will be happy to provide that follow up.

768 Ms. {Schakowsky.} Is it a major issue and is there
769 anything that we can do about that?

770 Dr. {Kweder.} I would say that it is not. That is not
771 the major issue.

772 Ms. {Schakowsky.} Okay.

773 Dr. {Kweder.} I would say by far and away the more
774 common scenario has something to do with manufacturing and
775 product quality.

776 Ms. {Schakowsky.} Thanks you. Thanks to both of you
777 for being here.

778 Dr. {Koh.} Thank you.

779 Mr. {Pitts.} The chair thanks the gentlelady and
780 recognizes the gentlemen from Kentucky for 5 minutes for
781 questioning.

782 Mr. {Guthrie.} Thank you for being here. I am just
783 going to follow up a little bit on Congressman Shimkus. I
784 mean you answered a lot of the questions in your opening
785 testimony. But I had a group of oncologists in the other
786 day. These aren't people that make drugs, they aren't people
787 that sell drugs, people that--FDA issues or whatever you want
788 to--these are guys just are taking care of patients, and they
789 say they literally have to make choices about who they take
790 care of because they don't have the drugs available. So I
791 ask kind of the questions, say, well, I can't believe a
792 company won't make them if you have the demand for them. And
793 they told me that this particular type of drugs, the generic
794 are priced different in the Federal Government. So the
795 Medicare actually prices these different than other drugs.
796 Was that what they were saying was true?

797 Dr. {Koh.} Well, I can start with that. And first of
798 all, Congressman, thank you again for your attention to the
799 patient. This is a dire situation for patients and I have
800 actually trained in cancer as well as other fields so this is
801 very personally and professionally important to me.

802 We have a rule of Medicare here that reimburses
803 according what is called the average sales price, so that is
804 one factor here, but we don't view that as a significant
805 issue in driving the shortages that we are seeing here.

806 Mr. {Guthrie.} But these generics are a different
807 system than others because what we are seeing is you
808 mentioned that pharmacy benefit managers, all these are
809 driving down drug costs where they are doing it, you know, a
810 pharmacy benefit manager is trying to do all drug costs.

811 Dr. {Koh.} Sure.

812 Mr. {Guthrie.} But we seem to see this particular class
813 of drugs having a bigger problem than others and the only
814 thing that I can see that is different is the way the Federal
815 Government treats them. They treat them different than other
816 drugs.

817 Dr. {Kweder.} I am not sure I can answer your question
818 but these are generic drugs. They are off patent for the
819 most part. You know, there are some that--so they are at a
820 point in time where the profit margin for the drugs--
821 generally because they are generic and you can have multiple
822 manufacturers--is lower.

823 Mr. {Guthrie.} Right.

824 Dr. {Kweder.} And it wouldn't be just--you mentioned
825 Medicare, CMS, but there are many other group purchasers--
826 some of them are government-related, others are private
827 insurance companies that are negotiating in bulk basically of
828 prices. And they are no different than what the Federal
829 Government does. It is the same.

830 Mr. {Guthrie.} But why isn't that happening in other
831 classes--I mean this seems to be particularly more than
832 others.

833 Dr. {Kweder.} Well, in the other classes, in the non-
834 generic world, there is one source.

835 Mr. {Guthrie.} Um-hum.

836 Dr. {Kweder.} And so they are in a great bargaining
837 position because they are a sole source, the innovator
838 product, they have a patent.

839 Mr. {Guthrie.} But there is a different system for
840 generic drugs in Medicare than--

841 Dr. {Kweder.} They tend to be priced lower.

842 Mr. {Guthrie.} Priced lower?

843 Dr. {Kweder.} Absolutely. And that, of course, is the
844 access point for the public.

845 Mr. {Guthrie.} Right, if you have lower costs, which we
846 all want to drive lower costs, believe me. We are all trying
847 to save--but you have lower cost, then you get less supply as
848 you are saying because the prices are obviously lower and you
849 have less quality of people producing. And so according to
850 the oncologists there is not a mechanism where if just you
851 pay just a little bit more, you are going to get the drug
852 that is going to take care of--you know, there is not a price
853 mechanism to say we have got a low supply that Congressman

854 Shimkus is talking about. Therefore, if we can adjust the
855 price, we get the supply that we need to take care of
856 patients.

857 Dr. {Koh.} Well, the situation is summarized by Dr.
858 Kweder, but Congressman, I think you were raising some
859 interesting points where we can get you more information--

860 Mr. {Guthrie.} Okay.

861 Dr. {Koh.} --and work with you.

862 Mr. {Guthrie.} Because whatever we can do--I mean the
863 things that you mentioned, business decisions, that is all
864 part of the mix but there are some things we can do from this
865 side.

866 Dr. {Koh.} Thank you.

867 Mr. {Guthrie.} And one other thing just quickly on the
868 FDA, the 2 to 3 years you said, now you have got the flexible
869 teams, is that relatively new? Because after these
870 oncologists said this I reached out to some people and they
871 did talk about some issues with inspection and inspection
872 time like Congressman Shimkus. So it is being addressed--

873 Dr. {Kweder.} Absolutely, it is being addressed. It
874 absolutely is being addressed.

875 Mr. {Guthrie.} Okay. Maybe just hear from the ones who
876 have the worst experiences I guess but that is good because I
877 know with your physicians and the oncologists I met, you take

878 care of patients, so I appreciate your attitude in moving
879 forward to do so.

880 So thank you and I yield back.

881 Mr. {Pitts.} The chair thanks the gentleman and now
882 recognizes the ranking member emeritus of the full committee,
883 the gentleman from Michigan, Mr. Dingell, for 5 minutes for
884 questions.

885 Mr. {Dingell.} Mr. Chairman, thank you for your
886 courtesy and thank you for holding this hearing.

887 Let me begin by asking this question yes or no. Do you
888 have authority at FDA or at HHS to waive any of the
889 requirements with regard to efficacy, good manufacturing
890 practices, or safety, yes or no, in the event of shortage?

891 Dr. {Kweder.} Yes.

892 Mr. {Dingell.} You do have it?

893 Dr. {Kweder.} We have the authority to use flexibility
894 in how we implement the regulations.

895 Mr. {Dingell.} Okay.

896 Dr. {Kweder.} Regulatory discretion.

897 Mr. {Dingell.} I would like to have a further answer on
898 that particular point.

899 Dr. {Kweder.} But the requirements are the same. How
900 one reaches them is flexible.

901 Mr. {Dingell.} Okay. I would like to have further

902 statement on that for the record so we can understand what
903 your authority there is.

904 It is my understanding that the FDA has been working to
905 address shortages of medically necessary drugs. Can you
906 please define what medically necessary means, please?

907 Dr. {Koh.} Medically necessary is defined as a product
908 used to treat or prevent a serious disease or condition for
909 which there is no other product available to act as a
910 substitute.

911 Mr. {Dingell.} I believe you have indicated in your
912 testimony that the vast majority of shortages experienced in
913 the United States is attributable to sterile injectables. Is
914 that correct?

915 Dr. {Koh.} Yes, sir, that is correct.

916 Mr. {Dingell.} And according to your testimony, the
917 majority, some 54 percent of these shortages were due to
918 ``product quality issues such as particulates, microbial
919 contamination, impurities, stability changes resulting in
920 crystallization.'' Is that right?

921 Dr. {Koh.} That is right, Congressman.

922 Mr. {Dingell.} Were you finding those in American
923 pharmaceuticals or imports?

924 Dr. {Koh.} We were finding them here in the United
925 States.

926 Mr. {Dingell.} What about imports?

927 Dr. {Koh.} Well, those are exactly issues we try to
928 prevent which is why importing is always a challenging issue.
929 In fact--

930 Mr. {Dingell.} Yeah, but you have really no authority
931 to address the question of the manufacturing practices
932 abroad. You have no real authority to deal with good
933 manufacturing practices. You have no real authority to see
934 to it that the requirements that are imposed on American
935 manufacturers for safety, efficacy are there, and you have
936 very little power to effectively inspect those foreign
937 manufacturers either of finished pharmaceutical products or
938 components and constituents, right?

939 Dr. {Koh.} That is correct, Congressman.

940 Mr. {Dingell.} And you have no ability, really, to know
941 who is manufacturing these things or to trace them through
942 the product line, is that right?

943 Dr. {Koh.} That is right. That is why the importation
944 process is done very carefully and selectively.

945 Mr. {Dingell.} I have got some legislation to address
946 that and I hope that we will be shortly addressing it here in
947 this committee.

948 I have a bill, as I mentioned, where we address the
949 problem of quality problems in drug manufacturing process by

950 requiring the drug manufacturers implementing effective
951 quality system that complies with GMP. The quality system
952 would also be required to ensure risk management procedures
953 that would address all relevant factors through the supply
954 chain, including original source materials and their origin,
955 onsite audits, and methods to detect or include potentially
956 risky substances. Manufacturers would also have to maintain
957 records and establish that the drug was manufactured and
958 distributed under conditions that ensured its identity,
959 strength, quality, and purity. Would legislation of this
960 kind help you address quality issues?

961 Dr. {Koh.} Yes, tracking quality every step of the way
962 would certainly uphold patient safety.

963 Mr. {Dingell.} This is a matter on which I have worked
964 with the gentleman, my colleague Mr. Shimkus. Now, it has
965 been widely reported that when information becomes public
966 about a drug shortage, an active gray market tries to sell
967 drugs in short supplies to pharmacists or hospitals. Does
968 this present a safety concern?

969 Dr. {Koh.} Yes, it does, Congressman.

970 Mr. {Dingell.} Why and how and what can you do about
971 it?

972 Dr. {Koh.} Well, this is largely unregulated. The
973 Federal Trade Commission is involved to some degree but

974 unfortunately--

975 Mr. {Dingell.} They don't have the expertise that you
976 have and would you submit to us a proper answer informing me
977 what we have to do to address that particular problem?

978 Dr. {Koh.} I would be happy to do that, um-hum.

979 Mr. {Dingell.} Now, when drugs are purchased in the
980 gray market, do we know if these drugs have been stored
981 properly to ensure effectiveness, whether the drugs have been
982 diluted, or whether the drugs are free of filth contaminants
983 or adulterates? Yes or no?

984 Dr. {Koh.} No. Unfortunately, we know very little
985 about the products in the gray market.

986 Mr. {Dingell.} Now, as I mentioned, I have a bill that
987 would require manufacturers to maintain records establishing
988 where the drug and its raw materials were produced, including
989 all information relative to producers, manufacturers,
990 distributors, and importers. Would such legislation and such
991 power assist Food and Drug in assuring the safety of these
992 kinds of pharmaceuticals? Yes or no?

993 Dr. {Koh.} Yes, we want to uphold the safety and
994 quality, so thank you for that.

995 Mr. {Dingell.} At the end of the day, American
996 consumers and patients are facing 3 problems: 1) the drugs,
997 they need to be available and affordable; 2) are there drugs

998 they need safe; and 3) are they efficacious? Do they work?

999 I believe the committee needs to examine these issues
1000 carefully and swiftly. Our colleagues in the Senate, Mr.
1001 Harkin and Mr. Enzi have already called on Food and Drug to
1002 improve its oversight of the pharmaceutical supply chain. I
1003 would hope this committee would follow suit, but I would like
1004 to have you give us a statement of what authorities you need
1005 to adequately carry that out. I don't believe that sending
1006 you a letter asking you to do something for which you have no
1007 authority works. Would you submit, please, for the record
1008 because my time is up what it is that has to be done to give
1009 you the authority to address those problems?

1010 Dr. {Koh.} I would be happy to, Congressman. Thank
1011 you.

1012 Mr. {Dingell.} Thank you. Mr. Chairman, I thank you
1013 for your courtesy. I ask unanimous consent that the
1014 responses be inserted in the record upon receipt?

1015 Mr. {Pitts.} Without objection, so ordered.

1016 Mr. {Dingell.} Thank you.

1017 Mr. {Pitts.} The chair thanks the gentleman and
1018 recognizes the gentleman from Louisiana, Dr. Cassidy, for 5
1019 minutes for questions.

1020 Dr. {Cassidy.} Hello. Thank you.

1021 Now, you do have the ability to import from overseas

1022 obviously, and there were issues raised regarding adequacy of
1023 quality control if you will. We think of Hepburn from China
1024 causing many deaths, correct? One of the issues that was
1025 raised here in a previous hearing was that the inspectors, as
1026 part of their union contract, can refuse to go overseas. And
1027 so I think Mr. Pallone spoke about inadequate resources, but
1028 the issue was that here there was enough money to inspect or
1029 a requirement to inspect a pharmaceutical every 2 years and
1030 there is happening only every 9, and when I ask could we just
1031 redirect resources to send that person over to maybe
1032 alleviate some of these by expanding importation, the point
1033 was that the unions would not allow this to occur. They had
1034 the right to refuse the overseas assignment. Is that true
1035 and to what extent is that limiting our ability to approve
1036 the APIs--I forget the acronym but you know what I am
1037 speaking of.

1038 Dr. {Kweder.} In the terms of a shortage situation,
1039 that has not been a big issue. For the most part, when we
1040 have a circumstance where some inspection activity is
1041 necessary in order to prevent a drug shortage, we find that
1042 our staff are extremely cooperative and willing to roll up
1043 their sleeves and step in. We are addressing the issue of
1044 our inspection force more broadly in parallel to this, but it
1045 has not been a critical issue in mitigating or preventing

1046 drug shortages.

1047 Dr. {Cassidy.} But there are a heck of a lot of
1048 generics being manufactured in India and other Third World
1049 countries so are they just not producing the ones that we are
1050 in short supply of or are we just not confident of the
1051 quality of the product which they produce?

1052 Dr. {Kweder.} I am not sure I understand your question.

1053 Dr. {Cassidy.} So is there a worldwide supply of drugs
1054 that are currently in shortage here? It is just that we are
1055 not trusting the manufacturing process by which they are
1056 produced and therefore do not allow their importation?

1057 Dr. {Kweder.} I would say the lack of allowance to
1058 import a product has been unusual. If there is a foreign
1059 source, we are usually able to work through and get it
1060 approved. There have certainly been circumstances where
1061 there have been important problems that would prevent that,
1062 but in most cases if there is a foreign source and going to a
1063 foreign source is necessary, we are able to work through
1064 that.

1065 Dr. {Cassidy.} Okay. In the gentleman who is going to
1066 testify from Teva, he speaks about how DEA has a quota for
1067 controlled products and that if somebody goes out of
1068 business, that quota might not necessarily be assigned to
1069 another manufacturer, and so you have a kind of centrally

1070 planned economy-induced shortage. Any comment on that and
1071 any way we can address that?

1072 Dr. {Koh.} I can start. I know that controlled
1073 substances represent only a very small part of the drug
1074 shortage situation that we are talking about, so we do work
1075 with DEA but it is limited only to several instances. And
1076 Dr. Kweder might add more.

1077 Dr. {Kweder.} And it is more complicated having the DEA
1078 involved for obviously good reasons. It does create an
1079 additional step and complicates this, but we work closely
1080 with the DEA when a controlled substance shortage is at
1081 issue.

1082 Dr. {Cassidy.} And I understand that but is there any
1083 plans to make it so that if somebody stops producing their
1084 quota it is transferred to someone who would? Because I
1085 gather that is not the situation now. And although we are
1086 working closely, that is an obvious solution that I am not
1087 sure is being implemented from your statement.

1088 Dr. {Kweder.} We are continuing to try and figure out
1089 how to expedite these kinds of issues with DEA. And I don't
1090 have an answer for you about exactly when that will be
1091 resolved, but we are committed to doing it, as are they.

1092 Dr. {Cassidy.} Okay. Teva also mentioned--just because
1093 I, you know, I like to read what the other panels say so I

1094 refer to this--that the ``speaking of a source or an active
1095 pharmaceutical ingredient,'' they say that the qualification
1096 process to identify a supplier for such can be very onerous,
1097 the qualifying gain after you get approval for a new API
1098 supplier or alternative manufacturing site for an already-
1099 approved supplier can take as long as 2 to 3 years. Now, I
1100 am channeling my inner Teva wherever Teva is. You don't have
1101 to testify anymore, but what would be your response to that?

1102 Dr. {Koh.} Again, these are areas where we are trying
1103 to show as much regulatory flexibility as possible to
1104 accelerate approvals when necessary. So we often address
1105 these themes through the maximum flexibility possible.

1106 Dr. {Kweder.} And we already do. Whenever there is an
1107 issue related to a supplier where it requires FDA to approve
1108 a new supplier or even a new facility, I think that was one
1109 of the other concerns. We turn those around very, very
1110 quickly.

1111 Dr. {Cassidy.} What would--

1112 Dr. {Kweder.} In a matter of weeks to months. These
1113 are not business as usual where there is a long wait time.
1114 We understand that patients are at the end of this line and
1115 we need to do everything possible to get on the case and work
1116 with the companies. And we have done that with Teva.

1117 Dr. {Cassidy.} Okay. I yield back. Thank you.

1118 Mr. {Pitts.} The chair thanks the gentleman and
1119 recognizes the gentleman from Utah, Mr. Matheson, for 5
1120 minutes for questions.

1121 Mr. {Matheson.} Thank you, Mr. Chairman. I appreciate
1122 your yielding time to me and I appreciate you holding this
1123 hearing. I think we have established the problem. I am sure
1124 lots of people have talked about circumstances in their
1125 district. I represent the University of Utah. They project
1126 more than 360 products having shortages and that many
1127 products by the end of this year. And I was at the Huntsman
1128 Cancer Institute just 2 weeks ago and they were talking to me
1129 about the challenges they are facing. So I guess everybody
1130 up here has a story, but I thought I would tell you it is in
1131 my backyard as well.

1132 I was wondering if you could address for me some of the
1133 concerns about gray market activity as a result of these drug
1134 shortages and the integrity of what is out there, the quality
1135 of the medications if they are counterfeit or how we can
1136 address some of these challenges of a gray market when these
1137 medications have shortages.

1138 Dr. {Koh.} Well, I can start. And first of all, thank
1139 you, Congressman, for your commitment to research. We didn't
1140 say explicitly but we can say now that this drug shortage
1141 issue is dramatically affecting clinical trials as well in

1142 cancer and infectious disease in many parts of NIH, so that
1143 is very, very troubling to us as a Nation that prizes
1144 scientific advances.

1145 The gray market, unfortunately, is very poorly
1146 understood and, as we have mentioned already, it is largely
1147 unregulated. And to have now this dimension complicating an
1148 already complicated situation is very disturbing. So we
1149 appreciate your attention to that and we want to address that
1150 as well as all the other factors that are involved here.

1151 Mr. {Matheson.} Are there actions we should be taking
1152 on addressing the gray market specifically or should we
1153 really just be addressing on the underlying problem of the
1154 shortage of these medications? Is that the more valuable way
1155 to address--that would eliminate the gray market problem I
1156 guess if we don't have shortages?

1157 Dr. {Kweder.} One of the questions that was asked
1158 previously was about what we know about the products that
1159 appear on this gray market.

1160 Mr. {Matheson.} Right.

1161 Dr. {Kweder.} Do we understand when they expired, where
1162 they came from, and are they made by the company that is
1163 experiencing the shortage or are they counterfeit products?
1164 We don't because we don't have a tracking system within the
1165 drug supply to know what product comes from where.

1166 Mr. {Matheson.} I appreciate that. I will do my 30-
1167 second advertisement. I just introduced with Mr. Bilbray
1168 this week our track and trace legislation, pedigree
1169 legislation for maintaining the integrity of the drug supply
1170 in this country. We are operating on rules that were created
1171 in 1988 and the world has changed. I don't think this is
1172 going to be on the topic of this hearing, but there is just
1173 too much money on the table for the counterfeiters in terms
1174 of the U.S. pharmaceutical marketplace, and I hope this
1175 committee can take a look at this legislation Mr. Bilbray and
1176 I have introduced because I do think it is an important
1177 safety factor for the integrity of our supply in general.

1178 I appreciate your coming here for this hearing. Mr.
1179 Chairman, I yield back.

1180 Mr. {Pitts.} The chair thanks the gentleman and
1181 recognizes the gentlelady from Tennessee, Mrs. Blackburn, for
1182 5 minutes for questions.

1183 Mrs. {Blackburn.} I want to thank our witnesses for
1184 being here, and as you know, some of us arrived a little bit
1185 late. We did have the Solyndra oversight hearing going on
1186 downstairs, so we completed that one before coming up. But
1187 we are grateful that you are here and our second panel of
1188 witnesses we are also looking forward to. And I am glad we
1189 have a Tennessean on that panel who will be joining us.

1190 Just a couple of questions. As you can see, we are
1191 going to look at how we address this issue and having you
1192 here helps to inform our decision-making process. So a
1193 couple of things I would like know, and if you don't have the
1194 answer for me, please submit it to us so that we can include
1195 it in our record.

1196 I wanted to see if each of you had any examples where
1197 you had worked closely and collaboratively with your agencies
1198 with manufacturers' drugs where there was a known or a
1199 projected shortage and see if you could articulate what that
1200 process was, the interface that transpired there. And if you
1201 have those examples, ma'am, please go ahead and give them,
1202 and if not, we will accept those in writing.

1203 Dr. {Koh.} So Congresswoman, I can repeat the example
1204 that we are very proud to share actually here for the first
1205 time that had to do with cytarabine, which is a--

1206 Mrs. {Blackburn.} Okay.

1207 Dr. {Koh.} --lifesaving drug used for acute leukemia.
1208 And this shortage received tremendous national publicity and
1209 represented a dire challenge for cancer patients. And so
1210 when the FDA worked with the industry on this particular
1211 drug, they found that one of the issues complicating the
1212 production was the crystallization of the drug in the
1213 solution and that re-warming it would restore the safety

1214 features that would allow infusion into patients. So with
1215 that collaboration between the FDA and industry, that issue
1216 has now been recently resolved and we are very, very pleased
1217 to report that. And I know my colleague has other examples.

1218 Dr. {Kweder.} I actually would like to expand on that
1219 one--

1220 Dr. {Koh.} Okay.

1221 Dr. {Kweder.} --because before the issue of the
1222 crystals in the vials, where the cytarabine shortage began
1223 was it was being made by 3 companies but the majority of the
1224 supply was being made by one firm. They were experiencing
1225 significant production delays, so what FDA did was we
1226 contacted the other manufacturers to work with them to
1227 increase their production in order to be able to supply the
1228 market. In the course of them increasing their production
1229 and trying to produce product rapidly, the crystallization
1230 occurred in both facilities. So that preceded the crystals.
1231 We then resolved that activity as well. So in that case, we
1232 also, when there was concern about whether we would find a
1233 solution to the crystallization, we also investigated
1234 alternative manufacturers, whether there were any overseas.
1235 We were not able to identify any alternative manufacturers.
1236 They were all U.S. firms.

1237 Mrs. {Blackburn.} Let me interject there. Do you have

1238 examples other than this one? Are there examples where you
1239 worked with some of those alternative manufacturers and
1240 brought them into the fold, and then once you identify that
1241 there is a near-shortage that is approaching, do you think
1242 that there is a way through the production process or the
1243 compensation model to provide incentives so that you have a
1244 more predictable supply?

1245 Dr. {Koh.} Well, another example that we can provide
1246 for you, Congresswoman, has to do with purple fall, which is
1247 an agent that is used in anesthesia. And when those
1248 shortages started occurred, the FDA could facilitate
1249 temporary importation of a substitute agent to help
1250 ameliorate that situation. So that is yet another example
1251 and I know the FDA has many others. The economic issues here
1252 are so complex that offering any economic solution requires
1253 first a careful analysis. And we are trying to do more of
1254 that, especially through our assistant secretary for planning
1255 an evaluation and we hope we can come out with some more
1256 definitive recommendations for you in that area in the near
1257 future.

1258 Mrs. {Blackburn.} Thank you. We appreciate that, and
1259 in the interest of time, I will yield back.

1260 Mr. {Pitts.} The chair thanks the gentlelady and
1261 recognizes the gentlelady, Mrs. Myrick, for 5 minutes for

1262 questions.

1263 Mrs. {Myrick.} Thank you, Mr. Chairman. And thank you
1264 all, all of our witnesses for being here. I was also at
1265 another hearing so I am sorry I missed your testimony and
1266 some of the questions.

1267 Like everybody else, our area is experiencing the same
1268 problems and our doctors, we meet with them constantly. But
1269 particularly in anesthesiology and oncology as you well know,
1270 we have the problems. And it is scary from the standpoint of
1271 what could happen with somebody if they are given another
1272 drug that really doesn't either work or they, you know, have
1273 a reaction to it or something. And thank you very much for
1274 any efforts in trying to get to the bottom of it.

1275 And I wanted to ask if really the consolidation has
1276 taken place in the drug industry over the last few years and
1277 continues to place, you know, what effect or how does that
1278 contribute to the problem that we are seeing today? I mean
1279 is this a large contributing factor because of fewer
1280 manufacturers available?

1281 Dr. {Koh.} Thank you, Congresswoman, for your interest
1282 and support. And yes, we view industry consolidation as one
1283 of the driving causes here, and as you can imagine if you are
1284 a denominator of or a manufacturer shrinks and then any one
1285 of them has a manufacturing problem or delay, it really puts

1286 the onus on the others, and if the others don't happen to
1287 produce that product and if this particular company is a sole
1288 source producer, then you have the number of occasions that
1289 we are seeing right now. So there is no doubt that industry
1290 consolidation has contributed to this.

1291 Mrs. {Myrick.} So what if any recommendations do you
1292 have of how we get over this hump? Because, you know, you
1293 mentioned the generics which we are all very much aware of
1294 and the fact that are just as popular to do because of the
1295 cost factors and other things that have entered into it. I
1296 mean what is it that you think we should be doing or looking
1297 at to try and get to the bottom of how we can help with this.

1298 Dr. {Koh.} Well, we again want to stress the importance
1299 of communication and early notification because that will
1300 help all parties to work together. And as the number of
1301 industries involve shrinks, we want to really maximize our
1302 communication with those manufacturers, and we are doing so
1303 as we speak. And then as Dr. Kweder mentioned, we also want
1304 to have more assurances that the products that are being
1305 produced have high quality so that we don't run into these
1306 quality and manufacturing issues. So those are 2 things that
1307 would be very helpful to us.

1308 Mrs. {Myrick.} And you find the companies work well
1309 with you?

1310 Dr. {Koh.} We have had excellent dialogue to date and I
1311 want to do much more of that, not just the FDA but the entire
1312 department and also engage the public in this as you have
1313 heard.

1314 Mrs. {Myrick.} Thank you. I will yield back, Mr.
1315 Chairman.

1316 Mr. {Pitts.} The chair thanks the gentlelady and
1317 recognizes the gentleman from Pennsylvania, Dr. Murphy, for 5
1318 minutes for questions.

1319 Mr. {Murphy.} Thank you. And I thank this
1320 distinguished panel and we appreciate your concern for our
1321 citizens of this country.

1322 A couple areas here. Are you meeting with the
1323 manufacturers? I want to ask a couple questions to find out
1324 here with regard to what are some of the causes of this drug
1325 shortage. You laid out a number of these things very well,
1326 thank you. But let us say, for example, cancer drugs. Why
1327 the shortages with cancer drugs? We know they are very
1328 expensive in many cases. What specifically is the reason for
1329 that?

1330 Dr. {Koh.} Well, it is very distressing, Congressman,
1331 some of these time-honored lifesaving medications now being
1332 caught in the middle of this public health crisis and some of
1333 the agents we have mentioned here, cytarabine, vincristine,

1334 bleomycin, time-honored agents that have been shown to be
1335 effective for decades are now stuck in these shortages. So
1336 again these are older generic sterile injectable drugs that
1337 are typical of the ones that are being--

1338 Mr. {Murphy.} But can I ask specific things. Do we not
1339 have enough manufacturers, for example, working on these
1340 things? Is that part of the problem?

1341 Dr. {Koh.} That is part of the problem, again, because
1342 the industry has consolidated and so we don't have the dozens
1343 and dozens--

1344 Mr. {Murphy.} Of those who are there, are they not
1345 working at capacity? Do we know if that is an issue?

1346 Dr. {Koh.} I am not sure I can address that directly.

1347 Dr. {Kweder.} I think that what often happens in a lot
1348 of these companies they make dozens of products.

1349 Mr. {Murphy.} Um-hum.

1350 Dr. {Kweder.} These sterile injectables can only be
1351 made in certain types of facilities so there are a limited
1352 number of those. And because of the market and the few
1353 number of producers, there is pressure to produce and
1354 continually produce. And so maintenance of the facilities
1355 themselves is often put off because it requires an investment
1356 on these low profit margin--

1357 Mr. {Murphy.} They are expensive, the low profit

1358 margins?

1359 Dr. {Kweder.} Right. Some of them are not terribly
1360 expensive but low profit margin. So there is--

1361 Mr. {Murphy.} That is important what you just said. So
1362 this is one of the concerns we have. Certainly, we want
1363 medications to be affordable. I mean why window shop when
1364 you can't afford, but in our push to make sure that drugs are
1365 affordable, are we also tripping over ourselves? It is
1366 hurting the patients when we say we want there to be such a
1367 low profit margin that it ends up backfiring and we don't end
1368 up with the medications that save lives? Is that part of our
1369 policy that is getting away for us?

1370 Dr. {Koh.} Well, thank you for posing those questions
1371 and obviously ultimately our goal is to protect the patient
1372 and give timely delivery of a lifesaving medication--

1373 Mr. {Murphy.} And even if you don't have the
1374 information today, is that something you could advise us on?
1375 I am looking for anything politics aside. I really want to
1376 know from the standpoint of myself as a healthcare provider.
1377 If we are doing something that is saying we want drugs to be
1378 affordable but we are cutting the price so much that people
1379 don't want to make them, that is a serious concern. And so
1380 my question is policy interference. If you can't answer that
1381 today, I just want to know if you will get back to us with

1382 that.

1383 Dr. {Koh.} Sure, Congressman. Those are precisely the
1384 issues that we are wrestling with as a department and as a
1385 country. So thank you for posing that.

1386 Mr. {Murphy.} And I say this from the standpoint of,
1387 look, what oftentimes what goes around the Hill is lots of
1388 accusations and politics. We can't afford to engage in any
1389 of that on these lifesaving issues. And so I am trusting you
1390 to give us those honest answers and I really appreciate it
1391 from one colleague to another here.

1392 Dr. {Koh.} Thank you so much, Congressman.

1393 Mr. {Murphy.} And also with regard to inventories, I am
1394 hearing that hospitals are saying they are having a hard time
1395 keeping their inventory. It is not an issue that they are
1396 not purchasing enough, correct? Or is it? If a hospital
1397 says we can't have some of these things in supply because it
1398 may be too expensive or too difficult for us to keep these in
1399 inventory because of special requirements for how to maintain
1400 them, how to secure them, the special conditions under which
1401 they might be--is that part of the problem, too, they may not
1402 be ordering enough because for themselves it is also very
1403 expensive?

1404 Dr. {Kweder.} I believe that it can be a problem.

1405 There also has been a trend--this is certainly not 100

1406 percent but there has been a trend in the industry to have
1407 what some people call just-in-time production.

1408 Mr. {Murphy.} Um-hum.

1409 Dr. {Kweder.} They don't have the long lead time at
1410 production that may be--particularly for these sterile
1411 injectables that there may be for other products that have
1412 longer shelf lives. So they tend to make less and distribute
1413 it out in smaller amounts--

1414 Mr. {Murphy.} Um-hum.

1415 Dr. {Kweder.} --which certainly contributes to
1416 hospitals not being able to maintain a large supply and
1417 cushion in addition to what the other concerns that you
1418 mentioned--

1419 Mr. {Murphy.} And again, the just-in-time inventory is
1420 one where they are thinking that they also have a small
1421 margin. I mean it is one of these things, look, we
1422 understand healthcare is expensive. Sickness is more
1423 expensive and we all want to work together. And so I do
1424 appreciate and look forward to seeing your information on
1425 this. Thank you very much.

1426 I yield back, Mr. Chairman.

1427 Mr. {Pitts.} The chair thanks the gentleman and
1428 recognizes the gentleman from Georgia, Dr. Gingrey, for 5
1429 minutes for questions.

1430 Dr. {Gingrey.} Mr. Chairman, thank you very much. I am
1431 sorry I missed a lot of your testimony, witnesses, but thank
1432 you for being here.

1433 Let me first address to Secretary Koh, in your testimony
1434 you cite that there were 178 drug shortages in 2010 and that
1435 sterile injectable drugs make up a large and increasing share
1436 of these shortages and by my count, roughly 132 of the 178
1437 were for sterile injectables. Of these injectable drugs, can
1438 you tell me how many were in shortage in previous years? Has
1439 it been a long-term problem or just more recently?

1440 Dr. {Koh.} This is a long-term problem, Congressman,
1441 and unfortunately, the trend is going the wrong way. The
1442 shortages are increasing year by year. We did it back
1443 through 2006 and the trend is getting worse since then.

1444 Dr. {Gingrey.} And then tell me this. Are there any
1445 other common characteristics that you are aware of among
1446 these 132 besides the fact that they are generic and they are
1447 sterile injectables? For instance, are these drugs typically
1448 newer generics or drugs that have been on the market for
1449 years? Actually, you just answered that and I thank you.
1450 Well, the other thing on that is are the profit margins
1451 typically very low or any other issues that you might be
1452 aware of?

1453 Dr. {Koh.} So on the first question, Congressman, the

1454 irony here is that these are older generic drugs that we
1455 understand are very helpful if not lifesaving and so to have
1456 this situation is really quite ironic and tragic. And you
1457 are right, there is an issue with respect to business forces
1458 here and the profit margin is understood to be quite low for
1459 many of these individual products.

1460 Dr. {Gingrey.} And my last question can really go to
1461 either one of you, Mr. Secretary or Dr. Kweder. Am I saying
1462 that correctly? Good. Help me understand something. Mr.
1463 Shimkus earlier addressed this. Many of the drugs we are
1464 talking about are these older generics, not just the sterile
1465 injectables, where the profit margins can often be very low.
1466 These low profit margins can oftentimes lead to very little
1467 competition or even drugs for which only one company make the
1468 product. Mr. Shimkus raised this point about the market
1469 prices and I understand maybe, Secretary Koh, you tried to
1470 answer this for him. I just want to be clear. Do either one
1471 of you have any thoughts as to why you get to the point where
1472 there is a limited number of manufacturers of a particular
1473 generic, why the prices at that point remain low? I mean the
1474 market should be able to work--the market of supply and
1475 demand and obviously when a brand name drug, which is very
1476 expensive, first goes generic and you have several
1477 manufacturers jumping in and producing that generic at a much,

1478 much lower price, and then finally it gets too low for some
1479 of them to survive, they stop doing it and go on to something
1480 else, maybe another generic and a couple or maybe even one
1481 company hangs on. It would seem because of supply and demand
1482 that that company would be able to raise their prices. Are
1483 there any government rules, regulations, laws, pharmacy
1484 benefit managers, something that would cause them not to be
1485 able to raise their prices even though the market would
1486 certainly let them do that otherwise?

1487 Dr. {Koh.} Yes, Congressman, so we have come to
1488 understand that this is a complex business situation where
1489 the standard economic principles of supply and demand do not
1490 easily apply. And we have manufacturers, we have purchasers,
1491 providers, hospitals, we have group purchasing organizations
1492 and pharmacy benefit managers, so we have multiple forces
1493 here all working to the final outcome that ordinarily you
1494 would see with a rise in pricing profit, but that doesn't
1495 apply here. So this is why we need the extra analysis that
1496 our department is doing and others and we welcome new
1497 information and modeling to really help us understand the
1498 root causes better.

1499 Dr. {Gingrey.} Dr. Kweder?

1500 Dr. {Kweder.} I think the questions that you raise are
1501 exactly some of the questions that we have as we really try

1502 to understand the roots of this problem. What are the things
1503 that could be done to try and prevent these shortages from
1504 occurring or even being at risk in the first place.

1505 Dr. {Gingrey.} Well, I thank both of you for those
1506 answers because, you know, the Federal Government tries to do
1507 the right thing in many instances--I would hope in all
1508 instances and it seems that far too much of the time they
1509 screw it up. And so that is why I ask you those questions
1510 and I hope that you will continue to look at that so that
1511 market forces can continue to prevail. Then I don't think we
1512 would be faced with these shortages.

1513 Mr. {Pitts.} The gentleman yields back? This is the
1514 round of questions for the subcommittee members. We have a
1515 couple of members of the committee who have joined us. The
1516 chair recognizes the gentleman, Mr. Walden, for 5 minutes for
1517 questions.

1518 Mr. {Walden.} I thank the chairman very much, first of
1519 all, for his recognition since I am not a member of the
1520 subcommittee but also for having this hearing. And I
1521 appreciate the testimony from the 2 witnesses today. I got
1522 involved in this issue some time ago because of an oncology
1523 doctor in my district, Dr. Chuck Dibs, who brought this issue
1524 to my attention, my staff's attention. And the drug
1525 specifically that I recall he mentions was--and I will try

1526 and say this right--doxorubicin. Is that right? I
1527 understand it is an ovarian cancer drug which he has
1528 prescribed for a very long time, apparently a very effective
1529 drug. And I am not a doctor but that is what he tells me.
1530 What was the FDA's role in interrupting the production of
1531 that drug? Can you speak to that?

1532 Dr. {Kweder.} I can speak to that very generally.
1533 There were several companies that produced doxorubicin. One
1534 of them which was the major supplier also was the same
1535 producer for the cytarabine, APP, that Dr. Koh mentioned
1536 earlier. Some of the issues were exactly the same. There
1537 were facility issues, production delays because of, you know,
1538 chronic problems in an aging facility is probably the best
1539 way to summarize it. What FDA did was we worked with the
1540 other 2 producers to facilitate their ability to increase
1541 production. It did take a while. As I said, these are
1542 complex products to make. Companies can't just ramp up
1543 production overnight.

1544 Mr. {Walden.} Right.

1545 Dr. {Kweder.} But in the meantime, a fourth company
1546 came in with a new version of the product and helped to make
1547 up the supply. So we make sure to expedite review of that
1548 fourth company's application and the inspections, et cetera,
1549 that were necessary in order to turn this around.

1550 Mr. {Walden.} Now, Dr. Koh, do you have any comment on
1551 that?

1552 Dr. {Koh.} I think Dr. Kweder summarized it well.

1553 Mr. {Walden.} So you feel like you have taken all the
1554 steps? This drug is now available on the market again and
1555 without shortage? Is this accurate?

1556 Dr. {Kweder.} My expert tells me, yeah. Yeah,
1557 doxorubicin itself is. There is another version of the drug
1558 that is sort of a special formulation that has a sole source
1559 that continues to be a problem, but again, that is a
1560 different company.

1561 Mr. {Walden.} All right. I know, Dr. Koh, you
1562 mentioned glass and metal in injectables I think you were
1563 discovering which sends sort of shivers up everybody's spine.
1564 I have also heard though that with the new technologies, the
1565 scientists are able to see deeper into the drugs we had ever
1566 seen before in parts per billion or whatever. Again, this is
1567 your field, not mine. But are we looking deeper and finding
1568 things that we never knew was there before and is that really
1569 a problem from a health standard or is it a question that may
1570 play a role?

1571 Dr. {Koh.} Well, again, those examples, Congressman,
1572 are very graphic examples on the quality issues that we are
1573 facing. I must say though that again the FDA has worked with

1574 companies so in the case of particulate matter--pieces of
1575 glass, pieces of metal--first to identify the issue but also
1576 there have been advances in developing filtering systems so
1577 we can filter those out and make those drugs then safe to
1578 inject into patients. So that is another example of
1579 regulatory flexibility that has marked this chapter of our
1580 history. So I guess the end of my time is about to expire
1581 but--I mean my time to ask questions is about to expire. I
1582 just want to clarify that.

1583 It is this sense of urgency. I applaud you for bringing
1584 people together and trying to figure this problem out, but as
1585 I am hearing from both Dr. Dib and others in my district
1586 there is this, you know, patient comes in, the drug is not
1587 available, they have been prescribed it for years, it is
1588 effective, it works, and they can't get it. I know my own
1589 mother had ovarian cancer and died from it and so I have just
1590 this sense of patient urgency. I know you feel that, both of
1591 you. We all do. And so if there is a way we can play a
1592 constructive role here, whether it is Ms. DeGette's bill on
1593 notification, I mean she has put a lot of work into this.
1594 You know, we just need to do everything we can to be a
1595 partner in this to find a solution. I look forward to
1596 working with both of you and members of this committee to the
1597 extent they will let me play a role. So with that, I would

1598 yield back the balance of my time.

1599 Mr. {Pitts.} The chair thanks the gentleman and
1600 recognizes the gentlelady from Colorado, Ms. DeGette, for 5
1601 minutes for questions.

1602 Ms. {DeGette.} Thank you very much. And I want to
1603 thank my colleague from Oregon for the free commercial
1604 announcement.

1605 Mr. Chairman, thanks for letting me participate. It is
1606 good to be back in my old stomping grounds of the House
1607 subcommittee. As I know you have been discussing,
1608 Congressman Rooney and I have introduced in a bipartisan way
1609 the Preserving Access to Lifesaving Medications Act, which
1610 creates an early warning system between FDA drug companies
1611 and providers so that we can respond to these drug shortages
1612 quickly and efficiently. Do I think that this bill will
1613 solve the root problems of the drug shortage crisis? No.
1614 But do I think it is a necessary first step? Absolutely.
1615 And I appreciate the witnesses coming here to talk to the
1616 members of this committee.

1617 This bill came up because Mr. Rooney and I independently
1618 were going around meeting with our hospitals and our doctors
1619 and suddenly, they started saying to us, you know, I was in
1620 the middle of a chemotherapy treatment of a child and
1621 suddenly I couldn't get the drug. And I am sure it didn't

1622 happen immediately but it seemed like it did. Doctor, you
1623 are shaking your head. Do you want to comment on that?

1624 Dr. {Kweder.} Well, to the prescriber, you know, they
1625 are not following, you know, websites. They just know that
1626 they can't get the drug and they have a patient who is ill
1627 and needs it today or tomorrow and not in 2 months when the
1628 supply can be re-upped, and that is a very difficult position
1629 to be in as a physician and even worse as a patient.

1630 Ms. {DeGette.} And is there some reason why these
1631 shortages have increased recently? Either one of you?

1632 Dr. {Kweder.} We are trying to understand that. Some
1633 of the things that we have identified is that these are
1634 products that are complicated. Most of the products that
1635 have been problematic are complicated to produce, there are a
1636 limited number of producers, and many of them are working in
1637 facilities that are aging and have had chronic challenges in
1638 maintaining production or product quality.

1639 Ms. {DeGette.} Yeah. And you know, I think before I
1640 got here, Mr. Chairman, you had discussed the current
1641 reporting system, which is the reporting system for companies
1642 that don't have competition and it is a voluntary system.
1643 Even though it is much more limited, it has really worked.
1644 In 2010, 38 drug shortages were avoided when the Agency was
1645 given advance notice. And I just want to give a couple of

1646 examples. In August of 2009, Hospira notified FDA of their
1647 intention to discontinue the drug potassium phosphate in 2010
1648 due to low volume. The drug is often critical for neonatal
1649 care. Hospira received a note back from the FDA drug
1650 shortage in September 2009 thanking them and then in March
1651 2011 the other supplier of potassium phosphate, American
1652 Regent, recalled its product because of a quality issue. So
1653 what happened then is in April 2011, the FDA made Hospira
1654 aware of the drug shortage caused by the recall and asked
1655 them to assess their ability to return to manufacturing. And
1656 then in that same month, Hospira told the Agency that they
1657 would return to manufacturing potassium phosphate so that the
1658 patients could be served. And so it worked. But that is on
1659 a very limited basis. And so I just think that this could
1660 really work.

1661 And I guess I want to ask you, Dr. Koh, in my minute
1662 remaining how will it work if we enact legislation like this
1663 to get the information into the providers' hands that there
1664 is an impending drug shortage? Because you folks have had
1665 some experience with it.

1666 Dr. {Koh.} Sure. And Congresswoman, first of all,
1667 thank you for your leadership on this issue. It is very,
1668 very much appreciated. And we all feel that establishing the
1669 highest level of communication as early as possible about any

1670 potential shortage could give us the opportunity all to be
1671 proactive. And that is not just FDA and HHS but also
1672 providers and hospitals and patients. So if we can do this
1673 together, understand that a potential shortage is on the
1674 horizon as soon as possible, make that information available
1675 to relevant parties and ultimately to patients and the
1676 public, then we can all work together in a proactive way.

1677 Right now we are in a situation that you have summarized
1678 very well where the reporting is voluntary. Oftentimes the
1679 FDA does not know until too late and then patients are stuck
1680 in this dire situation, which is just not acceptable. So we
1681 are looking forward to greater emphasis on early notification
1682 and communication.

1683 Ms. {DeGette.} Great. Thank you so much, Mr. Chairman.
1684 My time has expired.

1685 Dr. {Koh.} Thank you, Congresswoman.

1686 Mr. {Pitts.} The chair thanks the gentlelady.

1687 Before we go to Panel 2, we have one request for a
1688 follow-up for Panel 1. Without objection, we will let Dr.
1689 Cassidy ask that follow-up question.

1690 Dr. {Cassidy.} Thank you. My office had looked into I
1691 think maybe it had been cysteine. And there was a problem
1692 that we heard back from you of endotoxin being in the product
1693 and it was unclear where in the manufacturing process that

1694 endotoxin had been introduced. Now, obviously that is an
1695 issue and frankly, I called my constituent. I said FDA did
1696 the right thing. We don't know whether endotoxin was
1697 introduced. It is very disturbing to me that endotoxin
1698 should be in the product so we are kind of euphemistically
1699 speaking about manufacturing problems but really they are
1700 significant. So is it a pattern? And when we are saying
1701 manufacturing that know there is actually some sort of
1702 contamination such as endotoxin for which in their GMP they
1703 do not know where it is entering. Because that is a process
1704 problem that is of tremendous concern.

1705 Dr. {Kweder.} The answer is yes. That is exactly the
1706 kind of thing that we are concerned about. When you find end
1707 product that has endotoxin in it, the first thing one needs
1708 to do is figure out how that endotoxin is getting in there in
1709 the first place. And there are multiple steps in production
1710 where that could be occurring and figuring it out is not easy
1711 and it can take a very long time to determine that and then a
1712 long time to fix it. And particularly we see this with metal
1713 shavings in medicine, glass shards in vials, all things that
1714 would be unconscionable to give to patients. But the key is
1715 being on top of those good manufacturing practices and
1716 maintaining facilities to avoid those kinds of events. And
1717 where you have facilities that are in 100 percent production

1718 mode all of the time, it is often difficult to maintain your
1719 facilities and modernize them in a way for a company to
1720 assure that they are producing a reliably high-quality
1721 product.

1722 Dr. {Cassidy.} Thank you, Mr. Chairman.

1723 Mr. {Pitts.} The chair thanks the gentleman. I believe
1724 Mr. Pallone has a follow-up as well.

1725 Mr. {Pallone.} Dr. Koh, as Mr. Shimkus said earlier,
1726 classic economics would suggest that when a product is in
1727 demand, prices should rise and the market establish a new
1728 equilibrium, yet we are now in the seventh consecutive year
1729 with more shortages than the year before. I am also curious
1730 why the market has failed to establish an equilibrium because
1731 both Mr. Shimkus and Mr. Guthrie discussed public program
1732 pricing constraints, and as I understand these constraints,
1733 they apply to brand name drugs and not generics. Is that
1734 correct that they only apply to the name brand and not
1735 generics?

1736 Dr. {Koh.} Well, Congressman, those economic issues are
1737 precisely the ones that we are analyzing right now. And we
1738 have especially our assistant secretary for planning and
1739 evaluation and health economists looking at the economic
1740 principles and the modeling that could help us predict where
1741 we need to go in the future. So thank you again for raising

1742 these issues. These are very, very complicated business and
1743 economic models we have come to find.

1744 Mr. {Pallone.} The generic drugs are where we have seen
1745 most of the drug shortages in recent years.

1746 Dr. {Koh.} That is right.

1747 Mr. {Pallone.} I mean if there is that distinction, is
1748 that the problem?

1749 Dr. {Koh.} Well, we do know that is it older generic
1750 sterile injectables that are making up about 3/4 of these
1751 shortages. And so that is where we are indeed focusing our
1752 attention.

1753 Mr. {Pallone.} I don't know if either Mr. Shimkus or
1754 Mr. Guthrie asked you if you said you were going to get back
1755 to them, but, you know, I would really like to get some
1756 answers, you know. I mean obviously you are not prepared or
1757 you don't feel you have an answer today, but I would like you
1758 to get back to us through the chairman if you could.

1759 Dr. {Koh.} I would be happy to, Congressman. So again
1760 I did mention we have an upcoming report from the FDA that is
1761 going to give further economic analyses that are also
1762 intensely underway right now.

1763 Mr. {Pallone.} Is that going to relate to this or you
1764 don't know for sure?

1765 Dr. {Koh.} Hopefully we will get a better understanding

1766 of root causes.

1767 Mr. {Pallone.} Mr. Chairman, if he could get back to us
1768 on that because I know many of us have sort of asked the same
1769 question and I would really like to know.

1770 Dr. {Koh.} Sure. Thank you.

1771 Mr. {Shimkus.} If the chairman would yield just on this
1772 point.

1773 Mr. {Pitts.} Go ahead.

1774 Mr. {Shimkus.} And I thank my friend for following up
1775 on this debate and this question. But in my opening
1776 statements, I didn't just focus on the government pricing. I
1777 did say insurers, too, so I mean we are all kind of in this
1778 together and the market going to work it has got to work. So
1779 I just wanted to just correct the record. I wasn't just
1780 picking on--

1781 Mr. {Pallone.} Oh, no, I understand. I just wanted to
1782 bring up the public program aspect. Whenever, you know, you
1783 can get back to us on it because I think, you know, I mean I
1784 understand to be perfectly honest, I mean a lot of the
1785 questions that we have asked today we have gotten a response
1786 and we have a little better idea, but I almost feel like more
1787 questions have been raised than answered today. And that is
1788 not anybody's fault but that is kind of where I feel we are
1789 right now, Mr. Chairman.

1790 Mr. {Pitts.} All right, thank you. If you will respond
1791 to the questions in writing, we will get those to the
1792 committee members--

1793 Dr. {Koh.} Thank you, Chairman.

1794 Mr. {Pitts.} --and I look forward to reading your
1795 report. The chair thanks the first panel for your--

1796 Dr. {Koh.} Thank you very much.

1797 Mr. {Pitts.} --testimony. Thank you. We will call
1798 this time Panel 2. And our second panel consists of 7
1799 witnesses. Our first witness is Mr. Jonathan Kafer, Vice
1800 President of Sales and Marketing for Teva Health Systems and
1801 testifying on behalf of Teva Pharmaceuticals. Next is Mr.
1802 John Gray, the President and CEO of Healthcare Distribution
1803 Management Association. Our third witness is Kevin Colgan.
1804 He is the corporate director of pharmacy at Rush Medical
1805 Center in Chicago. Our fourth witness is Mr. Mike Alkire,
1806 Chief Operating Officer of Premier, Inc. Next, we will hear
1807 from Dr. Charles Penley, who is testifying on behalf of the
1808 American Society of Clinical Oncology. We also have Mr.
1809 Richard Paoletti, the Vice President of Operations at
1810 Lancaster General Health. And finally Dr. Robert DiPaola,
1811 Director of the Cancer Institute of New Jersey.

1812 We thank all of you for coming. Your written testimony
1813 will be entered into the record. We ask that each of you

1814 would summarize your testimony in 5-minute opening
1815 statements.

1816 And Mr. Kafer, you may begin your testimony.

|
1817 ^STATEMENTS OF JONATHAN M. KAFER, VICE PRESIDENT, SALES AND
1818 MARKETING, TEVA HEALTH SYSTEMS; JOHN GRAY, PRESIDENT AND CEO,
1819 HEALTHCARE DISTRIBUTION MANAGEMENT ASSOCIATION; KEVIN J.
1820 COLGAN, ON BEHALF OF AMERICAN SOCIETY OF HEALTH-SYSTEM
1821 PHARMACISTS, CORPORATE DIRECTOR OF PHARMACY, RUSH UNIVERSITY
1822 MEDICAL CENTER; MIKE ALKIRE, CHIEF OPERATING OFFICER,
1823 PREMIER, INC.; DR. W. CHARLES PENLEY, ON BEHALF OF THE
1824 AMERICAN SOCIETY OF CLINICAL ONCOLOGY, TENNESSEE ONCOLOGY;
1825 RICHARD PAOLETTI, VICE PRESIDENT, OPERATIONS - PHARMACY,
1826 LABORATORY, AND RADIOLOGY, LANCASTER GENERAL HEALTH; DR.
1827 ROBERT S. DIPAOLO, DIRECTOR, CANCER INSTITUTE OF NEW JERSEY,
1828 ROBERT WOOD JOHNSON MEDICAL SCHOOL

|
1829 ^STATEMENT OF JONATHAN M. KAFER

1830 } Mr. {Kafer.} Thank you, Chairman. Chairman Pitts,
1831 Ranking Member Pallone, and distinguished colleagues within
1832 the subcommittee and full committee, thank you very much for
1833 the opportunity to be here today. As referenced by the
1834 chairman, my formal testimony has been submitted to you. I
1835 am more than willing to answer questions specific to that
1836 testimony throughout the questioning period and I will
1837 summarize my remarks in my opening.

1838 I am John Kafer. I am vice president of sales and
1839 marketing for Teva Health Systems representing Teva
1840 Pharmaceuticals. Teva Pharmaceuticals is a global leader in
1841 brand, generic, and biologic pharmaceutical products. We are
1842 a market leader in many of the markets in which we serve.
1843 Here in the United States we are the market leader in generic
1844 products. We have a vast portfolio including many dosage
1845 forms, including oral solid presentations, injectable
1846 presentations, including a significant portfolio of oncology
1847 generic injectable presentations and I look forward during
1848 the questions period to share some insights specific to that
1849 very important category.

1850 As referenced, we are a market leader. Teva is a market
1851 leader and we understand and embrace the responsibility that
1852 does come with being a market leader, and on that context, I
1853 am very happy to be here today.

1854 One side note, as all of us have been, we all have
1855 personal stories as it relates to family, friends, people we
1856 know, individuals that have been impacted by not being able
1857 to get medications. In my particular situation, I have
1858 friends and family as well. Given the role I play, they
1859 reach out to me hoping I may be able to make a difference.
1860 Unfortunately, there is many times I can't and it is very
1861 challenging. At the same time, given the role I play, I hear

1862 from patients, I hear from family members of patients, I hear
1863 from constituents, I hear from physicians looking to the
1864 manufacturer to ask the questions why. And we respond and we
1865 certainly understand that.

1866 And at the same time, I see every day when I go to work
1867 hundreds and hundreds of people working tirelessly around the
1868 clock, sparing no expense to do whatever we can to return to
1869 historical production volumes so that we can get these
1870 critical products back to market.

1871 As referenced in earlier testimony, this is a very
1872 complex multi-stakeholder issue and it is going to require
1873 the coordination and communication amongst all those
1874 stakeholders in order for us to resolve this issue. As noted
1875 in earlier testimony as well, there are many factors that
1876 impact the drug shortage issue, whether it be API being
1877 sourced and available. We have discussed that. The industry
1878 has experienced manufacturing challenges. I will go into
1879 greater detail specific to how it impacts a sterile facility
1880 versus an oral solid facility. And there has been regulatory
1881 impacts on facilities.

1882 As appropriate and as required, the FDA regulates these
1883 complex facilities and these products to assure that the
1884 manufacturing community is operating within full CG&P
1885 compliance ultimately to provide the highest quality of

1886 products to all of us in this room. We understand that and
1887 as a manufacturer, we certainly embrace that.

1888 Most of the shortages, however, are unanticipated.
1889 Those unanticipated shortages can have boomerang effects up
1890 and down the supply chain. And as noted in earlier testimony
1891 as we will get into in greater detail, there are a handful of
1892 manufacturers that sometimes are unable to pick up the lost
1893 supply from another manufacturer, and we will go into detail
1894 around that as well.

1895 What is Teva doing specifically to address some of the
1896 drug shortage issues? We have made a significant investment
1897 in enhancement of our facilities as well as our quality
1898 systems. We have unrestricted access to our resources
1899 globally to prioritize those people in those facilities that
1900 require the work that needs to be done to get the products
1901 back to market. We have embarked on a very aggressive
1902 redundancy plan. There is no requirement to a manufacturer
1903 to have a secondary or tertiary facility qualified to
1904 manufacture these products. We have identified in
1905 combination with drug shortage division those most critically
1906 medically necessary products and we have 5 FDA-approved
1907 facilities and we have put a team in place that is actively
1908 working on redundancy planning for these critical products.

1909 As referenced also from the testimony of Dr. Kweder and

1910 Dr. Koh, there has been extraordinary collaboration within
1911 the FDA branches as it relates to resolving and mitigating
1912 these challenges. I can speak to a couple of different
1913 references. 1) There was a discussion earlier in testimony
1914 around coordination of importation of products to alleviate
1915 critical drug shortages. There was a specific instance in
1916 which we worked with the FDA to bring in a product called
1917 leucovorin that is used in combination with chemotherapy
1918 twofold to enhance the effectiveness of that treatment as
1919 well as to mitigate side effects. We brought it in, we had a
1920 significant amount of resources to work collaboratively with
1921 that, and we were able to help mitigate that problem.

1922 The solutions that we are looking at recognizing it is a
1923 multi-stakeholder issue, I do need to comment that as it
1924 exists today, there is tremendous cooperation within the drug
1925 shortage group and the manufacturing community. As
1926 referenced earlier, there is no formal process. It is an
1927 informal process. And I can speak on behalf of Teva and the
1928 other leading manufacturers in this space that we do all
1929 collaborate with the FDA as testified earlier and we take
1930 that very seriously and we are responding where we can. The
1931 doxorubicin example mentioned earlier, I received a phone
1932 call from York shortage, do what we can. We were able to
1933 work in collaboration with them and get product released to

1934 market and we continue to prioritize those types of products.

1935 During questioning, I would be more than happy to go
1936 into greater detail around how we are seeing the coordination
1937 and the effectiveness and how we would like to see a greater
1938 communication amongst multiple stakeholders beyond the
1939 manufacturer and FDA. Going forward, we had seen discretion
1940 by the Agency deployed to allow earlier availability of key
1941 products. That is working. We would like to see a process
1942 in which we can get that on the front end as well to
1943 potentially mitigate potential problems while incorporating
1944 remedial steps that have no impact or concern to the patient.

1945 I know I am over my time share, so I apologize.

1946 [The prepared statement of Mr. Kafer follows:]

1947 ***** INSERT 2 *****

|
1948 Mr. {Pitts.} The chair thanks the gentleman. Mr. Gray,
1949 you are recognized for 5 minutes.

|
1950 ^STATEMENT OF JOHN GRAY

1951 } Mr. {Gray.} Good morning, Chairman Pitts, Ranking
1952 Member Pallone, and the members of the Energy and Commerce
1953 Subcommittee on Health. I am John Gray, President and CEO of
1954 the Healthcare Distribution Management Association,
1955 Arlington, Virginia. I appreciate the opportunity to come
1956 here today, provide some overview of the pharmaceutical
1957 distribution system and inform your committee on efforts
1958 regarding some critically important issue around drug
1959 shortages.

1960 A little history--HDMA is a national association
1961 representing America's primary healthcare distributors, a
1962 vital link in our Nation's system of healthcare distribution.
1963 Each business day, our 34-member companies ensure that nearly
1964 9 million prescriptions, medicines, and healthcare products
1965 are delivered safely and efficiently to nearly 200,000
1966 pharmacies and clinics, hospitals, nursing homes, and other
1967 providers nationwide. Approximately 90 percent of all
1968 pharmaceutical product sales in the United States flow
1969 through our member companies. Continuous innovation and
1970 operation efficiency have really set our members apart in
1971 trying to annually contribute an estimated about \$42 billion

1972 in value to the Nation's healthcare system.

1973 Now, federal law defines wholesale drug distribution as
1974 ``the distribution of prescription drugs to other than the
1975 consumer or patient.'' Wholesale distributors are licensed
1976 entities that are bound by a range of federal and state laws.
1977 In addition, our distributors must comply with licensure
1978 requirements in every state in which they operate.

1979 It is important to note HDMA members are primary
1980 distributors. I said that earlier; I will reiterate it. But
1981 they buy predominantly from pharmaceutical manufacturers and
1982 sell only to appropriate licensed customers, the vast
1983 majority of which are pharmacies or healthcare providers.

1984 Pharmaceutical products are distributed through a highly
1985 coordinated supply chain in this country to provide maximum
1986 efficiency and effectiveness and safety. Pharmacies and
1987 other healthcare entities generally place orders for
1988 prescription medicines by 8 o'clock in the evening and
1989 receive deliveries from their distributors the next morning.
1990 The average distribution center in this country processes
1991 nearly 2,000 orders a day. On the average, a warehouse
1992 maintains about 30 days of inventory level. This number
1993 varies by product, is subject to demand, seasonality, cost,
1994 and other factors. Pharmaceutical products with special
1995 handling requirements typically have shorter cycle times in

1996 the system.

1997 Distributors provide an array of services for
1998 manufacturers beyond simply the movement of product,
1999 including but not limited to receivables risk management for
2000 the manufacturer, customer validation, order management,
2001 inventory management tracking, processing returns and
2002 recalls, and contract management. For pharmacy and provider
2003 customers, our distributors provide an equal array of
2004 services including aggregate ordering, assistance with
2005 stocking needs, support for information systems and software,
2006 as well as accounting and credit support. In the case of
2007 inventory management, distributors are able to fill customer
2008 orders 6 or 7 days per week, 365 days a year, which limits
2009 the need for large inventory levels at the pharmacy level.

2010 In sum, distributors serve to maximize the efficiency
2011 between manufacturers and healthcare providers by managing a
2012 very complex network of products of systems by efficiently
2013 providing mechanisms for this seamless transformation of
2014 information and product.

2015 Through the unique position of distributors and our
2016 close relationship with all the stakeholders, we are acutely
2017 aware of the impact of drug shortages on patients.
2018 Effectively addressing the drug shortage is difficult and
2019 complex for the entire healthcare community in large part

2020 because the shortage typically appears with little or no
2021 warning and often requires significant resources to manage.
2022 HDMA and our member companies work hard to improve the
2023 communications within the supply chain from manufacturer to
2024 distributor to provider where possible and try to mitigate
2025 the impact of the drug shortage.

2026 Although distributors do not manufacture product, they
2027 do play an important role in helping to coordinate and share
2028 information about drug shortages when those shortages arise.
2029 Distributors are typically notified of a shortage by a
2030 manufacturer or a provider partner. Once that shortage
2031 information is received, distributors communicate with their
2032 manufacturer partners about product availability to
2033 understand the scope and expected duration of any shortage.
2034 Then the distributor works as quickly as possible with
2035 customers to fill orders to the extent they are able to do so
2036 based upon purchasing history or, if necessary, to identify
2037 alternative products in the supply chain. So as you can
2038 appreciate, there is a delicate balance between the need to
2039 share information at the appropriate level, but at the same
2040 time preventing an environment for panicked buying.

2041 HDMA has worked collaboratively with the American
2042 Society of Health System Pharmacists, federal agencies and
2043 the Congress, and other supply chain partners to share

2044 expertise about the whole drug supplies chain. In addition,
2045 we are working with our distributor members and manufacturer
2046 providers to update voluntary industry guidelines on
2047 improving communications between supply chain partners in the
2048 event of shortages. We hope this effort will contribute to
2049 the better management of the process in its entirety.

2050 HDMA strongly believes healthcare industry as a whole,
2051 the government, and stakeholders must continue to work
2052 together towards some collaborative solutions of this problem
2053 that mitigate the impact of the shortages, and most
2054 importantly, the impact on the key stakeholder--the patient.
2055 To that end, I thank you again for this invitation to
2056 participate and I hope the overview has been valuable. And I
2057 look forward to your questions.

2058 [The prepared statement of Mr. Gray follows:]

2059 ***** INSERT 3 *****

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2060 Mr. {Pitts.} The chair thanks the gentleman.

2061 Mr. Colgan, you are recognized for 5 minutes for an opening

2062 statement.

|
2063 ^STATEMENT OF KEVIN J. COLGAN

2064 } Mr. {Colgan.} Good morning and thank you, Chairman
2065 Pitts, Ranking Member Pallone, and distinguished members of
2066 the subcommittee, for holding this hearing. My name is Kevin
2067 Colgan. I am the corporate director of pharmacy at Rush
2068 University Medical Center in Chicago, Illinois. I am here
2069 today because I cannot serve my patients or the caregivers
2070 due to shortages of medications, some of them critical to
2071 patient care.

2072 While there is no single solution that will immediately
2073 solve the problem of drug shortages, there are things we can
2074 do to help address this issue. First, bipartisan legislation
2075 in both houses of Congress would enable FDA to require that
2076 drug manufacturers report confidentially to the Agency when
2077 they experience an interruption in the production of their
2078 product. This early warning system will help the FDA work
2079 with other manufacturers to ramp up production when another
2080 company experiences a problem. Moreover, the bills call upon
2081 FDA to work with manufacturers to develop continuity of
2082 supply plans which could help to identify backup sources of
2083 active pharmaceutical ingredients and produce redundancies in
2084 inventory to serve as reserve supplies.

2085 While some have argued that this legislation won't have
2086 any impact, we disagree. You have already heard this morning
2087 from the FDA that in 2010, 38 drug shortages were avoided,
2088 and last year, 99 drug shortages were avoided when the Agency
2089 was given advance notice. Further, opponents of this
2090 approach argue that it will lead to hoarding. We know that
2091 hoarding already occurs. How do some find out about
2092 shortages before others? We don't know all the answers to
2093 this question. What we do know is that early warning to FDA
2094 will help make sure that everyone has the same information at
2095 the same time. Simply put, the public benefit of an early
2096 warning system far outweighs the risk of hoarding. In other
2097 emergency preparedness areas such as bioterrorism, flu
2098 pandemic, and natural disasters, we develop action plans and
2099 communication channels among necessary responders. Why would
2100 we approach drug shortages any differently?

2101 Second, health-system pharmacists have been
2102 collaborating with other clinicians and members of the supply
2103 chain to work with the FDA to address this problem. For
2104 example, we believe FDA should have and devote necessary
2105 resources to speed up the regulatory process to address drug
2106 shortages. Other alternatives include improved communication
2107 between FDA field personnel and the drug shortages program to
2108 assess the comparative risk of public harm when a potential

2109 enforcement action will cause or worsen a drug shortage;
2110 exploring incentives for manufacturers to continue or to re-
2111 enter the market; a generic user fee program to speed
2112 approvals; and last, ensuring the Agency has the funding it
2113 needs to carry out its mission.

2114 Many of you sitting in this room sometime over the next
2115 several months is going to receive the news that you, family
2116 member, or a friend has been diagnosed with cancer, needs
2117 surgery, has been admitted to an intensive care unit, has a
2118 serious infection that requires an IV antibiotic or antiviral
2119 medication, or has a premature baby or grandbaby that
2120 requires nutritional support. And the last thing you want to
2121 hear is that we don't have first-line medication therapy to
2122 treat you; that the medication we have may not work as well
2123 and could cause heart damage, but it is all we have to offer;
2124 or that we are delaying your treatment until we are able to
2125 obtain drugs that are in short supply. These are all
2126 situations, I, my clinical pharmacy staff, and the
2127 physicians, nurses, and respiratory therapists that we work
2128 with have had to manage over the past year. From our
2129 perspective, drug shortages represent a national healthcare
2130 crisis. We don't have one single solution, but we have
2131 offered a number of solutions that together can help resolve
2132 this problem.

2133 Again, thank you Mr. Chairman, ranking member, and all
2134 members of the committee for the opportunity to provide input
2135 on this problem. Thank you.

2136 [The prepared statement of Mr. Colgan follows:]

2137 ***** INSERT 4 *****

|
2138 Mr. {Pitts.} The chair thanks the gentleman. We are in
2139 the middle of votes. We have 14 votes. We are going to try
2140 to get a couple more before we go and recess for the vote and
2141 we will come back. So Mr. Alkire, you recognized for 5
2142 minutes.

|
2143 ^STATEMENT OF MIKE ALKIRE

2144 } Mr. {Alkire.} Thank you. Good morning, Chairman Pitts,
2145 Ranking Member Pallone, and members of the committee. I am
2146 Mike Alkire, Chief Operating Officer of the Premier
2147 Healthcare Alliance. Premier is owned by not-for-profit
2148 hospitals and health systems. We use the power of
2149 collaboration to lead the transformation to high-quality and
2150 cost-effective healthcare. One of the ways we do this is by
2151 aggregating the buying power of 2,500 hospitals to get the
2152 most effective medical supplies and drugs at the best prices.

2153 I thank the committee for leading efforts to address
2154 drug shortages. As you are aware, the number of drug
2155 shortages has tripled since 2005 and many of these medicines
2156 are essential to patient care. Premier set out to understand
2157 the extent of the problem through a survey. We found that
2158 between July and December of 2010, more than 240 drugs were
2159 either in short supply or completely unavailable in 2010.
2160 Over 400 generic equivalents were backordered for more than 5
2161 days. Many of the drugs noted as backordered in 2010 have
2162 remained unavailable or in short supply in 2011, and 80
2163 percent of the hospitals reported that shortages resulted in
2164 a delay or cancellation of a treatment.

2165 Drug shortages also carry a cost--an estimated \$415
2166 million annually through the purchase of more expensive
2167 substitutes and additional labor costs. We don't have the
2168 ability to estimate the financial impact of shortage drugs
2169 where there are no alternatives. We are working to diminish
2170 these costs by determining manufacturing capabilities to
2171 assess whether a manufacturer can supply the market; we look
2172 for alternatives if capabilities don't meet demand;
2173 instituting an early warning system for hospitals to notify
2174 us of shortages; once notified, we determine the scope of the
2175 problem and communicate with the FDA; and exploring longer-
2176 term contracts with manufacturers to create more predictable
2177 volumes and stability in the market.

2178 In this crisis, we hope people will do everything they
2179 can to help patients get the drugs they need. Instead, we
2180 have seen the gray market vendors taking advantage of a
2181 problem offering to sell shortage products at exorbitant
2182 prices. Premier analyzed unsolicited offers from gray market
2183 vendors on shortage drugs. We compared their prices to
2184 Premier's. We found that average markups were 650 percent
2185 and the highest markup was 4,500 percent. In this case, a
2186 vial to treat high blood pressure that sells for 25.90 was
2187 offered for \$1,200. Markups were 4,000 percent for drugs to
2188 treat leukemia and non-Hodgkin's lymphoma, 3,100 percent for

2189 drugs to help cancer patients to retain bone marrow. Forty-
2190 five percent were marked up 1,000 percent above a normal
2191 price and a quarter were marked up 2,000 percent.

2192 Where and how gray market vendors are getting these
2193 medicines no one knows. And how can the integrity of these
2194 drugs be ascertained? Again, a question that few know. That
2195 is why Premier has taken a position that pharmacies should
2196 avoid these vendors and stick to known primary distributors.
2197 But in times of shortage, pharmacies may need to look
2198 elsewhere. In these cases, we develop a set of best
2199 practices. These practices include verifying the product's
2200 chain of custody, confirming licensure, verifying that a
2201 seller is authorized to sell the product, and confirming that
2202 the seller is a verified, accredited wholesale distributor.

2203 But in our view, the best way to stop price gouging is
2204 to fix the drug shortage crisis. We ask the committee and
2205 the FDA to consider the following: speed the approval process
2206 for medically necessary drugs that appear to be in shortage;
2207 encourage FDA to engage stakeholders in discussions
2208 determining whether a drug is medically necessary--the
2209 objective is to prioritize drugs that are necessary for
2210 treatment and also may be at risk for shortages--grant the
2211 DEA flexibility to adjust quotas that are limiting the amount
2212 of active ingredients manufacturers may purchase for

2213 controlled substances, thus limiting their ability to ramp up
2214 production when a supplier exits the market; fast-track
2215 approvals of new active pharmaceutical ingredient suppliers
2216 for medically necessary drugs in shortage; work with
2217 manufacturers to slow the trend of acquiring raw materials
2218 outside the U.S.; require manufacturers to notify the FDA of
2219 planned supply interruptions--this will allow time to work
2220 with remaining manufacturers to increase production--and
2221 establish an early warning point of contact at the FDA.

2222 In closing, I thank the committee for the opportunity to
2223 share what we have learned about drug shortages and the
2224 alarming impact it has on the safety and health of our
2225 communities, as well as our healthcare costs. Premier stands
2226 ready to assist Congress in finding ways to ensure a safe,
2227 reliable drug supply.

2228 [The prepared statement of Mr. Alkire follows:]

2229 ***** INSERT 5 *****

|
2230 Mr. {Pitts.} The chair thanks the gentleman. And
2231 again, we appreciate your patience. We have got 5 minutes
2232 left for a vote. I think we will break here and come back as
2233 soon as the last vote is over and continue the testimony.

2234 The chair recognizes Mr. Pallone.

2235 Mr. {Pallone.} Mr. Chairman, I just wanted to ask
2236 unanimous consent to submit the written statement for the
2237 record of Congressman Matheson.

2238 Mr. {Pitts.} Without objection, so ordered.

2239 [The prepared statement of Mr. Matheson follows:]

2240 ***** COMMITTEE INSERT *****

|
2241 Mr. {Pitts.} At this point, the subcommittee stands in
2242 recess until after the last vote.

2243 [Recess.]

2244 Mr. {Pitts.} The subcommittee will come to order.
2245 Again, I apologize for the schedule and I appreciate very
2246 much your patience and your thoughtful testimony. We will
2247 resume the testimony with Dr. Penley. I believe you are up
2248 next, so you have 5 minutes.

|
2249 ^STATEMENT OF DR. W. CHARLES PENLEY

2250 } Dr. {Penley.} Good afternoon, Chairman Pitts, Ranking
2251 Member Pallone, and the remainder of the subcommittee. I am
2252 Charlie Penley, and I am a practicing oncologist in
2253 Nashville, Tennessee. I spend the majority of my time taking
2254 care of patients, and this is why I am pretty uncomfortable
2255 in this environment. But I am here today to talk about the
2256 impact of drug shortages on my patients. I speak today on
2257 behalf of the American Society of Clinical Oncology. Our
2258 30,000 members and their patients thank you for holding this
2259 hearing. Drug shortages have indeed reached crisis
2260 proportions in oncology. We hope that this hearing will
2261 better frame potential solutions.

2262 ASCO is hearing from practices all around the country,
2263 large and small, community-based and hospital-based practices
2264 who are having challenges treating their patients. The
2265 situation, as you have heard this morning, is worsening.
2266 Drug shortages in the United States have tripled since
2267 2005/2006. Almost all cancer types are affected--leukemia,
2268 lymphoma, breast cancer, ovarian cancer, testicular cancer,
2269 and colon cancer. Shortages are indeed forcing us to change
2270 the way we treat our patients. Often, a drug in short supply

2271 is potentially curative. There is no reasonable substitute.

2272 Our practice treats many patients who have been
2273 diagnosed with acute myelogenous leukemia, AML. It is a
2274 life-threatening but potentially curable disease.
2275 Cytarabine, as you have heard, is one of the essential
2276 components of treatment for AML but that agent has been and
2277 remains intermittently in short supply today. Physicians
2278 have been forced to tell patients that this potentially
2279 curative drug is not immediately available to them.
2280 Treatment delay can result in grave consequences in these
2281 critically ill patients.

2282 In other situations, there are alternative drugs, but
2283 they are less effective, they have more side effects, or they
2284 are dramatically more expensive. For example, the standard
2285 treatment for non-Hodgkin's lymphoma is known as the CHOP
2286 regimen. CHOP chemotherapy includes doxorubicin, which has
2287 been and is in shortage. A colleague shared the story of a
2288 young woman who was recently diagnosed with lymphoma during
2289 pregnancy. Now, that is a very complex situation which
2290 fortunately doesn't happen very often, but it involves
2291 potential risks for both the mother and the child. Because
2292 of the doxorubicin shortage, the woman had to be treated with
2293 a substitute, one for which the risk for the baby is not as
2294 well known and which may be less effective treatment for her

2295 lymphoma. Oncologists and patients should not have to make
2296 such difficult choices.

2297 I am currently treating a national firefighter who has
2298 an advanced gastrointestinal cancer and who was responding to
2299 5-FU based chemotherapy. Earlier this summer, we were unable
2300 to obtain 5-FU and had to use an alternative regimen, which
2301 both caused him more personal side effects and significantly
2302 increased his out-of-pocket cost.

2303 The price of substitute drugs can be up to 100 times
2304 more expensive than the drug normally chosen, especially if
2305 the substitute is a brand name drug. As an example, when the
2306 mainstay generic drug leucovorin went into shortage,
2307 oncologists had to treat patients with the substitute,
2308 levoleucovorin. Medicare payment for 50 milligrams of
2309 leucovorin is \$1.25. An equivalent dose of levoleucovorin is
2310 approximately \$90.

2311 The clinical trials infrastructure in this country is
2312 threatened by drug shortages as researchers alter or delay
2313 trials because the drug that is part of the study becomes
2314 unavailable. As many as 60 percent of clinical trials have
2315 been delayed, this at a time of great promise in cancer
2316 research.

2317 We understand that there are many causes of this
2318 problem, a number of them involving the manufacturing

2319 process. However, market factors appear to be a key driver
2320 in this rapidly escalating crisis. Shortages in cancer drugs
2321 are almost exclusively in generic sterile injectables, which
2322 are generally inexpensive drugs with a very low profit
2323 margin. Companies that experience manufacturing
2324 complications may not have the incentives to invest resources
2325 required to upgrade facilities or to correct quality
2326 problems.

2327 As we have heard, there does not appear to be a single
2328 solution to the crisis. Our primary expertise is in patient
2329 care, but we would offer these potential solutions, which we
2330 would encourage the committee to explore. First, Congress
2331 should urge expedited abbreviated new drug applications, or
2332 ANDAs, for drugs vulnerable to shortage in a way that does
2333 not compromise safety. Secondly, because this amounts to a
2334 public health crisis, Congress could work with Medicare to
2335 address pricing and payment for ultra-low-cost generic drugs.
2336 Third, Congress should pass S. 296 and H.R. 2245, bipartisan
2337 legislation that would give the FDA increased authority to
2338 manage the shortages. Fourth, consider tax incentives to
2339 encourage or enable generic manufacturers to continue to
2340 produce vital drugs, update their facilities, or enter the
2341 market to produce the drugs vulnerable to shortage.

2342 Mr. Chairman, ASCO has been and will remain an active

2343 partner in seeking resolution to the problem. The stress of
2344 dealing with a cancer diagnosis and the risks of necessary
2345 treatment is a heavy enough burden for patients and families
2346 to bear. It is absolutely unacceptable that the lack of
2347 effective oncologic therapeutics should add to that stress,
2348 or worse, threaten lives. We must do everything in our power
2349 to resolve this crisis, and we should do it immediately. We
2350 appreciate your leadership on this issue, and we stand ready
2351 to do everything that we can to assist. Thank you very much.

2352 [The prepared statement of Dr. Penley follows:]

2353 ***** INSERT 6 *****

|
2354 Mr. {Pitts.} The chair thanks the gentleman and now
2355 recognizes the gentleman from Lancaster, Mr. Paoletti.

|
2356 ^STATEMENT OF RICHARD D. PAOLETTI

2357 } Mr. {Paoletti.} Good afternoon. I want to thank the
2358 committee for convening this hearing and for the opportunity
2359 to participate in this important discussion. My name is Rich
2360 Paoletti, and I am vice president of operations at Lancaster
2361 General Health in Lancaster, Pennsylvania. My comments today
2362 will address the daily challenges hospitals, patients, and
2363 providers are experiencing as a result of increasing drug
2364 shortages occurring nationwide.

2365 In the current healthcare climate, hospitals are being
2366 asked to restructure to meet the quality, safety, fiscal
2367 constraint, and community-benefit standards expected in
2368 today's world. Our resources are being stretched to the
2369 limit. Ongoing drug shortage challenges at Lancaster General
2370 are further taxing and diverting those resources to respond
2371 to the almost-daily patient impacts these shortages create.
2372 This pattern is increasingly becoming the norm for hospitals,
2373 physician practices, emergency responders, and most
2374 importantly, patients everywhere.

2375 At Lancaster General, we work hard to maintain a culture
2376 of quality and patient safety largely based on fundamental
2377 building blocks of standardization through elimination of

2378 waste and variability. In direct conflict with these safety
2379 practices, drug shortages add variability, complexity, and
2380 additional burden, increasing the possibility of medication
2381 misadventure, poor outcomes, and patient harm.

2382 The lack of an early warning system regarding impending
2383 shortages is one of the greatest challenges we face as
2384 healthcare providers, such that sometimes learn about
2385 shortages or their severity when products are not received in
2386 our daily shipments.

2387 A review of our drug wholesaler orders last month
2388 revealed receipt of only 3,452 of the 4,344 line items orders
2389 processed, representing a fill-rate of about 80 percent. In
2390 other words, 892 line items ordered in August were not
2391 received. Every disruption to medication supply creates new
2392 responsibilities to investigate alternative treatments and
2393 evidence to update protocols, procedures, and various
2394 technologies. Additionally, we must disseminate effective
2395 education on alternatives not always readily familiar to
2396 frontline caregivers. In our fast-paced, complex
2397 environment, every substitution adds variation and risk.

2398 These logistical tasks consume significant dedicated
2399 hours from multiple stakeholders and staff working
2400 collaboratively on detailed plans to maintain safety, while
2401 requiring execution in limited timeframes. This means

2402 working with anesthesiologists and emergency physicians in
2403 contemplating how we might maintain airway in a patient
2404 presenting to the trauma center without the availability of a
2405 paralyzing agent; neonatologists considering how we may best
2406 provide nutritional care to compromised premature infants;
2407 infectious disease specialists searching for alternative
2408 anti-infectives; and oncologists discussing alternative
2409 treatment regimens midway through a course of therapy; and
2410 more importantly, how we will reveal to patients that we may
2411 not have the medication necessary to treat their ailments.
2412 In our opinion, this issue represents the national healthcare
2413 crisis.

2414 Relieving and minimizing avoidable drug shortages
2415 requires both short-term interventions and longer-term,
2416 permanent solutions. These potential solutions require
2417 system changes and increased capacity, including the
2418 following: establish an early warning system as proposed in
2419 bipartisan legislation currently in both Houses of Congress
2420 to immediately help to avert or mitigate drug shortages
2421 proactively; establish and improve communications between the
2422 FDA and manufacturers to develop evidence-based allocation
2423 plans for critical drug therapies; secure the pharmaceutical
2424 supply chain; and direct available supplies to our most
2425 critical patient populations; explore incentives to encourage

2426 drug manufacturers to stay in, reenter, or initially enter
2427 the market critical to specific drugs in short supply. These
2428 could include creation of a fast-track for approval of new
2429 production lines, alternative manufacturing sites, or new
2430 suppliers of raw materials for medically necessary drugs in
2431 shortage or vulnerable to shortage without compromising the
2432 quality and safety.

2433 Again, I want to thank the committee for holding this
2434 hearing. Lancaster General Health offers its continued
2435 support and commitment to assist in the development of
2436 solutions that will help to prevent and mitigate risks caused
2437 by drug shortages. Thank you.

2438 [The prepared statement of Mr. Paoletti follows:]

2439 ***** INSERT 7 *****

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2440 Mr. {Pitts.} The chair thanks the gentleman.

2441 Dr. DiPaola, you are recognized for 5 minutes for your

2442 statement.

|
2443 ^STATEMENT OF DR. ROBERT S. DIPAOLOA

2444 } Dr. {DiPaola.} Thank you. Good afternoon, Chairman
2445 Pitts and Ranking Member Pallone and members of the
2446 subcommittee. My name is Dr. Robert DiPaola. I am director
2447 of the Cancer Institute of New Jersey, the State of New
2448 Jersey's National Cancer Institute-designated Comprehensive
2449 Cancer Center. I also speak as a member of the American
2450 Association for Cancer Research (AACR) and its Science Policy
2451 and Legislative Affairs Committee. Thank you for convening
2452 this hearing and recognizing the impact that the current drug
2453 shortage problem is having on our patients and on our ability
2454 to advance cancer research and improve patient outcomes.

2455 You have heard about the effects of drug shortages on
2456 treating patients. As the director of an NCI-designated
2457 Comprehensive Cancer Center and a medical oncologist myself
2458 who treats and cares for patients, I have the same
2459 frustrations regarding the care of our patients and the
2460 negative impact of drug shortages. This impact is not only
2461 immediate for the patients in our clinics today, but also
2462 affects the future care of cancer patients because the next
2463 generation of cancer therapy is driven by today's clinical
2464 trials that are critical to meeting the national goal of

2465 improving the outcomes for cancer patients. Shortages of
2466 drugs is actually--as you know and you heard today--a very
2467 complex problem.

2468 There are a number of ideas regarding what is causing
2469 them, and how they can be remedied. I am here today to
2470 discuss how this growing problem of shortages of already
2471 approved drugs, which in some cases, as you have heard, have
2472 been used and made for decades, is affecting our best cancer
2473 care, our clinical trials, and is threatening our ability to
2474 continue on our trajectory of steadily improving cancer
2475 patient outcomes.

2476 FDA statistics show that the number of drug shortages
2477 has more than tripled over the past 6 years, with a marked
2478 increase in drugs involving sterile injectables, which
2479 negatively impacts the treatment of cancer patients--again as
2480 you have heard--that most shortages in oncology are sterile
2481 injectables. The medications in short supply include cancer
2482 treatment drugs, anesthetics, antimicrobials, and pain
2483 medications. A list maintained by the American Society of
2484 Health-System Pharmacists recently identified 193 shortages
2485 in 2011, of which 22 are cancer drugs, and the shortage is
2486 predicted to worsen. These include drugs that are the
2487 standard treatment regimens used to treat patients with many
2488 different cancers in adults and in children.

2489 These shortages are now affecting clinical trial options
2490 for patients with cancer. Due to the uncertainty of being
2491 able to obtain many of these drugs, enrollment of patients on
2492 clinical trials has been delayed or stopped in several of our
2493 trials. Many of these drugs that are in short supply are a
2494 part of the standard regimens in which new treatments are
2495 added or compared to within a clinical trial. Many of the
2496 drugs on the shortage list are also used in our large
2497 national cooperative group trials. The Coalition of Cancer
2498 Cooperative Groups reports that approximately 50 percent of
2499 active cooperative group cancer clinical trials involve drugs
2500 subject to shortages. Many reports contain examples in which
2501 sites are unable to enroll patients on approved clinical
2502 trials due to a lack of drug supply. Investigators in these
2503 clinical studies are unable to enroll new patients when the
2504 drug supply is not available; patients on-study are sometimes
2505 receiving alternate drugs when supply is not available, and
2506 there is concern about interpretation of results when drug
2507 substitutions occur.

2508 It is important to remember that the impact from the
2509 drug shortages on clinical trials today will also have a
2510 long-term effect on cancer research and future treatment
2511 options for cancer patients. Clinical trials represent the
2512 final step of a long process of developing new therapies that

2513 improve the outcome of patients and add treatments for
2514 patients in which there were no effective prior options.

2515 When, after years of effort, a single researcher
2516 discovers a potential new drug or treatment, that particular
2517 new drug is often best added to an existing treatment in
2518 combination and/or tested in comparison to the best current
2519 treatment in a clinical trial. If that trial yields positive
2520 results, patients can ultimately have access to a new and
2521 improved drug or treatment combination. Currently, however,
2522 we are running out of many of the existing drugs. When a
2523 clinical trial runs out of a drug, even temporarily, the
2524 trial results may be compromised, and an enormous amount of
2525 work and expense is wasted. This means that during a
2526 clinical trial, a shortage of only a few weeks in an existing
2527 drug might mean delays in years for developing a new drug.
2528 In other words, the drug shortages of today can have a ripple
2529 effect on the availability of new drugs and treatment
2530 combinations tomorrow.

2531 Today, we estimate that 1 in 2 men and 1 in 3 women will
2532 develop cancer in their lifetimes. This year, over 1.5
2533 million Americans are estimated to be diagnosed with cancer
2534 and more than half a million Americans are expected to die of
2535 their disease. That is more than 1,500 people a day or more
2536 than 1 per minute. While these numbers seem staggering, we

2537 have made great strides in our ability to diagnose, treat,
2538 and prevent cancer and are at a most promising time in cancer
2539 research.

2540 Earlier this week the American Association for Cancer
2541 Research issued a progress report marking 40 years of
2542 progress in fighting cancer. In fact, thanks to advances
2543 made in cancer research, today more than 68 percent of adults
2544 are living 5 or more years, which increased from 50 percent
2545 in 1975. It was also reported that in the period from 1990
2546 to 2007, death rates for cancer in the U.S. decreased by 22
2547 percent for men and 14 percent for women.

2548 The challenge we now face is to continue to turn
2549 groundbreaking science into lifesaving care at even greater
2550 speed. By facilitating clinical trials, we lay the
2551 groundwork for discoveries in basic cancer research to be
2552 translated into cutting-edge treatments for cancer patients.

2553 The current drug shortage is hindering our ability to
2554 treat cancer patients overall. We are entering a new era of
2555 cancer treatment and prevention. However, an inability to
2556 have best treatment for our patients in general and conduct
2557 clinical trials is a serious impediment to our goal and will
2558 hamper our ability to reduce the toll of cancer for the
2559 people of our Nation.

2560 Thank you.

2561 [The prepared statement of Dr. DiPaola follows:]

2562 ***** INSERT 8 *****

|
2563 Mr. {Pitts.} The chair thanks the gentleman and thanks
2564 all of our 7 witnesses for your thoughtful testimony. And we
2565 will begin questioning at this time. I recognize myself for
2566 5 minutes for that purpose. Let me begin with you, Mr.
2567 Paoletti. A couple of questions. Can you walk us through
2568 what happens from your perspective when there is a drug
2569 shortage? Who notifies you? How much warning do you get?
2570 What do you need to do to notify the people in your
2571 organization?

2572 Mr. {Paoletti.} It differs in every instance, but like
2573 I said, a lot of times we find out when a drug order doesn't
2574 come or our buyer-and-receiving process, through the
2575 receiving process, we learn that we didn't get a medication
2576 on order. The buyer then has to follow up with the
2577 wholesaler to find out if that is a temporary outage, when we
2578 would maybe next expect that, and then that would relay into
2579 an investigation of more than probably for us 100 to 150
2580 inventory locations in automated cabinets throughout our
2581 facility. So we look at what we have on hand, how much we
2582 continually use on a day-to-day basis, and estimate how much
2583 supply we would have if we continued business as is.

2584 Based on that and the information we get, we have to
2585 convene a team. It is typically pharmacists, nurses, the

2586 specific stakeholder physicians depending on what medicinal
2587 it is. We look at the indications, we look for alternative
2588 therapies that we may have available to us, and kind of
2589 assess how critical the nature of the shortage is. And then
2590 based on that, we have to create action plans. Sometimes it
2591 involves the pharmacy manually preparing specific minimal
2592 doses of medications to make our supply last as long as
2593 conceivably possible. That was the case with one instance
2594 last October that to me was the tipping point of the drug
2595 shortages with a drug called succinylcholine. We came down
2596 to the last couple days of therapy and really contemplating
2597 cancelling surgeries and, you know, how we would, you know,
2598 manage those situations.

2599 Mr. {Pitts.} Is there any way at present for you to
2600 anticipate a shortage?

2601 Mr. {Paoletti.} Through some online web sources, as
2602 good as the information is based on what the drug companies
2603 reveal and what is published, we have an active surveillance
2604 program now that goes out to the FDA website, that goes out
2605 to ASHP resources to look at that information, which
2606 sometimes is published with alternatives. So the University
2607 of Utah's Drug Information Center has been very helpful in
2608 that regard, but it is only as good as the information that
2609 is available. And a lot of times, no information exists

2610 until we self-report that we are having difficulty.

2611 Mr. {Pitts.} Thank you. Let us just go down the line.

2612 Mr. Kafer, from your company's experience, what are the main
2613 reasons for a drug going into shortage and how does your
2614 company work with FDA to notify them of the shortage?

2615 Mr. {Kafer.} From a notification standpoint, our
2616 primary point of contact when we become aware of a shortage
2617 for any number of reasons we could have had a manufacturer
2618 lot rejected during release testing. And what that means is
2619 after you finish your manufacturing process, every injectable
2620 goes through about a 3- to 4-week series of tests. If those
2621 tests fail for quality reasons or not meeting a
2622 specification, you reject that lot. If we anticipate a
2623 shortage, our primary point of contact continues to be FDA
2624 drug shortage. As testified this morning by Dr. Kweder, I
2625 think the point was made that they do not immediately post
2626 that information because that can trigger additional behavior
2627 where the awareness of the potential shortage could lead to
2628 purchasing of another generic product or even another
2629 comparative therapy which can drain those supplies as well.
2630 So we coordinate directly with the drug shortage group and
2631 then we coordinate with our hospital partners and our
2632 distribution partners.

2633 Mr. {Pitts.} And how have you worked with the FDA to

2634 alleviate a shortage?

2635 Mr. {Kafer.} We have worked extremely well with the
2636 FDA. There has been many instances in which we have
2637 collaborated. I think through the drug shortage group, they
2638 have been playing quarterback on this. I think we mentioned
2639 earlier this morning, it is not a formal process, but they do
2640 a fantastic job in pulling instances together. There has
2641 been at least 3 occasions where we had submitted a prior
2642 approval supplement, and by definition of that, that is an
2643 extensive review that indicates that we have had significant
2644 changes to a product or process which would typically take
2645 long, but they have been able to expedite those reviews and
2646 get those approved in about a 3-month period that allowed us
2647 to get those critical products to market.

2648 Mr. {Pitts.} Thank you. Mr. Gray, can inventory
2649 management practices create the impression of a drug shortage
2650 and how do distributors and others work to avoid that
2651 situation?

2652 Mr. {Gray.} Well, inventory management practices or
2653 just-in-time or whatever you want to call it, those are
2654 actually across the supply chain from just-in-time production
2655 to just-in-time delivery. Our members focus on the delivery
2656 side, the manufacturers on the production side. And that
2657 actually is a process developed over the last 25 years in the

2658 consumer goods area, which is really to spread out the
2659 predictability of manufacturing, as well as altering both the
2660 manufacturer, the wholesaler, and the retailer or pharmacy
2661 when product potentially is short. It is more real-time
2662 information across. So the reality is the inventory
2663 management programs are really there to spot the shortages
2664 potentially before they happen, and that is really what has
2665 been developing since the late 1980s from the food industry
2666 into the pharmaceutical industry.

2667 So I am not sure there is a connection there. I have
2668 heard that today. If you really look at the science of that,
2669 the mentality behind those is really to identify those
2670 shortages early on.

2671 Mr. {Pitts.} Now, when a secondary distributor
2672 purchases a drug product, they often pay more than the
2673 primary distributor would pay. So if they then charge more
2674 for the drug, they are simply responding to market, aren't
2675 they? This is not a gray market practice, is it? Can you
2676 contrast that with the gray market?

2677 Mr. {Gray.} I can't speak to the secondaries. I know
2678 our members, our 34 primary wholesalers, we are buying
2679 directly from manufacturers, and then we sell only to state-
2680 licensed entities, be that a secondary distributor, a
2681 hospital, pharmacy, or whatever. And so usually we are under

2682 contract pricing with the manufacturers for those products.
2683 So if we are selling them on down to a provider, it is
2684 usually a contract price already preset. What a secondary
2685 would do with that product, I do not know. In terms of
2686 pricing, I have no information on that.

2687 Mr. {Pitts.} Thank you. Mr. Colgan, in your testimony,
2688 you state that there is no one solution to this problem;
2689 however, you stress the importance of enacting legislation to
2690 require manufacturers to notify FDA of possible shortages.
2691 Can you explain why this requires legislation to accomplish
2692 and why it needs to be done on a confidential basis?

2693 Mr. {Colgan.} Sure. I think when there is a leak or a
2694 hole in the dam, I think you need to stick your finger in it
2695 first to stop the leak, and then you need to explore what the
2696 reason is for it, and then you need to solve the problem.
2697 What this legislation really does is sticks your finger in
2698 the hole in the dam to stop the leak. And basically we have
2699 heard from testimony today from the FDA that they have been
2700 able to basically abort 99 drug shortages this year with
2701 regards to early warning systems. So we believe that is
2702 needed.

2703 I am definitely not in favor of regulation when
2704 regulation isn't needed, but honestly, anything that I am
2705 putting in my body or my mouth, I want to make sure that it

2706 is manufactured in the right way, it is done correctly. And
2707 certainly, we support the FDA in terms of their role in
2708 protecting drug safety within this country. Needless to say,
2709 they need to be able to have the power and the jurisdiction
2710 to enforce early reporting of drug shortages.

2711 And the other thing that I said I think was really most
2712 important is get the word out to everybody at the same time.
2713 It is beyond me sometimes that others have drug product when
2714 I don't have drug product. When drugs come back onto market,
2715 there are only certain places that you can get those drugs
2716 from and you can't get it from your normal supply chain. So
2717 again, I think we need regulation in order to solve the
2718 problems that we have at hand.

2719 Mr. {Pitts.} Thank you. Mr. Alkire, we have heard that
2720 often the end users of drugs that go into shortage have very
2721 little advanced warning. For example, a surgeon may find out
2722 that the preferred anesthetic drug is not available only
2723 after the patient is prepped and on the operating room table.
2724 How does this happen? How do hospitals give warning of
2725 shortages to their own doctors?

2726 Mr. {Alkire.} For the most part, now, I have not
2727 necessarily heard that, but for the most part, there is very
2728 strong communication that actually occurs in the hospitals
2729 and doctors are made aware of what is happening from a

2730 shortage, especially as they are doing prep for these
2731 procedures. And then they have to go about figuring out what
2732 are the potential clinical alternatives to ensure that their
2733 patients are getting the highest quality care.

2734 Mr. {Pitts.} Okay. Dr. Penley, how many drugs that you
2735 use in your practice regularly go into shortage? It appears
2736 that there are a finite number of drugs that regularly go
2737 into shortage.

2738 Dr. {Penley.} The current number for oncology drugs is
2739 around 23 I believe, and those are very commonly used agents.
2740 So we would use most of them in our practice on a day-in,
2741 day-out basis.

2742 Mr. {Pitts.} And is there any way at present for you to
2743 anticipate a shortage?

2744 Dr. {Penley.} On a practice level, it is difficult. We
2745 get information the same way most of these folks do, through
2746 the FDA website or the hospital pharmacist website. ASCO,
2747 our national organization, serves primarily as an
2748 information-gathering and distributing service there for our
2749 members, and certainly at times when we see that they are
2750 going to be prolonged shortages, ASCO convenes expert panels
2751 to try to brainstorm and come up with the best available
2752 work-arounds in situations where we have to make
2753 substitutions. We try to bring together the best minds in

2754 oncology so that they can come up with workable and
2755 reasonable solutions for our patients when we know that those
2756 drugs are going to be in shortage for any length of time.

2757 Mr. {Pitts.} Thank you. Dr. DiPaola, your description
2758 of the impact of drug shortages on future cancer patients
2759 because of clinical trials may have to be stopped or not
2760 started in the first place is quite compelling. You mention
2761 that 50 percent of the cooperative group trials involve drugs
2762 that are subject to shortage. That sounds like it should
2763 have a devastating effect on cancer research. Could you give
2764 us an idea of the magnitude of this problem?

2765 Dr. {DiPaola.} I think that it is, you know, as we are
2766 all concerned with, you know, the shortage even worsening and
2767 already we are seeing a number of trials even with our cancer
2768 center as an NCI-designated Comprehensive Cancer Center, we
2769 take care of patients with both the best standard treatments
2770 and then offer clinical trials for patients who want that
2771 option. And those clinical trials are geared towards our new
2772 discoveries of new regimens. If a clinical trial is
2773 compromised because it needed to substitute a particular drug
2774 for another drug or, in some cases, clinical trials won't
2775 allow a substitution, all of the work that went into the
2776 discovery getting to the point of the clinical trial is going
2777 to be compromised.

2778 And so, you know, we have made gains on cancer research
2779 overall, but ultimately, the discoveries in terms of the
2780 targets in the lab, the drug development, and then either the
2781 comparison to these existing drugs or the addition of these
2782 new targeted agents to existing drugs make it very, very
2783 difficult to continue this. And I agree, you know, those
2784 statistics relate to data we have been given regarding the
2785 cooperative group trials. Those are usually the large
2786 national trials that do comparisons. And nowadays, most of
2787 the trials don't contain a placebo, so at least the existing
2788 drug is part of the clinical trial. So this already is a
2789 very difficult and concerning problem, and the way the stats
2790 are looking, may worsen.

2791 Mr. {Pitts.} Thank you. I have gone way over my time.
2792 I thank the ranking member for his indulgence and I will
2793 yield to Mr. Pallone for such time as he may consume.

2794 Mr. {Pallone.} Thank you, Mr. Chairman. Let me ask
2795 unanimous consent to put in the record this statement from I
2796 guess the Fight Colorectal Cancer Group on the U.S. drug
2797 shortage. You have it.

2798 Mr. {Pitts.} Without objection, so ordered.

2799 [The information follows:]

2800 ***** COMMITTEE INSERT *****

|
2801 Mr. {Pallone.} And I am going to just go back to what
2802 you said, Mr. Chairman, or follow up on what you asked Dr.
2803 DiPaola, who, as you know, is from my district. The Cancer
2804 Institute is in New Brunswick in my district.

2805 Do you have an example of a clinical trial that was
2806 halted at the Cancer Institute because of the drug shortage?
2807 Is there an actual example at the Cancer Institute of New
2808 Jersey where you had to halt because of the drug shortage?

2809 Dr. {DiPaola.} Yes. I mean there are actually a number
2810 of examples, trials that we were about the launch that we
2811 have made, you know, the plans and development to start a
2812 clinical trial. Most of them, Congressman Pallone, have to
2813 do with trials where a new drug is added to existing
2814 therapies. And we have had difficulties in at least 1 or 2
2815 trials where a new drug was added to a combination that
2816 included TAXOL as one particular example. And the trial was
2817 held in terms of initiating the trial. What ends up
2818 happening is is in the clinic, we then have concern in
2819 offering patients who actually come to the center looking for
2820 these new options in terms of clinical trials, the trial when
2821 we are not assured of the, you know, particular drug supply.

2822 There was another trial where a young patient with
2823 breast cancer was enrolled where Doxil was included, along

2824 with another set of combination of drugs, and it required
2825 amendment to the trial to allow the patient to be treated, to
2826 change the drug from Doxil to another agent, which again has
2827 concerns about compromising the trial, and again the delay
2828 involved in trying to look at options and then even change
2829 the drug because in that case the trial allowed.

2830 And then in a number of cases, delayed trials where
2831 doxorubicin was part of the regimen, again with a novel what
2832 is called PARP inhibitor, which in the case I am referring to
2833 is an NCI trial that was delayed. So all of these, you know,
2834 taken together, any one of these, you know, weeks, months
2835 delays really delay us getting an answer. And more
2836 importantly, patients are coming because they are concerned
2837 that in that case the standard option may not be what they
2838 are looking for enough and they are looking for these options
2839 in clinical trials.

2840 Mr. {Pallone.} Sure. I mean just give me an idea. I
2841 mean how do you think the drug shortage impacts the future of
2842 cancer research and treatment? I mean are you concerned and,
2843 you know, just in an overall sense?

2844 Dr. {DiPaola.} Well, I mean I think, you know, it is
2845 going to be important and that is why I think this is
2846 important that everybody get together in a collaborative way
2847 to look at all of the root causes and come up with solutions

2848 because it is concerning, especially if it does worsen. And
2849 at least as statistics would indicate that it is. So I think
2850 it is concerning. I think that we need to keep pushing
2851 forward in all areas of research. I mean as you know well,
2852 you know, it includes the discovery on the basic science end
2853 leading into the efforts of translating into clinical trials.
2854 But it is concerning, especially with the statistics that we
2855 are seeing.

2856 Mr. {Pallone.} Okay, thank you.

2857 I wanted to ask Mr. Kafer from Teva a couple things. A
2858 frequent cited reason for shortages is manufacturing
2859 problems, and of course we have heard that sterile injectable
2860 drugs are hard to manufacture. So if your supplier, I guess,
2861 has a problem, that can lead to a shortage. So obviously,
2862 there are circumstances outside of your control that can
2863 interfere with your ability to deliver a product. I mean are
2864 these problems unique to the drugs prone to shortages? For
2865 example, are all sterile injectable drugs prone to shortage
2866 or is there something about these drugs that makes
2867 controlling their manufacture more difficult? Are there
2868 things manufacturers can do to avoid these problems?

2869 Mr. {Kafer.} I think one of the things you need to
2870 understand from a complexity standpoint, by the nature of a
2871 sterile manufacturing facility, it is sterile and it is a

2872 very complex manufacturing environment. Picture if you will
2873 people in spacesuits kind of doing the prep work. If you are
2874 in an oral solid manufacturing facility, it is much
2875 different. So there is more complexity.

2876 The other thing within a manufacturing facility, each
2877 technology has its own defined manufacturing line or
2878 manufacturing suite. For instance, you cannot manufacture
2879 cytotoxic oncology products on the same line you would manage
2880 hormones or something of that nature. Many of the products,
2881 some of them are lyophilized, which is a powder that has a
2882 very unique manufacturing suite. And a liquid fill line is
2883 also a very unique manufacturing suite. So it is possible
2884 that within one manufacturing facility, you have a disruption
2885 in just one suite, one of those technologies. And one of the
2886 questions we have heard repeatedly from the panel is specific
2887 to oncology, and it is a very dynamic complex environment.
2888 And unfortunately, over the last couple of years, industry
2889 has had some disruptions within those manufacturing suites
2890 that we are in the stages of recovery so we are manufacturing
2891 product, but we are in a slow build and it is impacting,
2892 obviously, patients as the panel has testified today.

2893 Mr. {Pallone.} Of course, we always worry not only
2894 today but in so many cases about active ingredients in drugs
2895 sold in the United States that are supplied from abroad. So

2896 I guess I am, you know, asking you to what extent that is
2897 problem and, you know, in the wake of heparin, of course,
2898 there is major concern about cracking down on some of the
2899 ingredients that are sold abroad. I mean to what extent does
2900 the availability of these ingredients from abroad impact this
2901 discussion today? I mean it is very likely that, you know,
2902 we put a lot more regulation and make it more difficult for
2903 things to come from abroad.

2904 Mr. {Kafer.} Regardless if the materials coming from
2905 abroad or domestically, to your point regarding the heparin
2906 scare of years ago, the testing requirements and scrutiny
2907 that we will go through before we will release the active
2908 ingredient into production is significant, and we will not
2909 jeopardize that. So the testing requirements that we impose
2910 on our manufacturing partners on the API side are
2911 significant. And there has been repeated instances in which
2912 we are failing API coming in for production because they have
2913 not met our specifications. If that does happen on a
2914 repeated basis, then you are obviously going to have a gap in
2915 readily available material to produce product. So without
2916 question for good reason that we are testing that material to
2917 the requirements that we are required to and we will not use
2918 it unless it passes those tests.

2919 Mr. {Pallone.} Now, you heard me earlier mention your

2920 testimony in the context that you and Dr. Kweder, I guess,
2921 acknowledged in your testimony that it can take 2 to 3 years
2922 for FDA to approve a new facility or API supplier, and
2923 obviously, that is not a good situation. However, on the
2924 first panel, they also said that FDA has the flexibility to
2925 adjust resources so that it can approve facilities and
2926 suppliers very quickly. I mean has that been your experience
2927 that that flexibility is exercised or works or are you sort
2928 of sticking to this 2 to 3 years?

2929 Mr. {Kafer.} The standard process as it exists today
2930 historically has been 2 to 3 years for an API secondary
2931 manufacturer approval or a manufacturing site traditional
2932 past. And, you know, those reviews take time because it is a
2933 complex review and it does require extensive work. At the
2934 same time, yes, we have seen expedited reviews in that area.
2935 We have been the beneficiary of expedited reviews to handle
2936 critical situations.

2937 But also in my earlier statement, in my opening remarks,
2938 I mentioned a lot of the shortages are unforeseen. We are
2939 applying a great deal of coordination and a great deal of
2940 collaboration when we are solving the problem. And as a
2941 standard of practice, is it possible to expedite some of
2942 those reviews as a standard of practice was the point of my
2943 written testimony. But we do see on a routine basis now

2944 where applicable, without jeopardizing the product, you know,
2945 we never jeopardize the product or system, but we have seen
2946 collaboration to expedite those reviews in a matter of
2947 months.

2948 Mr. {Pallone.} And I appreciate that but I guess what I
2949 am trying to say is, you know, when I mentioned your 2 or 3
2950 years in your written testimony, I don't want to put words in
2951 their mouth but it was sort of suggested at the first panel
2952 that maybe it is not so much a problem because we can use
2953 this flexibility, but I mean is it your experience that there
2954 is enough flexibility to deal with these situations or not?
2955 I mean I know that is a difficult question. You don't have
2956 to say--

2957 Mr. {Kafer.} I have had experience where we have had
2958 expedited reviews, collaborative work, and favorable
2959 outcomes. You know, the volume of work that could be
2960 forthcoming based on continued remediation, I can't predict
2961 and I can't, you know, forecast that impact. But prior to
2962 significant shortages--which the industry planned for--I mean
2963 so we would plan for a 2-year review, we knew what that type
2964 was, but at the time when we were just making sure we had
2965 redundancy in place for those critical products, it wasn't of
2966 immediate need. Now that we are seeing immediate need, we
2967 are seeing those expedited reviews.

2968 Mr. {Pallone.} All right. Thanks. I just wanted to
2969 ask one more question of Mr. Colgan here, Mr. Chairman.

2970 In his written testimony he suggested a number of
2971 incentives that might be provided to encourage manufacturers
2972 to stay in the field or enter the field and, of course, I
2973 think in principle that incentives are a good idea. If we
2974 can get more companies to manufacture these products or to
2975 produce excess supply, you would think that shortages would
2976 be less likely to occur and less severe if they do occur.
2977 But that being said, the suggestions in your testimony I
2978 think need a little more fleshing out for me to better
2979 understand, you know, what you are trying to achieve or how
2980 you would achieve the goal.

2981 And I know they are only presented as options to be
2982 further explored, but I was puzzled by the suggestion of
2983 granting temporary exclusivity for a new product line of drug
2984 either already in short supply or deemed vulnerable to a
2985 shortage considering that the goal would seem to be to get as
2986 many companies into the field as possible. It would seem
2987 that granting exclusivity would appear to be doing the exact
2988 opposite, and it is my understanding that exclusivity works
2989 best as an incentive when the company is the only one
2990 manufacturing the product, or in the case of a new generic,
2991 is the only company offering a generic alternative to a name

2992 brand. So it is not clear to me that granting exclusivity
2993 would be much of an incentive. And I am not trying to be
2994 critical. I just wanted you to walk me through how you think
2995 this would actually work practically.

2996 Mr. {Colgan.} Well, there are 2 things here. One is
2997 the generic user fees and we believe those can be utilized to
2998 incent manufacturers to enter in the market or reenter into
2999 the market in producing a product that they have produced
3000 before or not produced. We have drugs that are single-source
3001 sometimes or we have drugs where we don't have enough
3002 production and throughput. In those situations, we think
3003 within limits this is a concept that needs to be explored in
3004 terms of some sort of temporary exclusivity in the market so
3005 that there is a period of time that would incent a
3006 manufacturer to get into the market and produce the product.
3007 It could be that the FDA provides accelerated review of a
3008 supplemental NDA to that manufacturer, allows that
3009 manufacturer a period of 6 months or so to put the product
3010 together and produce the product. We see the whole idea of
3011 incenting the industry to jump into the generic market as
3012 being really important.

3013 Let me give you an example of that. Hopefully, that
3014 will play out and you will understand. Right now, we have
3015 production problems with carmustine and we use this in non-

3016 Hodgkin's lymphoma as a conditioning therapy in getting
3017 patients ready for autologous bone marrow transplants. Right
3018 now, that is not a medically necessary drug because we can
3019 use bendamustine. If I have a patient who is on carmustine,
3020 I would pay \$938 for that patient's drug if they had a body
3021 surface area of 2. For bendamustine I would pay \$14,440. It
3022 advantages us to have other manufacturers in producing
3023 carmustine so we have adequate supplies and some sort of
3024 incentive that would allow them to do that so we are not
3025 forced to use bendamustine would be very important to us in
3026 terms of securing a supply line for that drug. And it
3027 certainly adds up to the economics of the situation, too, in
3028 terms of being able to supply a drug that is category one,
3029 recognized as the appropriate treatment for the patient, but
3030 also provides the lowest overall cost continuum of providing
3031 the care to that patient.

3032 Mr. {Pallone.} All right. Thanks a lot. Thank you,
3033 Mr. Chairman.

3034 Mr. {Pitts.} The chair thanks the gentleman and that
3035 concludes our round of questioning. Again, I would like to
3036 thank the witnesses for your testimony, for answering the
3037 questions. We will ask you to please respond to any
3038 questions in writing.

3039 In conclusion, I would like to thank all the witnesses

3040 and members for participating in today's hearing and remind
3041 members that they have 10 business days to submit questions
3042 for the record, and then I ask the witnesses to please
3043 respond promptly to the questions. And members should submit
3044 their questions by the close of business on October 7.

3045 There being no further business, the subcommittee is
3046 adjourned.

3047 [Whereupon, at 2:20 p.m., the subcommittee was
3048 adjourned.]